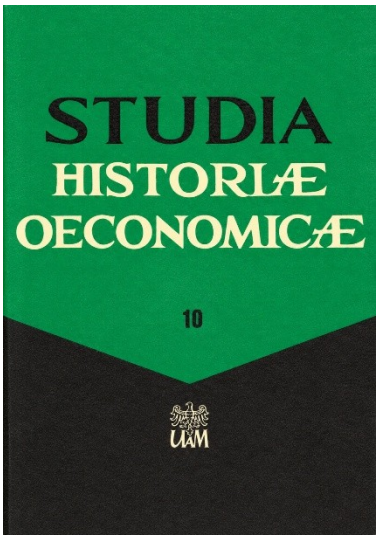


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PROBLEMS OF INVESTMENT EXPENDITURES IN FARMS IN THE CONGRESS KINGDOM OF POLAND ON THE TURN OF THE 19th AND 20th CENTURY

Tendencies characteristic for a new capitalistic system of administering in agriculture in the Congress Kingdom of Poland became much clearer after the enfranchisement reform in 1864 and intensified on the turn of the 19th and the 20th century. Apart from the basic means of agriculture production, which remained the soil, more and more importance acquired additional means of production in the form of various investment expenditures.

On the turn of the 19th and 20 th century there occurred far-reaching changes in the agrarian structure of ownership imposed, on the one hand, by the necessity of accomodation of agriculture production to the needs of the market and the necessity of intensification of farming systems but, on the other hand, by a rapid demographic development of the country, increase of accessory income of country people and growing importance of credits for agriculture[1].

At the same time this period can be characterized by numerous experimental researches employing the most modern achievements in agrobiology and agricultural chemistry and by popularization of agricultural knowledge on a wide scale[2]. The character of these changes would indicate the existence in Poland of an event that in western countries was known as an agrarian revolution.

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[1] The problems mentioned here were developed in: R. Chomać, *Struktura agrarna Królestwa Polskiego na przełomie XIX i XX wieku* [The agrarian structure of the Kingdom of Poland on the turn of the nineteenth and twentieth century]. Warszawa 1970.

[2] More detailed information in this field were compiled in jubilee issues: *XXV-lecie rolnictwa polskiego 1883 - 1907. Księga jubileuszowa "Rolnika i Hodowcy"*. Ed. H. Kotłubaj, v. I - II [The XXVth Anniversary of the Polish Agriculture 1883 - 1907. Jubilee Volume of "Farmer and Breeder"]. Warszawa 1908; *Księga Pamiątkowa na 75-lecie "Gazety Rolniczej" 1861 - 1935*. Ed. J. Lutosławski [Commemorative Volume on the occasion of the 75th Anniversary of "Farmers' Paper" 1861 - 1935]. Warszawa 1938; Besides in: *Sprawozdanie Centralnego Towarzystwa Rolniczego w Królestwie Polskim w latach 1908 - 1915* [Report of the Central Agricultural Society in the Kingdom of Poland in the years 1908 - 1915], Warszawa 1908 - 1916, and in a study: *Stosunki rolnicze Królestwa Kongresowego*, Ed. S. Janicki [Relations in Agriculture in the Congress Kingdom of Poland]. Warszawa 1918.

Popularization of capitalistic methods of farming and implementation of new achievements of agricultural knowledge occurred in grange and peasants' farms at a different rate. Landlords obtained necessary funds by breaking up and selling parts of their estates, by means of credit and, to some but insignificant extent, as income from agricultural and forest production. But the big burden was an excessive indebtment of farms reaching half of their value.

Modernization of peasants' farms met with enormous obstructions. The most important ones were a quick demographic development of the country making acquisition of new land necessary, and attachment to a traditional extensive system of farming. Relatively percentage of peasants could afford bigger investments. And it was impossible to resign completely from investments under new economical requirements. Funds necessary for investment expenditures on peasants' farms were provided by accessory income of country people both at home and abroad, and by community loan and savings banks. According to estimations, about 200 million roubles were earned abroad in the years 1890 - 1914[3]. The importance of credit for agriculture can be emphasized by the fact that only in 1910 the loans granted by the community banks reached the amount of 38 million roubles, which sum was in 90% meant for improvement of farms[4]. Drainage, enriching physical qualities of the soil, was very expensive in the Congress Kingdom of Poland. The average cost ranged from 30 - 40% of the value of the land[5]. But the crops raised by about 50% increasing remarkably well remunerativeness of farms and making amortization very quick[6].

Lack of organizational and legal forms (up to 1904) and limited availa-

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[3] Calculations made according to the governor general of Kalisz (half of emigrants came from the province of Kalisz): *Всеподданнейшие отчеты калишского губернатора*; Труды Варшавского статистического комитета, вып. V, Варшава 1891, стр. 103 (taking into account the growing dynamics of emigration and growth of wages on the basis of: Общий свод по империи результатов разработки данных первой всеобщей перпеиси наслеения произведенной 28 января 1897 года. С. Петербург 1905, стр. 373; Труды Варшавского статистического комитета, вып. XIX, Варшава 1902-3, стр. 9 - 67; вып. XXXIX-1, Варшава 1920, стр. 12 - 77.

[4] Rocznik Statystyczny Królestwa Polskiego za 1915 r. Elab. E. Strasburger [Yearbook of the Kingdom of Poland for 1915]. Warszawa 1916, p. 277 and own calculations.

[5] Own calculations according to: *Stosunki rolnicze Królestwa Kongresowego* [Relations in Agriculture in the Congress Kingdom of Poland], p. 276 and Отчёты Государственного крестьянского банка. С. Петербург 1890 - 1914. — with reference to the prices of land purchased with its help.

[6] B. Wasiutyński, *Melioracje rolne w Królestwie Polskim* [Land reclamation in the Kingdom of Poland], "Ekonomista" 1909, v. III, p. 136; cf. S. Borowski, *Towarzystwo Kredytowe Ziemskie w Królestwie Polskim 1825 - 1922, part* 1 [Land and Credit Society in the Kingdom of Poland 1825 - 1922]. Warszawa 1941, p. 82; I. Pietrzak-Pawłowska, *Królestwo Polskie w początkach imperializmu 1900 - 1905* [The Kingdom of Poland at the beginning of imperialism 1900 - 1905]. Warszawa 19X5, p. 64.

bility of funds were hampering the progress. Only 104 000 ha of land, nearly grange farms on the whole, were drained in the Congress Kingdom of Poland up to 1914[7]. Peasants used simple methods of drying wet soil instead of expensive drainage. Relics of feudal agrarian structure such as easement of villages, patchwork, and common ownership of land destroyed very often all initiatives for implementation of draining.

Table 1.

Consumption of fertilizers in grange and small farms in the Congress Kingdom of Poland in 1909
(comparative specification)

Specification	Grange farms	Small farms	Total
	in quintals		
Superphosphate	73 798	43 489	117 287
Slag	89 022	19 391	108 413
Other phosphates	246	98	344
Potash salt	69 317	9 278	78 595
Saletre	10 290	13 170	23 460
Other nitric	88	—	88
Soil lime	33 312	2 064	35 676
Total	276 373	87 490	363 863
	in percent		
Superphosphate	62,9	37,1	100,0
Slag	82,1	17,9	100,0
Other phosphate	71,4	28,6	100,0
Potash salt	88,2	11,8	100,0
Saletre	88,7	11,3	100,0
Other nitric	100,0	—	100,0
Soil lime	94,2	5,8	100,0
Total	78,5	21,5	100,0

Source: I. Kosiński, *Zapotrzebowanie i kontrola nawozów sztucznych w Królestwie Polskim w 1909 r.* [Demand and control of fertilizers in the Kingdom of Poland in 1909]. Warszawa 1910, pp. 6 - 7; *Stosunki rolnicze Królestwa Kongresowego...*, p. 284. Own conversion into quintals.

Increasing interest in the use of fertilizers came in the 90s of the 19th century, but the application of fertilizers increased very quickly after 1900. In the years 1900 - 1913 expenses of fertilizers grew 70 times[8]. On the peasants' arable lands, which were twice as big as grange ones but of poorer quality,

[7] *Stosunki rolnicze Królestwa Kongresowego* [Relations in Agriculture in the Kingdom of Poland]. Warszawa 1918, p. 274; Труды Варшавского статистического комитета, вып. XXXIX-2, Варшава 1910, стр. 34 - 115.

[8] *Stosunki rolnicze Królestwa Kongresowego...*, p. 282 - 283; Rocznik Statystyczny Królestwa Polskiego za 1915 r. [Year-book of the Kingdom of Poland for 1915], p.281

Table 2.

Popularization of agricultural machines and tools in grange and peasant's farms in the Congress Kingdom of Poland on the turn of the 19th and 20th century (on the example of the provinces of Kalisz and Warszawa)

Specification	Province of Kalisz				Province of Warszawa			
	Grange farms*		Peasants' farms		Grange farms*		Peasants' farms	
	1894	1910	1894	1910	1896	1910	1896	1910
Steam threshers	77	229	—	18	2101	2393	409	10362
Horse threshers	1561	1011	394	9566				
Harvesters	73	491	—	97	48	1616	·	609
Mowing machines	60	213	—	356	13	633	·	74
Sowing machines	649	915	1	154	1147	2141	·	386
Horse rakes	1204	1078	128	1258	1354	2182	·	1708
Winnowers	3343	1272	10834	6231	273	2755	135	19518

* — data refer to grange and other farms excluding peasants' ones.

Source: Archiwum Państwowe Miasta Łodzi i Województwa Łódzkiego [State Archives of the City and District of Łódź], Kancelaria Gubernatora Kaliskiego [Governor's Office of Kalisz], No. 469a, vol.; Обзор варшавской губерни за 1896 год, вед- 2 г; Статистика Российской Империи, т. LXXIX. С. Петербург 1913, стр. 81,83.

Table 3.

Agricultural machines and tools in grange and peasants' farms in the Congress Kingdom of Poland in 1910 (comparative specification)

Specification	Grange farms*		Peasants' farms		Total	
	number	%	number	%	number	%
Primitive ploughs	13 111	14,9	75 042	85,1	88 153	100,0
Wooden ploughs	14 719	5,3	261 453	94,7	276 172	100,0
Iron ploughs	101 678	22,0	361 439	78,0	463 117	100,0
Steam ploughs	18	100,0	—	—	18	100,0
Wooden harrows	36 444	23,6	118 307	76,4	154 751	100,0
Wooden-iron harrows	113 120	13,5	726 009	86,5	839 129	100,0
Iron harrows	36 279	50,5	35 547	49,5	71 826	100,0
Sowing machines	9 238	87,7	1 304	12,3	10 542	100,0
Harvesters	7 710	73,4	2 796	26,6	10 506	100,0
Hand threshers	1 079	9,3	16 369	90,7	19 160	100,0
Horse threshers	11 053	20,1	43 965	79,9	55 018	100,0
Steam threshers	1 517	93,9	99	6,1	1 616	100,0
Winnowers	16 984	14,5	100 318	85,5	117 302	100,0
Mowing machines	3 656	70,7	1 515	29,3	5 171	100,0
Horse rakes	10 020	64,9	5 433	35,1	15 453	100,0

* — data refer to grange and other farms excluding peasants' ones.

Source: Статистика Российской империи, т. LXXIX, С. Петербург 1913, стр. 38-39, 66-67, 80-89.

only 1/5 of the total amount of fertilizers was used. The rest 4/5 nearly entirely was arable land of grange farms (cf. Table 1). Some deviations from the given proportions concern phosphatic fertilizers, where peasants' farms participated in greater part, and nitrogenous and lime fertilizers, where peasants' farms participation was smaller.

Another index of investment expenditures in farms is the popularization of agricultural machines and improved tools. In spite of high prices for machines and tools in the Congress Kingdom of Poland and relatively cheap manpower, economic calculation determined the use of the former especially in grange estates and big peasants' farms. The turn of the 19th and 20th century was the period of increased mechanization of agriculture in the Congress Kingdom of Poland. In the years 1900 - 1914 the expenses for agricultural machines and tools grew twentyfold[9]. The dynamics of these expenses in the Congress Kingdom of Poland was twice as large as in Russia[10]. The value of production of agricultural machines and tools was 10 times bigger but it still lagged behind the demand. Import played still an important role. Grange farms entered the second stage of mechanization, that is conversion from simple to more complicated and efficient machines. Peasants' farms began only to enter the first stage of mechanization. Simple agricultural tools (ploughs, harrows) and other machines like winnowers, horse and hand driven threshing machines were in common use (cf. Table 2).

The analysis of the state of machanization of grange and peasants' farms for 1910 indicates a high participation of peasants' farms in the use of traditional and simple and improved agricultural tools and machines (cf. Table 3). Modernization of grange farms advanced much quicker and more effectively than of peasants' ones.

While the landlords' motto was "more funds" (even at the cost of reducing estate area) so the farmers' principal aim was to enlarge their land but it was followed by negligence of investments. Tendencies and activities towards modernization of farms and production systems in agriculture in the Congress Kingdom of Poland were very often not rightly appreciated and supported in the agrarian policy of the contemporary government.

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[9] *Stosunki rolnicze Królestwa Kongresowego*..., p. 296.

[10] *К вопросу о таможенных пошлинах на земледельческие машины.* Съезд русских фабрикантов земледельческих машин и орудий в Харькове 1910 года, Москва 1910, стр. 18; Е. Е. Польферов, *Сельскохозяйственные машины и орудия, их производство и ввоз в Россию в связи с пересмотром торговых договоров*, Петроград 1914, стр. 1.