ECONSTOR
Make Your Publications Visible.

A Service of

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Tarnai, Attila

Conference Paper — Published Version

The Impact of State-Owned Enterprises on Regional Development: The Role of PIK Belje in Baranja in the Second Half of the 20th Century

Suggested Citation: Tarnai, Attila (2025) : The Impact of State-Owned Enterprises on Regional Development: The Role of PIK Belje in Baranja in the Second Half of the 20th Century, In: Gadžo, Amra Klapić, Hidajet (Ed.): Regenerative and Digital Economy: Southeastern Europe's Path to Sustainable Competitiveness, University of Tuzla Faculty of Economics, Tuzla, pp. 514-530, http://icei.ba/zbornik-radova/

This Version is available at:
https://hdl.handle.net/10419/343413

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

Attila Tarnai, PhD Student
School of Regional Politics and Economics, University of Pécs, Hungary
E-mail: tarnai.attila@ktk.pte.hu

THE IMPACT OF STATE-OWNED ENTERPRISES ON REGIONAL DEVELOPMENT: THE ROLE OF PIK BELJE IN BARANJA IN THE SECOND HALF OF THE 20TH CENTURY

ABSTRACT

The research examines the role of the state-owned enterprise PIK Belje in the Baranja region during the second half of the 20th century, with particular attention to the 1970s and 1980s. The region has traditionally been characterized by strong agricultural capacities, yet it suffered long-term economic stagnation due to the loss of its natural markets following the Treaty of Trianon. In this context, PIK Belje emerged as a key driver of modernization and local development. The enterprise not only purchased agricultural products from the region—wine, grapes, and cereals—but also created new opportunities for small producers through targeted loans and contractual arrangements. Such support was deliberately tied to technological renewal, such as vineyard modernization and mechanization, thereby enhancing productivity. By guaranteeing demand and integrating local farmers into broader market structures, PIK Belje functioned simultaneously as a stabilizer and a catalyst of regional growth. My research shows that state-owned enterprises can contribute to mitigating market failures and promoting rural development in peripheral regions.

Keywords*: Baranja, PIK Belje, state-owned enterprise, rural development, market integration.*
JEL: N54, R11

1. INTRODUCTION

This study examines the impact of the state-owned enterprise PIK Belje on the economic development of the Baranja region between 1945 and 1991. Today, Baranja is in the north-eastern part of Croatia, bordered by the rivers Danube and Drava. Prior to the First World War, however, it belonged to the Kingdom of Hungary, forming part of Baranya County. The territory was officially annexed to the Kingdom of Serbs, Croats and Slovenes in 1922 (Merki, 2020, pp. 35–45). The origins of the Belje estate date back to the late 17th century, when Emperor Leopold I granted the territory to Prince Eugene of Savoy in 1687 as a reward for his successful military campaigns against the Ottomans. The estate later became one of the most significant agrarian-economic centres of the Habsburg dominions, already possessing a developed system of land management and extensive water regulation works by the 18th century. By 1911, the Belje estate was the largest landed property in the region, covering 109,062 cadastral holds (Kaposi, 2022, p. 11). The Belje estate region possesses exceptional natural endowments: the loess hills, humus-rich plains, and flood-prone lowlands all contributed to the development of agriculture and fishing. This diverse environment established the economic significance of the landscape already in the early period. The estate owners played a crucial role in expanding arable land and developing infrastructure. In the first half of the 19th century, large parts of the Drava region were still marshy and unsuitable for cultivation. One of the most important milestones in the area's economic development was the construction of the Albrecht embankment. The 32-kilometre-long flood defence was built between 1827 and 1840 between Zmajevac and Grabovac and later reinforced and extended to Kopačevo between 1868 and 1877. The project was initiated and financed by Archduke Albrecht of Habsburg-Teschen, owner of the Belje estate. The flood protection system transformed large floodplain areas previously unsuitable for cultivation into arable land, laying the foundation for the agrarian development of the region in the 19th century (Közgazdasági Értesítő, 1882, p. 27). By the late 19th century, the region's economic development became increasingly tied to infrastructure expansion. One of the most significant examples of this was the construction of the Drava Valley Railway, which was primarily driven by the economic interests of large estates and the growing volume of agricultural production. To ensure the efficient transport of goods, landowners recognised that railway connections were essential for market expansion. The establishment of the railway not only facilitated transportation, but also promoted the economic integration of large estates, serving as a model for the modernisation processes that would later characterise the Drava region in the 20th century (Pécsi Napló, 1910, p. 11). During the Austro-Hungarian Monarchy, particularly after the Compromise of 1867, the effects of economic growth and modernisation became increasingly visible in Baranja. The technological progress

and mechanisation characteristic of the Dualist era significantly increased agricultural yields, with the Belje estate leading this process. The estate was among the pioneers in introducing modern machinery and agricultural technologies, achieving a level of organisation and efficiency in production that far exceeded that of surrounding farms. In this period, the Belje estate became the driving force of agricultural development in Baranja, laying the foundations for its central role in the 20th century (Albrecht főherceg, 1883, pp. 224–230).

Following World War I, the Austro-Hungarian Monarchy emerged as one of the defeated powers, and because of the Treaty of Trianon, part of the former Baranya County was separated from Hungary and annexed to the Kingdom of Serbs, Croats and Slovenes. This territory corresponds to the area known today as Baranja, which now forms part of Croatia. The territorial change had a profound impact on the region's economy. From a commercial perspective, Baranja became completely isolated, as the previously established trade routes could no longer be used (Tarnai, 2025b, p. 142). The estates were plundered, and a significant portion of their land was redistributed among the newly settled South Slavic population. Many settlers received up to five hectares of fertile farmland, marking a radical transformation in local land ownership and agricultural structure (Taslidžić, 2021, pp. 77–85). Despite the state's stabilisation efforts, it was impossible to restore the former production levels on the large estates. A clear example of this decline is the sugar factory in Branjin Vrh, which had produced 1,800 wagons of sugar annually before the annexation, but by 1921 its output had fallen to only 140 wagons. Similarly, the Dairy Company in Beli Manastir produced 800–1,200 kilograms of butter per day before 1918, whereas by the spring of 1921, daily production had dropped to just 40 kilograms (Kaposi, 2022, p. 21). However, the confiscation of the estates represented a serious long-term setback. The machinery was looted, part of the skilled workforce left, and most of the new settlers required training. Central efforts to stabilise the situation, combined with the frequent replacement of management, only increased dissatisfaction and corruption. Although, thanks to intensive logging, the Belje estate, which operated under the authority of the Ministry of Finance of the Kingdom of Serbs, Croats and Slovenes, managed to show a positive balance by 1926, the remaining production equipment had become obsolete over the years, and the number of workers had to be increased merely to maintain production capacity (Kolar-Dimitrijević, 1998).

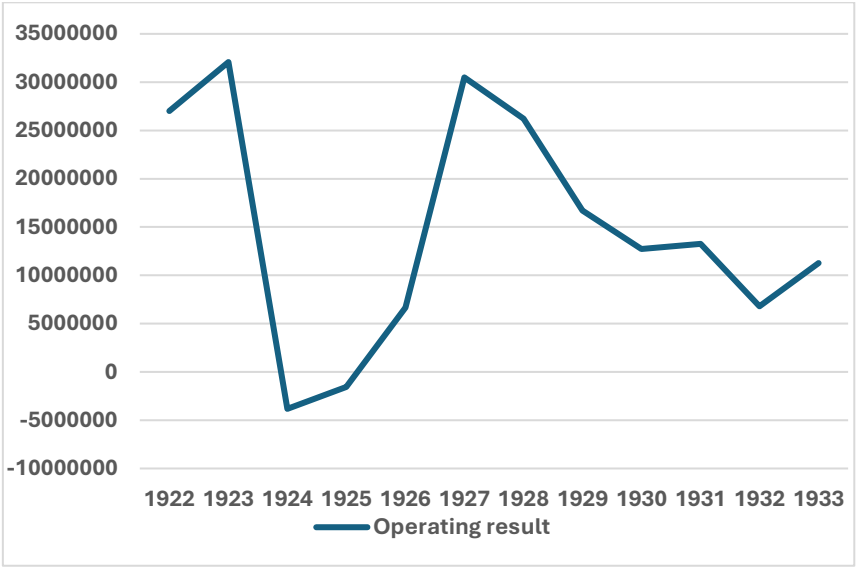

Fig. 1. Operating results of the state-owned company Belje, 1922–1933 (in dinars)

Source: Based on Čupić (1935), own compilation

An examination of Belje's financial performance between 1922 and 1933 (Figure 1) shows that during the first two years, the state-owned enterprise achieved significant profits. At that time, efforts were made to sell all assets and raw materials that had remained in the company's possession after the annexation.

By 1924–1925, however, the enterprise was already operating at a loss. In 1927, Belje's operating profit once again exceeded 30 million dinars, but subsequently began to decline steadily. This downturn can be attributed to the lack of modern machinery and technological progress (Čupić, 1935, p. 9). The company's successful operation was further hampered by the major flood of 1926. The Kingdom of Serbs, Croats and Slovenes did not allocate sufficient funds or attention to the maintenance of the flood protection system (Vízügyi Közlemények, 1928, pp. 21–24). Pumping the water and maintaining the dikes were extremely costly tasks,

most of which had been financed by the former large landowners until 1918. After the dissolution and nationalisation of the estates, the responsibility for maintaining the embankments and pumps fell to the new state. According to contemporary sources, by 1877 the annual cost of maintaining the flood protection system built between 1827 and 1877 was estimated at more than 35,000 forints. This amount covered the operation of pumps, the maintenance of canals and embankments, as well as the employment of one engineer and four dike guards (Közgazdasági Értesítő, 1882, p. 27). This amount would have been difficult to bear for the Kingdom of Serbs, Croats and Slovenes, whose economy was standing on uncertain foundations.

In the summer of 1926, heavy rainfall caused flooding, during which the Danube broke through the embankments at Tikveš and Batina, while the Drava breached the dike near Belje. Numerous settlements were submerged, and railway transport had to be suspended (Čiček, 1973). In the area of the Belje estate, two-thirds of the crops were destroyed, around two thousand deer and several hundred wild boars drowned, and the total damage was estimated at 21,952,370 dinars (Privredni pregled, 1926). At that time, not only the crops were lost in the flooded areas, but part of the production equipment as well. Some of the damaged modern machinery was later dismantled, and the usable parts were sold (Dunántúl, 1926, p. 4). As a result, part of the arable land remained flooded for a long time, and the lack of production equipment further increased the demand for labour, while simultaneously reducing the company's efficiency. The stable operation of the enterprise was further undermined by the Great Depression, which also affected Yugoslavia and led to a 56% drop in agricultural product prices and a 25% decline in industrial goods between 1925 and 1930 (Bíró, 2014, p. 68). The period of economic stagnation was finally broken in the early 1940s, when the region was re-annexed to Hungary. Archduke Albrecht of Habsburg moved the administrative staff of the reduced Belje estate from Sátorhely back to Kneževo, the former estate centre. The talented and experienced archduke aimed to transform the declining Belje estate once again into a model farm (Kaposi, 2025, pp. 107–118).
This endeavour was ended by the Second World War and the subsequent changes of borders.

2. LITERATURE REVIEW, METHODOLOGY AND THEORETICAL FRAMEWORK

The study builds on a diverse body of Yugoslav economic history literature and contemporary analyses of the PIK Belje enterprise, with particular emphasis on the multi-volume collection Tri stoljeća Belja (Three Centuries of Belje), published in 1986 (Karpati, 1986; Juriša, 1986; Grčić et al., 1986; Jeličić, 1986; Mandić & Guljaš, 1986; Polonji et al., 1986; Rilke, 1986; Rilke et al., 1986; Stipetić, 1986). These works provide essential insights into the company's long-term organisational development, technological modernisation and socio-economic role within socialist Baranja. To complement this Yugoslav literature, the analysis also draws on relevant Hungarian scholarship on economic history and regional development (Kaposi, 2022, 2025; Bíró, 2014; Merki, 2020; Tarnai, 2025a, 2025b), as well as archival documents, statistical records, contemporary newspapers and water-management reports that together offer a multidimensional empirical foundation.

Systematic literature on state-owned enterprises in Central and Eastern Europe further contextualises PIK Belje's regional role. Across socialist Hungary, Poland, Romania and the GDR, large state-owned enterprises functioned not only as major production units but also as drivers of local infrastructure, employment and technological upgrading. They often acted as stabilising regional anchors and development poles, particularly where private-sector capacities were limited (Szarzec & Nowara, 2017, pp. 375–379). Comparative performance studies show that the largest state-owned firms maintained strong regional influence well into the post-socialist period, especially in agriculture, energy and heavy industry (Szarzec & Nowara, 2017, pp. 381–387). This broader Central and Eastern European experience provides an essential comparative backdrop for interpreting the functions of PIK Belje.

Against this background, the study addresses four interrelated research questions:

1. *To what extent did PIK Belje contribute to the economic and social transformation of Baranja after the Second World War?*
2. *How did collectivisation and state agricultural policy shape regional development, and what mechanisms linked Belje to local restructuring processes?*
3. *In what ways did the enterprise influence employment, technological change, infrastructure development and the market integration of small farms?*
4. *How did state ownership and regional coordination interact with wider centre–periphery dynamics within Yugoslavia?*

Methodologically, the study combines historical and economic-geographical approaches. Archival research, the analysis of primary sources, statistical datasets and company reports, as well as spatial analysis of settlement patterns, production sites and transport infrastructure, make it possible to reconstruct Belje's regional role with precision. Source selection was based on relevance, representativeness and the availability of longitudinal data; however, the analysis acknowledges the limitations inherent in socialist-era documents, which often emphasised successes and may contain institutional or political biases. Triangulating multiple sources therefore remains essential for ensuring the reliability of the empirical findings.

The theoretical framework integrates three complementary approaches to regional development to interpret PIK Belje's position within Baranja's socialist economy. First, growth pole theory conceptualises economic development as spatially concentrated around dynamic enterprises that generate multiplier and spillover effects (Dobrescu & Dobre, 2014, p. 265). Growth emerges at specific "poles" that exert centrifugal and centripetal forces through input–output linkages (Darwent, 1969, pp. 6–7), unfolds via sequential stages of concentration, expansion and diffusion (Amos, 1990, pp. 38–39), and is driven by propulsive industries capable of inducing cumulative structural change (Thomas, 1975, pp. 5–7). This provides a useful lens for interpreting PIK Belje as a regionally embedded growth centre with significant influence over agricultural modernisation.

Second, unequal exchange theory offers a structural perspective on Baranja's historically peripheral position by emphasising the uneven flow of value between low-wage peripheries and high-wage centres (Ricci, 2019, p. 226). Wage differentials and pricing mechanisms cause peripheral producers to sell below value (Birkan, 2015, p. 157), while technological advantages and cyclical dynamics reinforce the centre's dominant position (Love, 1980, pp. 46–57). As a structural feature of the international division of labour (Bernal, 1980, p. 5), unequal exchange helps contextualise the constraints faced by Baranja and explains why Belje's integrative functions – input provision, marketing coordination and employment – were essential in mitigating regional disadvantages.

Finally, the theory of the state as a developmental actor highlights that large-scale structural transformation requires strong state capacity and coordinated intervention beyond what markets can achieve (Kerstenetzky & Kerstenetzky, 2023, pp. 4–8). Developmental states rely on capable and strategically oriented bureaucracies (Cai, 2010, pp. 1–3), regulate economic activity and provide services that build legitimacy (Clancy, 2018, pp. 6–7), and guide firms and sectors through long-term strategic planning (Routley, 2012, pp. 4–11). This perspective is particularly relevant in the Yugoslav context, where PIK Belje operated as a regional developmental instrument whose investments, coordination mechanisms and social functions contributed directly to Baranja's post-war economic transformation.

3. THE EXPERIMENT OF SOCIALIST COLLECTIVISATION IN BARANJA (1945–1953)

Following the Second World War, the economy of Baranja was completely paralysed. Industrial and agricultural capacities were either destroyed or ceased to function. The lands of the expelled or killed German population remained vacant and neglected. Livestock was taken away by retreating military units, while much of the arable land was flooded or lay fallow. The authorities sought to remedy this situation by establishing a socialist-type land ownership structure. One of its key instruments was land redistribution, from which mainly landless peasants and war veterans benefited.

During the colonisation wave associated with this reform, several thousand families settled in Baranja, mostly from the mountainous regions of Dalmatia, Bosnia, and Montenegro. However, the newcomers struggled to adapt to the new environmental conditions and often lacked agricultural knowledge. The central element of socialist economic policy became collectivisation. The state's objective was to organise peasants into agricultural labour cooperatives, which were, in principle, based on common ownership and collective management.

Baranja served as a pilot area for this process, where collective farming was implemented most intensively. By 1946, eight cooperatives had been established, and by 1949 this number had risen to fifty-seven, a national record. At that time, 90% of peasant farms in Baranja belonged to some cooperative. However, due to the lack of mechanisation and skilled labour, productivity gradually declined, while corruption, theft, and

disorganisation characterised the cooperatives. The political leadership eventually recognised that the kolkhoz-type collectivisation had failed.

In 1953, the state decreed that cooperatives must either operate profitably or be dissolved. As a result, forty of the fifty-four cooperatives in Baranja were disbanded. The new form of agricultural organisation became the so-called "general agricultural cooperative", which represented a looser, cooperation-based structure. (Juriša, 1986, pp. 252–256)

4. THE SYSTEM OF COOPERATION BETWEEN PIK BELJE AND SMALL FARMS

The land reform also had a significant impact on the expansion of Belje's territory. After the war, portions of land previously owned by banks, churches, and private individuals were transferred to the state enterprise Belje, which from the 1950s operated as a "socialist agricultural estate". In this role, it demonstrated modern forms of socialist production, served as a model farm for surrounding smaller units, and played a key role in introducing technological innovations such as mechanisation, irrigation, seed production, and breeding material development.

The development of PIK Belje cannot be understood independently of agricultural policy. The company's objectives, strategies, and instruments were defined by the state. Moreover, modernisation efforts were primarily financed from state resources. Consequently, the enterprise functioned simultaneously as an ideological unit and as an economic model–where state intervention both ensured progress (through mechanisation and infrastructure) and limited market autonomy (through price and credit controls).

After the dissolution of collectivisation in 1953, Yugoslav agricultural policy took a new direction. The emphasis gradually shifted from the unification of ownership forms towards economic integration and social cooperation. One of the most significant embodiments of this transformation was PIK Belje, which within the agrarian structure of socialist Yugoslavia operated not merely as a state agricultural enterprise, but as a regional agro-integrator.

From the mid-1950s onwards, Belje was gradually incorporated into the system of associated labour. The former state farm was transformed into a "kombinat" (agro-industrial complex), encompassing several basic organisations of associated labour (osnovne organizacije udruženog rada – OOUR). The organisation not only managed its own production but also coordinated the operations of surrounding small farms, cooperatives, and individual producers. In this way, PIK Belje became a vertical integrator within the Yugoslav agrarian model, creating a unified economic chain from raw material production through processing to marketing (Rilke et al., 1986, pp. 481–487; Rilke, 1986, pp. 488–492).

Subsequently, the company integrated the small farms and cooperatives of the surrounding villages into its production system through contractual relationships, providing them with technical and financial support. In this way, Belje assumed the role of a regional integrator within the Yugoslav agrarian model, making modern technology, expertise, and market access available to the peripheral areas as well. The 1970s marked the most intensive phase of development (Stipetić, 1986, pp. 149–168).

The agro-industrial complex functioned as a centre of modernisation and technological renewal during this period. In addition to mechanisation, water management, and product procurement, Belje provided high-quality seeds, fodder, breeding livestock, and machinery services to cooperating farmers. By the 1970s, approximately 70% of agricultural production in the surrounding villages was linked to Belje in some form. Agricultural cooperatives, processing plants, and the organisational units of the agro-industrial complex operated through joint planning and distribution, thereby creating a closed, self-sustaining production system.

The influence of the agro-industrial complex also reshaped the social structure: the proportion of the agricultural population decreased from 67% in 1954 to 22% in 1981, while part of the rural population found employment in Belje's industrial and service units. At the same time, the productivity of individual farms also increased, owing to Belje's professional and technological support.

By 1984, Belje had evolved into a complex regional system encompassing meat processing, a sugar factory, a winery, a seed plant, a feed factory, and numerous other processing units. Through the "business community"

model, producers, cooperatives, and industrial plants participated jointly in economic planning and revenue sharing (Polonji et al., 1986, pp. 660–682).

5. THE ORGANISATIONAL STRUCTURE OF PIK BELJE

Within the Belje system, several production units operated, each striving to maximise its own income. Strong technological interconnections existed among these units: meat processing relied on fodder production, while grapes for winemaking were sourced partly from the company's own estates and partly from small local producers. The enterprise also produced input materials, most of which were used for raw material production.

Table 1: The hierarchical structure of the company

Level	Designation	Function
Level I	PIK Belje – Central Office	Central management, planning, finance, foreign trade
Level II	Work Organisations	Large sector-based units (agriculture, livestock breeding, food processing, etc.)
Level III	Basic Units	Specific production units: farms, plants, stations, factories

Source: Based on Grčić et al. (1986), own compilation.

The company's organisational model was aligned with the principles of Yugoslav self-management and consisted of three levels: central management, sectoral work organisations (RO), and basic production units (OOUR). The central unit, located in Beli Manastir, was responsible for planning, finance, foreign trade, and development functions. At the sectoral level, the work organisations (RO) coordinated the associated basic units (OOUR), which represented specific production areas such as crop farming, livestock breeding, and food processing.

The company's development and coordination functions were managed by the "Department of Cooperation and Development" within the work organisations, which oversaw contractual production with cooperatives and individual farmers and provided agronomic and technical advisory services to rural communities. Another key pillar of the system was the "Department of Community Services", which ensured infrastructure, mechanisation, irrigation, and maintenance (through machinery stations, water management, and construction units), while the "Sales and Services Department" organised commercial and hospitality activities, including product export and the management of local tourism facilities.

The organisational system of Belje was vertically integrated: all activities – from agricultural raw material production through industrial processing and marketing to foreign trade – were carried out within a single corporate structure. Geographically, the enterprise extended across the entire Baranja region, encompassing more than forty settlements, with approximately 31,000 hectares of cultivated land and an additional 11,000 hectares under cooperative production (Grčić et al., 1986, pp. 443–463).

6. THE IMPACT OF PIK BELJE ON SETTLEMENT DEVELOPMENT

From the 1950s onwards, the economic and settlement transformation of Baranja was closely linked to the growing role and development policy of PIK Belje. In the post-war years, the company played a decisive role not only in the reorganisation of agricultural production but also in the modernisation of regional infrastructure and housing (Jelinović, 1986, pp. 93–110).

In the 1960s, Belje established its own construction division, the Investment and Construction Directorate in Darda, which employed around 200–250 workers and was equipped with a modern machinery fleet as well as its own carpentry and metalworking workshops. The directorate not only met the internal needs of the enterprise but also actively contributed to the development of surrounding settlements. Through its construction units, the company played a major community role by building roads, housing, schools, cultural facilities, and service apartments. During this period, new economic and residential zones emerged in and around Beli Manastir, Darda, Karanac, and Kneževi Vinogradi. Belje's self-financed investments created an infrastructural network that linked previously isolated villages and economic centres. The housing estates and workers' colonies – such as Mirkovac, Kneževo II, and the so-called "poljski centri" near Podunavlje – were integrated into the company's production structure, giving rise to new agro-industrial forms of settlement (Milošić, 1986, p. 726).

The development of the transport network also contributed significantly to the modernisation of the region. In 1951, Belje constructed a new railway network known as the "economic railway", which connected the company's production units to the Yugoslav state railway system (Jeličić, 1986, pp. 380–384). The reconstruction and expansion of Belje's industrial railway lines (such as Darda–Topolik and Jasenovac–Kneževi Vinogradi) enabled closer integration between production centres and settlements. Road investments carried out between 1960 and 1980, including the Osijek–Bilje–Beli Manastir main road, further enhanced rural mobility and improved access to public services (Jelinović, 1986, pp. 93–110).

From the 1950s onwards, extensive land reclamation and flood control works were carried out across the Belje estate. During this process, the previously flood-prone grazing areas were gradually drained and protected from flooding. By the mid-1960s, more than 11,000 hectares of land had been brought under cultivation, transforming meadows and pastures into mechanised, intensively farmed arable land. By the 1970s, the entire Belje area had become a flood-protected and efficiently utilised agricultural landscape, significantly increasing both the size of the arable land and the overall productivity of agricultural production (Bošnjak & Marjanović, 1986, pp. 574–578).

Between the 1950s and 1980s, PIK Belje played a decisive role in transforming the settlement structure of Baranja. Following post-war reconstruction and the development of transport infrastructure, the former agricultural settlements (such as Mirkovac) gradually became depopulated, as residents moved towards larger central towns – primarily Beli Manastir, Darda, and Kneževi Vinogradi. The establishment of industrial capacities – including a meat-processing plant, dairy, feed factory, and winery – together with infrastructural investments, created a new regional hierarchy in which Belje's production centres became the main hubs of economic and social life.

The floods of the 1960s and 1970s, along with state-organised relocation programmes, further accelerated the depopulation of villages and the process of urbanisation. Urban growth took on a planned form, as several smaller settlements merged with the emerging urban centres – Bilje acquired a suburban function towards Osijek, Beli Manastir merged with the settlement known as Šećerana, and the zone between Darda and Mece became a continuous built-up area. Thus, the enterprise functioned not only as an economic actor but also as a spatial organising force: its decisions shaped the settlement network, influenced migration flows, and defined the patterns of urbanisation across the region (Jeličić, 1986, pp. 380–384).

7. THE IMPACT OF PIK BELJE ON EMPLOYMENT

Table 2: Employment Trends at PIK Belje (1948–1984)

Year	Total Employees	1948 = 100	Comment
1948	7 416	100	Post-war baseline
1952	4 882	66	Decline due to mechanisation and restructuring
1960	5 936	80	Industrialisation and organisational consolidation
1971	4 473	60	Agricultural rationalisation – lowest employment point
1980	6 354	86	Growth driven by industrial and processing sectors
1984	7 254	98	Nearly returned to 1948 levels, but with a completely different structure

Source: Based on Mandić & Guljaš (1986), author's compilation

The employment structure at PIK Belje underwent a profound transformation in the decades following the Second World War. In 1948, more than 7,400 people were employed by the company, primarily in the agricultural sector. However, in the early 1950s, mechanisation and rationalisation led to a 40 per cent reduction in the workforce. The authors interpret this not as a social regression but as an indicator of increased economic efficiency. By the 1960s, Belje had already established industrial and processing divisions, and the employment structure gradually shifted towards agro-industrial integration. Between 1956 and 1983, the number of agricultural workers declined from 2,835 to 1,543, while processing units – such as meat, dairy, and feed plants – continued to expand. By the 1970s, the company had become the largest employer in the Beli Manastir district: in 1981, two-thirds of those employed in the public sector, around 9,260 people (7,160 permanent and 2,100 seasonal workers), worked for Belje. This structural shift was accompanied by a marked rise in

educational attainment. Between 1964 and 1984, the proportion of employees with higher education increased from 1.6% to 4.5%, while those with secondary education grew from 4.7% to 15%, and the share of unskilled labour fell from 39% to 29%. At the same time, employee turnover declined sharply – from 20–25% in the 1960s to just 2.6% by 1984. The surge in productivity – for instance, a 43% improvement in wheat yields and a 56% reduction in labour time for dairy production – was the result of technological advances and a more skilled workforce. The average annual income per employee increased more than twentyfold between 1970 and 1982, further strengthening Belje's role as an economic and social stabilising force.

Overall, during the examined period, the company became not only the region's largest employer but also one of the key drivers of social mobility and rural resilience. The transition from agricultural overemployment to an integrated, industrial-type structure positioned Belje simultaneously as an economic engine and a pillar of social stability in the Baranja region (Mandić & Guljaš, 1986, pp. 394–401).

8. THE ROLE OF PIK BELJE IN REGIONAL TRADE

Between the 1950s and 1980s, PIK Belje became one of the most successful models of market integration within the Yugoslav socialist agrarian economy. Established as a nationalised enterprise after the war, it gradually shifted towards market-based operations in the early 1950s with the introduction of the economic self-management system ("privredni račun"). The company developed its own commercial network, processing industry, and brand, which made Belje products well known and sought after across the Yugoslav markets. For the previously isolated Baranja region, this was of particular importance, as the combine directly ensured the marketing of products and provided the necessary technological background, thereby eliminating the market isolation that had been the main obstacle to development in the post-war years. The system of vertical integration enabled Belje not only to respond to market demands but also to shape them. The company's export activities–particularly in the meat, dairy, and wine industries–achieved significant success beyond Yugoslavia, especially in the markets of the Federal Republic of Germany, Italy, and Austria. Foreign trade created new sources of revenue and directly connected Baranja's economy to international market flows.

By the 1970s, Belje had become a model of a market-oriented combine: through its own sales, procurement, and foreign trade departments, it coordinated the relationship between production and the market. The commercial sector became the central hub for information exchange between production and sales – a particularly crucial function in a peripheral region such as Baranja, where market infrastructure had been weak following the border changes. Thus, Belje functioned not only as an economic actor but also as a regional integrator, linking local producers, cooperatives, and industrial units, and thereby setting the region's agrarian economy on a new and sustainable path of development (Karpati, 1986, pp. 727–739).

By providing market access to other economic actors as well, Belje influenced overall supply and fundamentally transformed several sectors of production. One notable example was viticulture. The company accepted only those grape varieties that it cultivated itself, which led to the disappearance of some previously dominant local varieties, such as "Kadarka", while others, like Graševina, became prevalent. Belje also influenced the methods of grape cultivation: producers who entered into contractual partnerships with the company were required to adopt modern, standardised agricultural practices (Tarnai, 2025a, p. 34).

9. PIK BELJE IN THE CONTEXT OF SOCIALIST STATE-OWNED ENTERPRISES

Large state-owned agro-industrial enterprises represented a characteristic institutional form across socialist Eastern Europe, serving not only as major production units but also as instruments of regional development. In Hungary, the rapid modernisation of agriculture during the 1960s-1970s led to the emergence of large, vertically integrated farms whose scale and organisational complexity resembled that of PIK Belje. The Bábolna State Farm offers the closest parallel: by the 1970s it had become a highly modern agro-industrial complex combining crop and livestock production, feed manufacturing, food processing and research divisions (Csizmadia, 1975, pp. 6–7, 12). Contemporary reports highlight Bábolna's integrative role, as it supplied day-old chicks, standardised technology and coordinated a wide network of partner farms, significantly improving regional productivity (Szeinay, 1967, pp. 52–54). Other major Hungarian state farms—such as Nádudvar or Bóly—exhibited similar structures, blending large-scale cultivation with processing capacities and exerting considerable influence on rural labour markets and settlement development (Csizmadia, 1975, pp. 15–17).

The Yugoslav case also provides an instructive comparison. The Poljoprivredni kombinat Beograd (PKB) became the organisational backbone of Belgrade's food-supply system, producing most of the city's socialised agricultural output and embodying the policy of tightly integrating production with processing (Bajagić, 2005, p. 243). Like Belje, PKB operated as a large, technically advanced, vertically integrated enterprise whose activities extended beyond agriculture to regional provisioning and organisational coordination. Yet the two enterprises differed markedly in their regional functions: PKB was primarily an urban-oriented complex shaped by metropolitan demand, specialising in intensive sectors such as dairy, horticulture and meat processing, while PIK Belje was embedded in a predominantly rural, economically peripheral area where it assumed broader developmental responsibilities. Belje invested heavily in infrastructure, housing, social services and the integration of small producers—roles that exceeded those typically undertaken by Hungarian state farms or the more urban-focused PKB.

Taken together, these comparisons show that although PIK Belje shared structural similarities with other Eastern European state farms, its territorial embeddedness, multifunctional regional role and the developmental autonomy afforded by Yugoslavia's self-management system made it exceptionally influential in reshaping Baranja's economic and social landscape.

10. CONCLUSION

It is evident that after 1950, the management of the Belje state enterprise drew considerable inspiration from the pre-1918 estate economy of Belje. The company placed great emphasis on flood protection, infrastructure development, skilled labour, and technological advancement. By the 1980s, Belje had once again become a model agricultural enterprise. Although operating within a socialist framework, its structure was based on early forms of market-oriented management, making it one of the most successful examples of Yugoslav agrarian modernisation.

The company not only reorganised agricultural production but also established new types of economic relations, market mechanisms, and social cooperation that fundamentally transformed the region's structure. The first stage of development involved the centralised yet flexible reorganisation of the production system. Modelled after earlier state farms but operating under a self-management system, Belje effectively coordinated the activities of its various production units. The vertically integrated structure – encompassing everything from crop production to processing and marketing – enabled efficient coordination and contributed to the creation of stable markets across the region.

The second key factor was the modernisation of land use and infrastructure. Through land reclamation and flood control works, more than 11,000 hectares of new arable land were created, allowing for intensive, mechanised agriculture. The transformation of arable land benefited not only the enterprise itself but also surrounding smallholders, who gained access to cultivable land under similar conditions.

One of the most important drivers of economic growth was the cooperative system established with small farmers. From the 1960s onwards, Belje consciously built contractual partnerships with individual producers and cooperatives, who produced under guaranteed purchasing conditions with the technological, advisory, and financial support provided by the enterprise. This system integrated small-scale producers into industrial-scale production while ensuring them stable market access. Belje's purchasing and processing activities thus offered not only economic integration but also social security to rural inhabitants, for whom the company represented access to markets, technology, and stable income.

Another foundation of development was infrastructural and settlement modernisation. Through its own investments, the company built roads, railways, housing, and public facilities, which improved not only production logistics but also the quality of life in the region. Around industrial centres, new residential zones and services emerged, while former agricultural settlements were gradually absorbed into the central settlement network. Belje therefore played not only an economic but also an infrastructural and social-organising role.

The fifth pillar of regional development was market integration and foreign trade. Through its own sales network, Belje directly linked producers from Baranja to Yugoslav and international markets. The export of meat, dairy, and wine products – mainly to Austria, Italy, and West Germany – generated foreign exchange

revenues and encouraged improvements in quality and efficiency among both small and large producers. Consequently, the previously peripheral region gradually became economically self-sufficient and competitive.

Overall, by the 1980s Belje had developed a complex development model in Baranja, where large-scale integration and smallholder cooperation reinforced one another in driving regional modernisation. The company's operations demonstrated that the key to rural development lies not solely in large-scale production, but in the effective combination of market, technological, and organisational cooperation.

REFERENCES

1. Albrecht főherceg ő fensége bellyei uradalmának leírása. (1883). Bécs.
2. Amos, O. M., Jr. (1990). Growth pole cycles: A synthesis of growth pole and long wave theories. The Review of Regional Studies, 20(1), 37–48. https://doi.org/10.52324/001c.9187
3. Bajagić, D. (2005). Review of Slobodan Selinić. Tokovi Istorije, 1–2, 241–249.
4. Bernal, R. (1980). Emmanuel's unequal exchange. Institute of Social and Economic Studies.
5. Birkan, A. O. (2015). A brief overview of unequal exchange theory. International Journal of Humanities and Social Science, 5(4), 155–163.
6. Bíró, L. (2014). Economic integration in Yugoslavia. Filozofski fakultet.
7. Bošnjak, D., & Marjanović, D. (1986). Livadarstvo i pašnjarstvo na Belju. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 574–578). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
8. Cai, F. (2010). The developmental state in the globalizing world. E-International Relations.
9. Čiček, V. (Ed.). (1973). Velike vode: Poplave u Slavoniji i Baranji. Glas Slavonije.
10. Clancy, T. (2018). Emerging-state actor theory. Systems, 6(2). https://doi.org/10.3390/systems6020023
11. Csizmadia, E. (1975). Hungarian agriculture in the 1970s. Agrártudományi Közlemények, 34, 5–25.
12. Čupić, B. (1935). Opis i organizacija državnog dobra "Belje". In P. E. Popović (Ed.), Poljoprivredni glasnik: Kulturni zavičaj državnog dobra "Belje". Novi Sad.
13. Darwent, D. F. (1969). Growth poles and growth centers in regional planning: A review. Environment and Planning A, 1(1), 5–32. https://doi.org/10.1068/a010005
14. Dunántúl. (1926, August 8). Dunántúl, p. 4.
15. Dobrescu, E. M., & Dobre, E. M. (2014). Theories regarding the role of the growth poles in the economic integration. Procedia Economics and Finance, 8, 262–267. https://doi.org/10.1016/S2212-5671(14)00089-6
16. Grčić, N., Hajdin, B., Kosanović, S., Marjanović, D., & Špoljarić, J. (1986). Organiziranost Belja od 1822. godine do danas. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 443–463). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
17. Jeličić, D. (1986). Utjecaj Belja na specifičnosti razvoja naselja u Baranji. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 380–384). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
18. Jelinović, Z. (1986). Historijski aspekti razvoja prometa na području Baranje. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 93–110). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
19. Juriša, S. (1986). Agrarna politika i problemi socijalističkog preobražaja sela u Baranji od 1945. do 1953. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 252–256). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
20. Kaposi, Z. (2022). Agrárnagyüzemek működési nehézségei a Dráva mentén 1920 körül [Operational difficulties of large estates along the Drava River around 1920]. Közép-Európai Közlemények, 15(1), 9–32.
21. Kaposi, Z. (2025). Economic changes of the Habsburgs' estate of Sátorhely, 1920–1941. University of Pécs Publications Database.
22. Karpati, T. (1986). Razvoj tržišnog poslovanja na PIK-u Belje. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 727–739). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
23. Kerstenetzky, C. L., & Kerstenetzky, J. (2023). The state as developmental actor. Working Paper.
24. Kolar-Dimitrijević, M. (1998). Belje između dva svjetska rata: Uloga politike u organizaciji beljskog gospodarstva od 1918. do 1941. godine. Časopis za suvremenu povijest, 30(3), 507–525.
25. Közgazdasági Értesítő. (1882). A Földmívelés-, Ipar- és Kereskedelemügyi Magyar Királyi Ministerium közlönye. Budapest.
26. Love, J. L. (1980). Raul Prebisch and the origins of the doctrine of unequal exchange. Latin American Research Review, 15(3), 45–72.

27. Mandić, I., & Guljaš, I. (1986). Zaposlenost i zapošljavanje u poljoprivredno-industrijskom kombinatu Belje od 1948. do 1984. godine. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 394–401). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
28. Merki, L. (2020). Baranya after Austro-Hungarian collapse.
29. Milošić, M. (1986). Građevinarstvo Belja od 1960–1970. godine. In D. Čalić (Ed.), Tri stoljeća Belja (p. 726). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
30. Pécsi Napló. (1910, July 24). Pécsi Napló, p. 11.
31. Polonji, A., Nusker, M., & Zagvozda, Ž. (1986). Belje u funkciji nosioca razvoja poljoprivredne proizvodnje u Baranji od 1945. do 1984. godine. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 660–682). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
32. Privredni pregled. (1926, October 10). Privredni pregled.
33. Ricci, A. (2019). Unequal exchange in the age of globalization. Review of International Political Economy, 26(2), 225–245. https://doi.org/10.1080/09692290.2019.1567577
34. Rilke, D. (1986). Agrarna politika kao uvjet poslovanja PIK-a Belje. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 488–492). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
35. Rilke, D., Anić, P., & Rilke, B. (1986). Privredni sistem kao uvjet poslovanja PIK-a Belje. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 481–487). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
36. Routley, L. (2012). Developmental states: A review of the literature. ESID Working Paper No. 3.
37. Stipetić, V. (1986). Agrarno-ekonomski okviri razvitka poljoprivrede Baranje i Belja u minula tri stoljeća. In D. Čalić (Ed.), Tri stoljeća Belja (pp. 149–168). Jugoslavenska akademija znanosti i umjetnosti, Zavod za znanstveni rad.
38. Szarzec, K., & Nowara, W. (2017). The economic performance of state-owned enterprises in Central and Eastern Europe. Post-Communist Economies, 29(3), 375–391. https://doi.org/10.1080/14631377.2017.1316546
39. Szeinay, L. (1967). Advisory practices in agriculture. Gazdálkodás, 11(12), 52–54.
40. Tarnai, A. (2025a). A drávaszögi borászat és borturizmus fejlődése a 20. század második felétől napjainkig [The development of the wine industry and wine tourism in Drávaszög from the second half of the 20th century to the present]. Turisztikai és Vidékfejlesztési Tanulmányok, 10(3), 27–45. https://doi.org/10.15170/TVT.2025.10.03.02
41. Tarnai, A. (2025b). Economic changes in the Hungarian-populated Drávaszög region between 1920 and 1945. University of Pécs.
42. Taslidžić, D. (2021). Trianon impact.
43. Thomas, M. D. (1975). Growth pole theory, technological change, and regional economic growth. Papers of the Regional Science Association, 34, 3–25.
44. Vízügyi Közlemények. (1928). Vízügyi Közlemények, 10, 21–24.