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## **HISTORY OF DEVELOPMENT OF THE PRODUCTION ASSOCIATION «KHARKIV TRACTOR PLANT NAMED AFTER S. ORDZHONIKIDZE » AND RELATED ENTERPRISES**

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**Abstract.** The issue of the Kharkiv region tractor manufacturing industry enterprises functioning in the conditions of creation of production associations is considered. The purpose of the article is a comprehensive analysis of the advantages and disadvantages of the enterprises' production associations that manufactured tractors and their parts in the Kharkiv region. The number of materials of the study has been analyzed; the bulk of such materials from the State Archives of the Kharkiv region. The activity of Kharkiv Tractor and Lozova Forging and Mechanical Plants, as well as other enterprises of the tractor manufacturing industry of Kharkiv Region, has been considered in detail. The research focuses on the quality of products manufactured by enterprises, the reasons for the productivity gap here and there are indicated. The issue of combating rejection at the Kharkiv region tractor manufacturing industry has been covered. Attention was drawn to the gradual growth of product quality. It was pointed that the tractor's industry has not always been rhythmic, as the related companies had not done always provided quality parts and had not done it on time. It was determined that the main model of the tractor manufactured by the Kharkiv Tractor Plant for a long time remained as the T-150 tractor and its modifications, that it was primarily related to the slowdown in the manufacturing of new, more advanced models of tractors.

**Keywords:** production association, tractor, Kharkiv Tractor Plant, production.

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## **ІСТОРІЯ РОЗВИТКУ ВИРОБНИЧОГО ОБ'ЄДНАННЯ «ХАРКІВСЬКИЙ ТРАКТОРНИЙ ЗАВОД ІМ. С. ОРДЖОНІКІДЗЕ» І ПІДПРИЄМСТВ-СУМІЖНИКІВ**

**Анотація.** Розглянуто питання функціонування підприємств тракторобудівної промисловості Харківщини в умовах створення виробничих об'єднань. Метою статті є всебічний аналіз переваг та недоліків функціонування виробничих об'єднань підприємств, що виготовляли трактори та комплектуючі до них на території Харківщини. Проаналізовано низку матеріалів із цього питання, основну частину яких становлять матеріали Державного архіву Харківської області. Докладно розглянуто діяльність Харківського тракторного та Лозівського ковальсько-механічного заводів, а також інших підприємств тракторобудівної промисловості Харківщини. Зосереджено увагу на якості продукції, яку виготовляли підприємства, зазначено причини, подекуди й відставання у виробництві. Визначено, що основною моделлю трактора, що виготовляв Харківський тракторний завод, тривалий час залишався Т-150 та його модифікації.

**Ключові слова:** виробниче об'єднання, трактор, Харківський тракторний завод, виробництво.

**Introduction.** Changing the form of organization of industrial production is a natural process in any state. From the historical point of view, this is always of interest, because the emergence of various government forms and ownership forms are always due to economic and political processes which take place in the state. The creation of production associations (PA) in the USSR was due to time and changes in the system of state production management. PA was preceded by soviet economies, which were state bodies of industry and construction in Russia and the USSR during 1917–1932 and 1957–1965, and such forms of production organization as, for example, syndicates, trusts and others. There are a number of studies devoted to the peculiarities of PA, but the works devoted to the PAs of Kharkiv region and PA «Kharkiv Tractor Plant» (KTP) in particular, are isolated.

**The purpose and subject of the study.** It's to analyze the peculiarities of the development of the KTP and enterprises that provided components for the tractors production. It's to highlight the changes that have taken place in the organization of machinery production after the transition to a new form of industrial organization.

**Sources.** In order to achieve this goal, a wide range of sources was involved, among which a significant part are the cases of the State Archives of Kharkiv region and the Central State Archive of Public Associations of Ukraine. In addition, the materials authored by plant managers and employees, including articles in periodicals, were included. Encyclopedic articles were also used in the study.

**Basic material and results.** PAs emerged as a part of the soviet economies, with each of the associations related to a separate industry. According to the Great Soviet Encyclopedia, PA is the only specialized production and economic complex, which includes factories, plants, research, design, technological and other organizations that have production links and service production [2, p. 52].

According to [4], PAs are voluntary associations of enterprises based on a contract or charter to achieve better performance in production and commercial activities, ensure fuller and more efficient use of production capacity, use science and technology, introduce advanced technologies, solve social problems and more. Enterprises that are a part of PAs retain the rights of a legal entity. PAs are created on technological, branch, territorial, commercial and other signs. The legislation of Ukraine defines the following main forms (types) of PA: associations, corporations, consortia and concerns [4, p. 52].

The creation of PA in the USSR began in the 1960s in the form of firms linking small enterprises that produced homogeneous products. At the same time, each PA was based on the main enterprise to which the others were subordinated. Gradually, production increased, which required an increase in concentration of specialized enterprises in the country. It is for this reason that different types of PAs began to be created. It should be noted that the creation of associations significantly increased the economic efficiency of production. PAs acted on the principle of distribution of funds and resources within the soviet economies, which allowed to increase the efficiency of production in general.

The need to create PA is associated with the objective conditions for the development of both the productive forces and production relations. The deepening of the social division of labor, which is conditioned by the development of the productive forces and is manifested in the strengthening of the specialization of production, requires at the same time its close cooperation. The organizational form of providing it at the sectoral, intersectoral and territorial levels and became PA. In the 70–80's of the twentieth century, in the USSR, the creation of PA and research and production associations was accelerated. At the heart of such economic policy are theoretical ideas about the undeniable advantages in all sectors of the economy of large-scale production over small-scale and the identification of the objective process of socialization of production with its concentration. Practice has shown that often PAs which were formed by administrative association, moreover, on departmental grounds, did not give the proper economic effect. This is confirmed by the fact that the share of their products in total was less than the share of employees in these enterprises. About 60 PAs were concentrated on the territory of Kharkiv region [4, p. 85–88].

In connection with the creation of a new system of organization of the process of manufacturing tractors in the Kharkiv region, in 1973 the Kharkiv Production Tractor Construction Association was established. As the production of high-power tractors began at the KTP, there was a lack of production space. In order to establish the production of T-150 model, a number of enterprises were established in Kharkiv region, which were to operate as a single system. In particular, it was planned to build a motor plant in Kharkiv, a foundry – in Kupyansk, and the production of forgings and transmissions was to be transferred to Lozova city. This location of enterprises was due, first of all, to the successful transport interchange, which ensured the transportation of raw materials and parts for the tractors manufacture quickly and with minimal costs [8, p. 1–2].

In the early 1970's, a new system for organizing the process of making tractors in the Kharkiv region was created. According to the order № 293 of the Minister of Tractor and Agricultural Engineering of the USSR on September 10, 1973 on the basis of the KTP named after S. Ordzhonikidze, the Kharkiv Production Tractor-Building Association (PA «KTP named after S. Ordzhonikidze») was organized with direct subordination to the Main Department of the Tractor Industry (Golovtraktorprom) [8, p. 1–2].

The KTP (the main enterprise) and the Lozova Forging and Mechanical Plant (LFMP) were a part of the mentioned above PA. In fact, the association began operating in January 1974. Order № 410 of the Ministry of Tractor and Agricultural Engineering of the USSR on October 30, 1974, liquidated the Main Department of the Tractor Industry and created the All-Union Industrial Association for Tractors (Soyuztraktorprom) which included «KTP named after S. Ordzhonikidze».

The main model of the tractor, which was manufactured at that time by the plant, remained T-150, T-150K and their modifications. It should be noted that there were a number of problems with them, and it took long and difficult to solve them.

In September 1970 the tractors T-150 and T-150K completed state tests and were recommended for the production, but their reliability and endurance had to be improved not only thanks to the KTP, but also at the expense of related factories that provided parts and components for them.

According to the archival data, the manufacture and provision of spare parts and blanks to the tractor industry should have been carried out evenly and quarterly, but there was a problem with the manufacture of driving wheels for tractors. As the wheels were manufactured by

the Dnipropetrovsk Metallurgical Equipment Plant, and at that time the foundry was being reconstructed, the production of wheels did not correspond to the company's specialization. The Kirovohrad Tractor Unit Plant refused to manufacture spare parts for tractors, which was planned according to the growing plan. The management of the enterprise motivated their refusal by limited capacities, growth of the plan of producing hydraulic pumps. However, according to Annex 10 to the letter of the Central Committee of the Communist Party No. 53/67 on December 1973, the plant proposed to manufacture additional 1.000 units of gear pumps NS 67K / 100K. To do this, the enterprise had to be provided with metal, blanks and components [3, p. 27, 108].

In 1973, the KTP and the LFMP operated as the Kharkiv Tractor-Building Association, due to which, the growth of production was about 30%, and in 1974 it is planned to increase production by 80%. However, despite the rise in production, the Ministry of Tractor and Agricultural Industry has reduced the allocation of the funds for construction of necessary plant facilities [9, p. 83–84].

During the 1970s, work continued on the creation and improvement of a new generation of powerful T-150 and T-150K tractors. By the Resolutions of the Central Committee of the CPSU and the Council of Ministers of the USSR on May 29, 1969 and January 25, 1974 № 76 at the enterprises of the Ministry of Agriculture, located in the USSR, there was planned to build facilities for the production of 100.000 Diesel engines, 50.000 wheeled and 20.000 tracked tractors T-150 and a number of agricultural equipment to them. It was envisaged, starting in 1976, to stop the production of T-74 tracked tractors at the KTP [9, p. 1–9].

Thanks to long and fruitful work, the quality of the T-150K was improved, as evidenced by the reduction in the number of complaints and returns of tractors by the production association «Agricultural Machinery» and the reduction of defects in tractors during factory tests. During the first 9 months of 1977, the number of complaints about these tractors decreased by 133 compared to the corresponding period of the previous year, including 89 due to SMD-62 engines and 38 due to chassis. This situation with engines lasted a long time because the Kharkiv Tractor Engine Plant (KTEP) was far from optimal for this model of tractors [6, p. 86]. It should be noted that the cost of defects in the KTP was reduced in 1977 compared to 1976 by 5%, reduced defects, the number of complaints, returns due to low quality. Tractors T-150K, T-155 and T-158 at the end of the year were manufactured in the first category of quality [10, p. 125].

In general, 1977 was rich in events in the field of tractor construction in general and, in particular, for the KTP. This year the plant produced the following models of tractors: T-150K and T-74 – mass production, T-150, T-155, T-157 and T-158 – small series. The tractors are equipped with a high-efficiency turbocharged diesel engine, which according to the main indicators corresponds to the high achievements of the modern domestic and foreign equipment [11, p. 1].

According to the working conditions of the tractor driver, the tractors met the requirements of that time. The cabin had a safety frame, was thermally and noise-insulated, had an adjustable suspension seat, an air cleaner that acted as a heater in winter and had an air purification system with paper filters. Due to the elastic suspension with shock absorbers (analogues did not have such elements), the tractors had better than foreign counterparts, smoothness. The exterior design of the car met the then requirements of aesthetics. According to the conclusions of the Belarusian commission, the T-150K was to be recommended for certification at the State Quality Mark [11, p. 37–40].

To provide the first category of the tractor model T-74 PA «Agricultural Machinery» required the creation of a new cabin, which would lead to significant costs. Initially, the cessation of production of the T-74 was planned for 1979, and then for 1981. In the following years, the production of obsolete models of tractors gradually decreased, but the production of T-150K increased. A powerful tractor required a lot of effort and time, so the company had to reduce the number of manufactured products. Despite efforts and planning to complete the production of the T-74 in the 1970s, it became possible to carry out the planned only in the next decade.

T-150K was used for various types of agricultural work: plowing, cultivation, harrowing, peeling, sowing, fertilizing and transport work with attachments and trailers and devices [7, p. 45–47].

According to the research, in contrast to the normal operation of tractors, continuous operation is characterized by: irregular and non-performance of full maintenance operations, use of lubricants that do not meet factory instructions, non-compliance with instructions for maintenance and storage of tractors [12, p. 39].

In solving production problems, development of the KTP, the Kharkiv Plant of Self-Propelled Chassis, the Kharkiv Tractor Engine Plant (KTEP), a significant role belonged to the LFMP, the Kupyansk Foundry (KF), as well as the Chuguiv Fuel Equipment Plant (CFEP) and the Dergachiv Turbocharger Plant (DTP).

In 1981, the commissioning of tractors at the KTP took place in the following numbers: 8,000 tractors, including 4,000 units in the 4th quarter of the year (according to the Ministry of Agriculture and the Ministry of Industry and Trade). In total, 417 people out of the planned 444 people worked on all constructions of the plant, including 61 people out of the planned 97 from the Ministry of Installation and Construction [13, p. 136].

The volume of work on start-up facilities was significantly reduced in June 1981. The volumes were only 63% of the planned, as the reinforcement and frame building performed only 67%, the industrial waste emission object – 65%, the KTP heating main – 66%, etc. As a result, more than 100,000 rubles remained undeveloped.

The KTEP did not implement a monthly plan to provide work fronts with adjoining units from the power unit, steam boiler house, and 3 towers. In addition, the company lacked 35 workers.

With regard to LFMP, the volume of work performed there was also sharply reduced, as in June 1981 alone 200,000 rubles were underused, which was 59% of the total. This significant lag is due to the fact that the customer did not provide equipment for treatment plants in the amount of more than 20 units, for the cooling body – 14 pieces of crane units and 15 pieces of conveyors. The enterprise, which was directly engaged in the production of low-power tractors for small farms – the Kharkiv Plant of Tractor Self-Propelled Chassis – also had problems with the construction of the necessary production areas, because no foundations were laid for new buildings. Due to this, the plan for tractors production was fulfilled only by 50% [13, p. 21–34].

Despite difficult production conditions, lack of working space and constant disruptions in supplies from related plants, the production of tractors at the KTP still continued. At the same time, a significant number of tractors were, in fact, a modification of the same tractor. Thus, the T-150 K is a universal tractor designed for agricultural work, road transport and a number of other applications. Its distinctive feature was high energy saturation, versatility. It was, in fact, a tractor that combined characteristics of a conventional general-purpose tractor and a transport tractor, which was used in a number of economic works. In terms of layout, this tractor had the front location of engine, behind which the gearbox was installed, and above it – a cab with a fuel tank in the rear. The transmission provided several modes that correspond to the work performed (transport, working, traction (slow) and reverse). The car had two half-frames: the front – with the engine, a transmission and a cabin with a fuel tank, and back – with the hinged system for fastening of the equipment.

The result for 1982 Kharkiv tractor-building plants did not work very well, as the tasks set before them were either performed slowly or not at all. According to the State Archives of Public Associations of Ukraine: the KTP, the Kharkiv Plant named after Malyshev, the Kharkiv Electromechanical Plant, the KTEP, the LFMP and the plant «Sickle and Hammer» did not fulfill the tasks and significantly lagged behind the planned. Production volumes decreased compared to the same period last year. Insufficient attention to production, low work culture led to a gradual decrease in production, irrational spending and low product quality [14, p. 92–93].

Despite the fact that all reports and official sources available to the public indicated that the production of machinery, including tractors, was in line with or even exceeded the plan,

the researchers found that this information was not true. In order to successfully manufacture competitive equipment, the quality of manufactured products should prevail over its quantity. Instead, in the tractor industry of that time, the situation was exactly the opposite. Proof of this is the fact that in 1981 the KTP exceeded the plan for tractors production, but this was possible due to the replacement of new powerful T-150K needed by agriculture with obsolete T-74 tractors that did not meet the needs of agricultural production. Thus, in this way the plan was quantitatively fulfilled, but tractors quality did not correspond to the then growing needs of agriculture [1, p. 152–153].

Production volumes grew gradually, however, to move away from outdated T-74 models was not easy. The constant lack of qualified personnel, lack of production space and housing made it impossible to create new jobs. In addition, labor was not always used appropriately. In order to improve the quality of work, it was necessary to use the means of production mechanization known at that time, thus reducing the need for human strength and, consequently, the cost of work and save time. Instead of the planned discontinuation of the model T-74 in the mid-1970s, production of this model of tractor was completed only at the end of November 1983, which showed a significant lag in production of almost 10 years, the echoes of which we can see today. Totally 880.792 tractors of T-74 models were manufactured [1, p. 179].

Due to the significant slowdown in the production and commissioning of new tractor models, the ratio between planned and manufactured tractors has changed significantly for the worse. It was planned to produce 50.000 of T-150 tractors and 20.000 of T-150K tractors at the KTP, but due to the pursuit of management and employees of the plant not by quality but by quantity, they continued to produce wheeled tractors instead of the caterpillars needed at that time. The worst in the 1980s was that in the fleet of new high-performance tractors tracked vehicles accounted for only 4.1 %, the rest of the tracked tractors were produced in the 1950s – 1970s. [1, p. 179; 19, p. 20–21].

In June 1982, the KTP produced a two-million-dollar tractor, and in 1984, mass production of a new model, the T-150 tractor, was mastered. The crawler modification was as close as possible to the wheeled one, but it had certain advantages. The caterpillars provided less pressure on the soil, which allowed to carry out agricultural work to minimize crop losses. The main purpose of this tractor was to perform in combination with mounted, semi-mounted equipment and trailed hydraulic machines of agricultural (plowing, harrowing, sowing, harvesting, snow retention), earthmoving and cargo (with special machines) works.

The first fully mechanized line of crankshaft stamping was put into operation at the LFMP in 1974. In the same year an energy repair shop was established. In 1979 – early 1980, the press shop and the carriage shop started their activity. Two years later, in 1982, a shop for the production of consumer goods began to operate. The contribution of the LFMP to the activities of PA in 1986 is characterized by the following indicators: from 240.000 tons of hot stamping the LFMP produced 178.000 tons (74%); out of 222 pieces of blacksmith's forming equipment, the LFMP had 185 (83%); out of 2640 people who worked in the blacksmith's industry, 1645 (62%) are concentrated at the LFMP [6, p. 46–47].

**Conclusions.** Thus, in the course of the research it was established that the creation of the PA, although it should have improved the situation in the production of tractors, unfortunately, has not fully achieved its goal. There have certainly been positive developments, but it was not enough to make products competitive enough and give businesses high performance. As time has shown, the enterprises of the tractor-building industry did not always produce high-quality products. This was due to many reasons, in particular, because of insufficient quality parts from related factories, late delivery of parts and so on. This led to the fact that the products were made in a hurry, because it was necessary to fulfill the production plan, and quality suffered from it. According to archival data, there was also a shortage of staff, which also had a negative impact on production. Today, some enterprises of tractor industry do not work, and those that have survived, unfortunately, work irregularly and with partial load.

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*Administration of the historical and cultural reserve in Lutsk, Lutsk, Ukraine*

## **PROBLEMAL ASPECTS OF CLASSIFICATION OF HISTORICAL AND CULTURAL RESERVES ON THE EXAMPLE OF INSTITUTIONS OF THE WESTERN REGIONS OF UKRAINE**

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**Abstract.** The publication considers topical issues of classification of historical and cultural reserves. The study of species diversity and the specification of historical reserves remains one of the most complex and understudied topics. The delimitation of reserves in accordance with the peculiarities of the organization of work to ensure the proper state of preservation and promotion of certain types of monuments is an important aspect in the study of historical and cultural reserves. The study provides a description of the state (hierarchical) classification of historical and cultural