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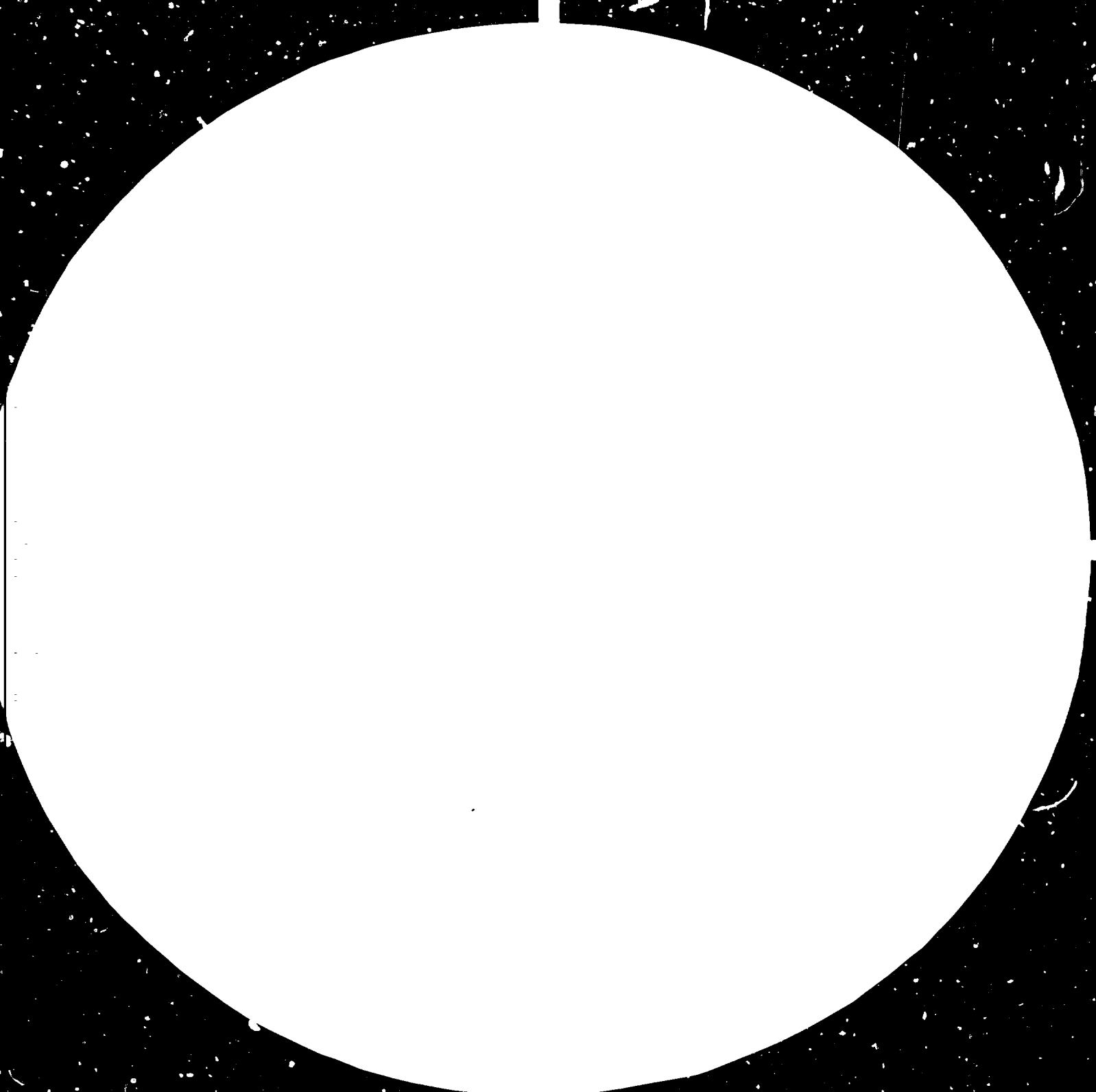
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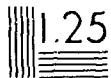
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ADVANCED DEEDS OF FIRST PRODUCTION BRIGADE
OF YUEXI COMMUNE IN DEVELOPING FARM MECHANIZATION*

by

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** People's Republic of China.

The First Production Brigade of Yuexi People's Commune in Wuxian County, Jiangsu Province, is located on Lake Taihu and is part of a plain criss-crossed by a network of rivers. It has 314 households with a total population of 1,597, of which 753 are able-bodied or semi-able-bodied people. Rice and wheat are the main crops. The brigade has 141.2 hectares of paddy fields, averaging 0.686 hectares per capita and 0.126 hectares for each able-bodied person. Intensive farming has to be done and multiple cropping system adopted because of the big population and small farmland. Starting from 1970, they have now basically realized the mechanization of agriculture. By 1979, the machines and equipment of the brigade had a total capacity of 979 h.p., averaging 7.5 h.p. per hectare. Ploughing and raking and drainage and irrigation have been mechanized; about 70 per cent of rice transplanting and upwards of 80 per cent of rice and wheat harvesting are done by machines; and plant protection, threshing, grain and fodder processing and water transportation and other items have been mechanized.

or semi-mechanized. Their practice has clearly shown that mechanization is essential even in rice-producing areas where there is a big population and small farmland, where intensive farming is practiced and the yield is relatively high.

Most revealing are the great changes in the outlook of the brigade's agricultural production and collective economy. Its total grain output rose to 1,903 tons in 1979 as against 1,272 tons in 1970. Per hectare output of grain was 14.59 tons in 1979 as against 9.8 tons in 1970. Grain for each person averaged 393.5 kilogrammes in 1970 but rose to 1,129 kilogrammes in 1979. With regard to labour productivity, each labourer produced an average of 2,092 kilogrammes of grain in 1970 but 4,374 kilogrammes in 1979; output value from agriculture, side occupation and brigade-run industry averaged 525 yuan in 1970 for each labourer, both able-bodied and semi-able-bodied included, and 751 yuan in 1979.

The brigade delivered and sold to the state 549 tons of surplus grain in 1970 and 730 tons in 1979, 20,950 kilogrammes of marketable oils in 1970 and 26,600 kilogrammes in 1979, and 491 pigs in 1970 and 1,317 in 1979. It also sold to the state 3,310 poultry in 1970. Surplus grain accounted for 43.3 per

cent of the total grain output in 1979. This plus the consumption of concentrated feed for pigs, fish and poultry sold to the market enabled the actual rate of surplus grain to reach 55.8 per cent of the total grain output.

Collective accumulation of the brigade was 33,000 yuan in 1970, of which public accumulation fund was 18,000 yuan and public welfare fund was 4,500 yuan. The figure rose to 245,000 yuan in 1979, of which public accumulation fund was 160,000 yuan and public welfare fund was 35,000 yuan. At present, the fixed assets of the collective has a value of 304,000 yuan, averaging 5,655 yuan per hectare and 500 yuan per capita.

In 1970, each commune member earned an average of 128.2 yuan. The figure increased to 280 yuan in 1979. This plus the income from side occupation and the money saved from medical treatment, schooling, and five other favours they received free of charge enabled the actual average income for each commune member to reach 350 yuan. A number of households have become richer than others and those households with financial difficulties have also made a turn for the better. Apart from the income calculated in kind such as grain and grass for feed, as many as 12 households

got over 1,000 yuan in cash. They account for 20 per cent of the total number of households. By the end of last year, bank deposits by the commune members of the brigade reached 190,000 yuan, averaging 620 yuan for each household. The commune members have undergone great changes in their thinking. Gone are the days when they worked in the fields with their heart yearning for a comfortable job in the city. "Nowadays, the farmland is worked by machines. Every household has electric light. The fields are transformed into squares lined with trees. Fish teems the pond and grain fills the granary. Live-stock and poultry are growing well. Agriculture, side occupation and industry are developing simultaneously and the road of socialism is becoming ever broader," said the rejoiced peasants. This is a praise for the new socialist village by the broad masses. It is also an approval for the development of farm mechanization.

The experience gained by the brigade through its practice of mechanizing agriculture has given some enlightenment revealing certain laws:

First. There must be a correct point of departure and purpose in mind in developing mechanization of agriculture. That is to say, farm mechani-

zation must be carried out for the development of agricultural production in an all-round way, for strengthening collective economy and for increasing the contributions to the state and income of the peasants. Before 1969, the brigade mainly relied on the input of labour force, the increase of labour intensity, conventional practices and intensive farming for the rise of grain output. It no longer made further progress after per hectare grain output reached 7.5 tons. Inspired by the spirit of the North China Agricultural Meeting held in 1970, the brigade began to use two kinds of triple-cropping system in rotation. The reform of farming system required the improvement of production conditions and the strengthening of the capacity to combat natural disasters. The brigade carried out water conservancy projects and increased its electric motors and other pieces of equipment a proportional number of machines for plant protection and threshing. Its grain output reached 9 tons per hectare in 1970. With the expansion of the acreage sown to three crops a year, the contradiction between labour force and seasons sharpened. During the three busy seasons every year, sowing was often done to the neglect of management, or management was done to the neglect of harvesting and threshing. Therefore, they

bought walking tractors and other implements and mechanized ploughing and sowing first. This somewhat relaxed the shortage of manpower and improved production. The changes, however, were not great. So, they made up their mind to blaze a new trail. They bought rice transplanters and harvesters for transplanting and harvesting which used to require more manpower and greater labour intensity. This greatly raised work efficiency. A transplanter can transplant more than one hectare of rice seedlings each day and a harvester can cut 2.5 hectares of rice each day. Transplanting by machines not only has raised work efficiency, but also guaranteed close and even planting with uniformity in root depth. This is favourable for the growth of rice. Then, they nursed seedlings in workshops so that the seedlings were standardized, thus combining seedling nursery with farming techniques. For many years, grain output has remained above the level of 12 tons per hectare.

It can be said that mechanization of agriculture is absolutely not the result of imposing subjective will on agriculture, but an objective requirement and inevitable trend of the development of agricultural production. So long as we take into consideration the production and economic result, natural con-

ditions of different areas, and do everything in line with the principle of seeking truth from facts, farm mechanization can be gradually brought about.

Practice has also told us that there are more difficulties in mechanizing agriculture in rice-producing areas. It is constrained by many factors, including industrial production, investment, technical forces, the consciousness of the cadres and the masses and management level. Therefore, we must proceed from actual conditions, discriminate between what is principal and urgent and what is not, stress on small-sized machines, prepare more auxiliary implements, and advance towards medium-sized machines gradually. We must bring about mechanization step by step and acquire complete sets of equipment gradually. At the same time, certain amount of semi-mechanization and manual labour will be maintained.

With regard to speed, the brigade used eight years to basically realize mechanization, five years only for mechanizing rice transplanting. Some lessons should be drawn in respect to investment. An average of 4,171 yuan was spent on each hectare, which is obviously a little too much. The reason for this was lack of experience, the other was that the brigade considered the task of arranging the experiments.

Second, the development of farm mechanization and the reform of an economic structure involving agriculture only are supplementary to each other. Before 1971, the brigade was in the main engaged in farming and over 80 per cent of the labour force went in for grain production. Only 41 people conducted side occupation and there was no brigade-run industry. Accumulation was therefore small, averaging 195 yuan only for each hectare of farmland in 1969. Since they embarked on the road of comprehensive development of agriculture, side occupation and industry after 1970, one of the many problems they have met is the input of labour. This is because at present, the industry and side-line production is different from the previous household side-line production when small-scale individual farming prevailed. While slack seasons would suffice for side-line production in the past, a new combination of labour force with a division of labour fixed all the year round is now needed for the comparatively large-scale industry and side-line production. This necessitates the development of farm mechanization for the liberation of labour force from agriculture. Mechanization advances step by step, labour force is saved step by step, and industry and side-line production also

develop step by step. They coordinate with each other. In 1970, 75 people of the brigade were engaged in industry and side-line production. The figure rose to 120 in 1972, 169 in 1974, 293 in 1976, 339 in 1978, and 380 in 1979. The labour force for farming was reduced from over 90 per cent of the total to 50 per cent. Industry and side-line production grew up gradually. A grain processing mill was set up in 1970 first. This was followed by the setting up of four factories including farm machinery repairs, processing of accessories for automobiles and electronic components, a factory making pre-fabricated cement partitions and the formation of a construction team. They have also run six pig farms which raise 3,000 pigs a year, and a fodder processing mill, and developed such undertakings as chicken raising, duck raising, geese raising, fish breeding, and quilting, embroidery, afforestation and wild rice stem planting. This has brought about changes to the economic structure. The total output value of agriculture, side-line production and industry in 1979 was 1.2 million yuan, 14 times that of 1970. Of this, output value from industry and side-line production was 1.075 million yuan, 82.5 per cent of the total value.

As the level of accumulation rises, invest-

ments for various projects undertaken after 1973 total 4.16 million yuan, of which 3.435 million yuan, or 82.3 per cent, has been raised by the brigade itself, and only 0.725 million yuan, or 27.7 per cent, has been granted by the state. From this we can see that the development of farm mechanization has promoted the comprehensive management of agriculture, which in turn has enhanced the constant improvement in the level of mechanization. They have supplemented each other, otherwise, it would have been impossible to strengthen collective economic and realize mechanization.

Third. Mechanization of agriculture should be closely combined with measures in agricultural production.

Since 1970, the brigade has first of all carried out large-scale capital farm construction in the revolutionary spirit of hard work and self-reliance and by relying on the accumulation through collective labour. They have transformed the river, fields, roads, canals, bridges and forest in a comprehensive way, bought complete sets of electric motors, pumps and other pieces of equipment, built 109 hectares into farmland giving high and stable yields despite drought and water-logging. Underground drainage and irrigation

system has been introduced to 59 of these 109 hectares of farmland. Therefore, water conservancy has also involved mechanization.

They have paid great attention to solving manure problem because they know that the improvement of farmland productivity is the foundation for raising labour productivity. By growing green manure crops and water plants and raising pigs, they have increased the portion of organic nitrogen to 57 per cent of the total amount of nitrogen used. They have also increased the application of chemical fertilizers year after year. In 1978, an average of 2,042 kilogrammes of chemical fertilizers was supplied to each hectare (1,485 kilogrammes of nitrogen fertilizer and 555 kilogrammes of phosphate fertilizer).

Fertilizers are also related to mechanization. High-temperature composting has been done for the mechanization of fertilizer application. In order to raise the utilization rate of nitrogen fertilizer, they tried to solve the problem of equipment for deep fertilizer application. Since the loose soil layer on the surface became thinner and thinner as a result of shallow ploughing, the layer beneath the loose soil will be ploughed harder and thicker.

To solve this problem, they added a device to the walking tractor to prevent sliding and the plough coulters could work five inches deep into the soil.

They have also paid special attention to the improvement of scientific farming. They have selected fine strains of rice, wheat and rapeseeds, constantly improved farming systems and readjusted the distribution of crops. They have also summed up a set of farming techniques suitable for mechanization.

Fourth, with regard to management, as mechanization develops, they have practised unified accounting at the brigade level and adopted initial division of labour among specialized trades. The system of responsibility has been introduced in agriculture, industry and side-line production. In farm machinery management, they have organized a long-term farm machinery team and set up a farm machinery repair plant, and as a result, workable machines account for over 95 per cent of the total number of machines. A technical contingent has been trained for various kinds of work through all kinds of methods. This has laid the foundation for the further development of agricultural production and the specialization and socialization of production in the future. It is evident that without necessary managerial measures, there would be no such rapid development of mechanization.

The relatively high level of agricultural production and collective economy of the brigade is accompanied by new problems. Agriculture, industry and side-line production are not very well coordinated. The main problem is that the production of forestry, animal husbandry, fisheries and special local products are too small, speaking nothing of integrated management of agriculture, industry and commerce. Urgent reforms must be carried out with regard to the present combination of machinery, bio-technology and management. They are taking a positive attitude towards these new subjects. Their socialist cause has entered a new stage of development and is bound to meet with new difficulties. The road forward is tortuous, but the future is bright.



