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RESEARCH ARTICLE

The evolving economic importance of Polish forests between 1918 and 1945

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Abstract

Poland, going through three partitions and two wars, has suffered enormous losses across many dimensions. Polish forests have been damaged or destroyed by direct or indirect results of those tragic events and at the same time, timber and non-timber forest products played an important role in rebuilding the nation. This article illustrates the scale of the losses and the economic importance of Polish forests between 1918 and 1945. Actions of three partitioning states (Russia, Prussia and Austria) left the newly liberated Poland with damaged and destroyed forests. For example, during the Second World War, Germany protected its forests by shifting the entire burden of war supplies (that is, wood, game, resin and tanning bark) onto the forests of the occupied countries, including Poland. Despite being left in a bad condition, Polish forests were able to provide wood and non-wood products necessary for the reconstruction of the country and helped to jumpstart some of the sectors of the national economy. This article provides a review of the literature on twentieth century Polish forestry, with a specific focus on its changing economic importance, government perception and policy and the role of forestry to Polish economic, political and cultural life.

Introduction

Poland was partitioned three times throughout its history. The third partition took place in 1795 and lasted for 123 years, with the territory of Poland being divided by three states: Russia, Prussia and Austria. With the growth of capitalism and the gradual abolishment of easements (servitudes) in the nineteenth century, forests were separated from the agricultural domain and represented a separate branch of the national economy (Kołodziejczyk and Gradowski, 1974; Lityński, 1987). At first, management of state-owned forests (formerly royal and monastery forests) was introduced in the Russian (c. 1820s) and Prussian (c. 1830s) partitions, followed by the Austrian (c. 1850s) partition (Broda, 1965). Only after the management of state-owned forests was organised in this way was attention drawn to privately-owned forests,[1] which constituted the majority of the forest area (Broda, 1965; Hucz, 2005; Żabko-Potopowicz, 1977). Organised but unsustainable forest management was the main factor that influenced the transformation of the species composition of stands in Central European forests (Lityński, 1987). In the lowlands, deciduous species were eliminated in favour of pine stands, and in the mountains in favour of spruce stands; the effects of this can still be seen today. Forest restoration using mainly pine and spruce was the cause of the decline in the natural resistance of forest ecosystems, which has resulted in pest outbreaks and the mass appearance of fungal diseases (Sierpiński, 1984).

This article is a review of the importance of Polish forests and their economic significance between 1918 and 1945 and seeks to create an overview of the role of forests and its products after Poland regained independence (the Second Polish Republic, 1918–39), and during the period of occupation by the Third Reich (Second World War, 1939–45). The article also investigates the scale of the losses that Polish forests suffered as both a direct and indirect result of partition and

Table 1. Reduction of state forest areas during partitions (in hectares) in Poland

Galicia	821,994
Kingdom of Poland (Congress Poland)	337,496
Grand Duchy of Posen and in Pomerania	255,743
	Total: 1,415,233 ha

Source: (Miklaszewski, 1947).

war. It utilises critical historiography and primary materials to provide a review of the changing role played by forestry in Poland's economy. This article is also built on contemporary literature from the period, both scientific and professional, including materials published in the *Sylwan*, the oldest scientific journal worldwide dealing with forestry issues, published since 1820 in Poland (Sylwan, 2021). After Poland regained independence in 1918, the journal was briefly run by the Małopolska Forest Society, and from 1925 by the Polish Forest Society based in Lviv. From 1936, *Sylwan* began to appear in two series: A, for scientific dissertations, and B, for articles and matters of the Society. Its role as a venue for publishing scientific dissertations grew, especially since the mid-1920s, when it saw the publication of eight doctoral and postdoctoral dissertations. During the Second World War, the journal did not publish any articles, and the first issue after the war was published in Krakow in 1947. Contemporary literature used in this review supplements literature from the analysed period and mainly includes works of Professor Józef Broda who specialised in history of forestry, Professor Mieczysław Podgórski who specialised in economics of forestry and Professor Bogusław Fruziński, specialist in the field of game management.

This article is organised as follows: The first section, 'The independence', describes the state of Polish forestry after regaining independence, as well as losses occurred during the partitions. It also presents the continuities in forest landownership in the interwar period. The second section, 'Rebuilding the nation with wood', demonstrates the role of wood and wood products in rebuilding the national economy. Section three, 'Game', presents the condition of wild game, its management and economic importance during the interwar period. The final section, 'Polish forests during the German occupation', describes the role of Polish forests and their products during the Second World War. This section also presents forest management practices of the occupiers and the scale of losses that Poland suffered in forest stocks and its infrastructure during the war.

The independence

It is estimated that in pre-partitioned Poland, forests covered over 30 per cent of the country's area, whereas after regaining independence in 1918, this had been reduced to only 23 per cent (see Table 1) (Lityński, 1987; Miklaszewski, 1947). Changes in the forest cover in regained districts were not only caused by entomological and phytopathological factors, but mainly by humans, resulting in major changes in the country's forest cover. The partitioning states (Russia, Prussia and Austria), driven by fiscal incentives and incessant financial problems, used Polish forests, both state-owned and private, as a source of funds to cover national shortages or as a rewards for their dignitaries (Miklaszewski, 1947).

After 1918, the independent Republic of Poland was in a difficult financial situation. The Polish industrial sector was in a bad condition and too weakened to quickly rebuild the country. Difficulties were caused by the fact that a significant share of capital in the national economy was in the hands of foreign investors who did not want to risk assets on rebuilding and investing in a country that still did not have a stable internal and international position (Kołodziejczyk and Gradowski, 1974). Polish industry found itself within the borders of the new state, created from

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the merger of three different areas, which, prior to this, were developing in different economic and political environments. Due to the lack of equity, capital and the need to unify the financial and tax system as soon as possible, the authorities decided to print new money, which resulted in a significant increase of inflation (Kołodziejczyk and Gradowski, 1974; Rudnicki, 2006). According to Polish historian Zbigniew Landau, it was commonly believed that the best way to save Poland's financial situation would be to leverage the country's natural resources (Landau, 1961).

The chairman of the Financial Advisors Committee (pl. Komisja Doradców Finansowych) for the government of the Second Republic of Poland, Professor W. E. Kemmerer, proclaimed that due to unfavourable conditions for the development of fabrication (and industry itself), Poland should strive to develop the production of raw materials and agricultural plant production (Landau, 1961). One of the main raw materials, which was the centre of attention, was wood from Polish forests. According to the forecasts and beliefs at that time, Poland had enough forest resources to meet the domestic demand for timber, and for foreign export to improve exchange rates (Małecki, 1922). However, these forecasts were usually based on sources prepared before gaining independence and were not accurate. For example, calculations of forest resources for the area of Galicia were based on Ignacy Szczerbowski's forest index from 1908, who in turn based his calculations on the *Statistical Yearbook of the Austrian Ministry of Agriculture* from 1900 (Małecki, 1922). According to the forester Kazimierz Suchecki, many of the areas that were classified as forests in the cadastre were, in fact, wastelands or forests that were cut down and badly restored, qualifying as forests only in theory (Suchecki, 1934a). This suggests that the statistics on forests after independence were based on outdated data and led to overly optimistic calculations.

At the time of the liberation, Polish forests were in a poor condition, especially in the eastern areas, which had been in a major conflict zone. Warfare has caused enormous damage and losses to those forests. It was established that during the four-year war, 242,108 hectares of state forest were damaged or destroyed, which accounted for almost 10 per cent of the total state forest area (Miklaszewski, 1947). The damage to the stand of state-owned forests alone was estimated to a value of approximately 1 tonne of gold. Moreover, the Polish state took over huge areas of unforested prewar and war clearings from the occupiers, covering a total area of 195,360 hectares. The cost of afforestation at that time was estimated to reach a value of 23 kg of gold (Edvinsson, 2016; Miklaszewski, 1947).

According to one contemporary study, privately-owned forest suffered similar losses due to war devastation as well as uncontrolled and rapacious pillaging of forests by the partition states (Miklaszewski, 1947). Unfortunately, data on losses in privately-owned forests during the war are unavailable, with the exception of incomplete and scarce data on the amount of wood obtained from larger private forest farms taken over by the Office of War Materials (de. Kriegsrohstoffstelle) of the German Occupation Authority (de. Kaiserlich Deutsche Generalgouvernement) and some data on damage and war losses in selected private forests of the Małopolska voivodeship. According to Jan Miklaszewski (professor, forester, rector of the Warsaw University of Life Sciences), in the few regions examined by district forest inspections, of the 45,431,482 ha of private forests, 36,350,49 ha, with total thickness of 2,973,030 m^3, were destroyed (Miklaszewski, 1947).

In German literature during the First World War relating to Polish forests, the phrase 'Bedarfsdeckungs-Wirtschaft' appeared, arguing that forests play a role as a base of the subsistence economy. In their reports, the German occupation forest authorities in the Kingdom of Poland (Congress Poland), expressed the concern that in the case of expected necessity to withdraw forces from the Kingdom, Poland would be left with too much forest area (Fromer, 1947). Forest losses under the Prussian partition were six times higher than those under Austrian partition, where they were limited to war damages (Fromer, 1947).The forests were also severely damaged as a result of the indirect effects of the occupation. Due to the construction of shooting ditches and shelters in tree stands, tree clearing in the foreground and cutting out gunfire lines, the natural resistance of the forest to the effects of snow, winds and storms was reduced, resulting in numerous uprootings and mechanical injuries of trees. Contemporaries further suggested that grazing by oxen, cows and

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sheep intended for slaughter completely destroyed the forest groundcover and the understory (Stankiewicz, 1932). The primitive methods for resin collection from pine stands, which did not secure trees against pathogens and fungus, caused numerous full-value trees to die, while failure to clean the tree clearings properly created favourable conditions for fires and bark beetle outbreaks. Poland devoted large amounts of resources to contain the postwar invasion of the bark beetle in the Białowieża Forest, Tatra and Carpathian forests, while incurring huge losses in wood stocks (Miklaszewski, 1947).

A characteristic feature of economic activity in forestry during the interwar period was the trend of replacing private capital with state capital. Even so, in the first few years following independence, roughly three-quarters of all forest areas remained in private hands. Two main groups of private property were dominant: large forest property (over 500 hectares) and small peasant forests (less than 50 hectares). Large forest properties were mainly owned by families from the hereditary nobility. Forest areas of less than 50 hectares were mainly granted to peasants as a result of the abolition of servitudes. This meant peasants were given forestland in exchange for giving up their right to use manorial meadows, pastures and forests free of charge. The abolition of servitudes was intended to free agriculture land from these rights, which dated back to the feudal period, and to ensure agricultural development. In 1923, private forest ownership could be categorised as follows: forest estates over 500 hectares, 69.3 per cent; 500–100 ha, 7.3 per cent; 100–50 ha, 1.1 per cent; and forest under 50 ha, 22.3 per cent (Broda and Podgórski, 1980). Privately-owned forests areas decreased due to the felling of stands without renewals and buyouts of land by state forests; by 1937, this reached 61.5 per cent in the case of forest estates over 500 hectares and 17.6 per cent for peasant forests (Broda and Podgórski, 1980). However, the state-owned forests – due to proper renewals, afforestation, exchange of forests for arable land, private forest purchases, among other strategies – were gradually increasing in area from 28.7 per cent in the 1920s to 38.7 per cent in 1937.

The use of wood in rebuilding the country

The First World War resulted in a huge loss in the country's infrastructure. The architect Władysław Ekielski (1855–1927), in his work *Reconstruction of the Polish Village: Designs of Peasant Huts and Homesteads*, described the losses as follows:

> The current war has devastated our country as long and wide – a small patch west of Krakow that has survived does not diminish the sea of destruction the country suffered. More than one city has disappeared, many churches, an innumerable number of noble houses, sometimes wonderful witnesses of the penetration of Western culture into the spirit of our nation, many villages have disappeared from the face of the earth. (Ekielski, 1915: 2).

In the first years after gaining independence, wood was the main raw material used to rebuild the country (Janiczek, 1939). The rural areas that suffered the most severe losses required the most resources and aid to start rebuilding.

A few months after regaining independence, in February 1919, the Sejm (the lower house of the Polish Parliament) adopted a resolution on providing the population with construction and firewood, which obligated state forests to provide 30 per cent of utility wood from the annual allowable cut (AAC) (Sejm of the Republic of Poland, 1919; Tarkowski, 2014). After four years, private forests were also obliged to provide services for the reconstruction of the country. The Act of July 1923 on the collection of the forest tribute obliged the owners of private forests to provide large amounts of wood for the purpose of reconstructing the country (Sejm of the Republic of Poland, 1923). Polish forests have fully met the tasks set for them by both laws. According to the literature, by the end of 1928, an estimated twelve million m^3 of wood was donated for

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Table 2. Approximate yearly wood consumption in the 1930s in Poland (m^3)

Mining	1,150,000	Statistical annual growth
Communications and mail	1,666,000	
Farming	300,000	
Construction	2,636,000	
Papermaking	600,000	
Matches	30,000	
Other minor	300,000	
Firewood	15,000,000	
Total	**21,682,000 m^3**	**21,400,000 m^3**
Difference (growth-use)	**−282,000 m^3**	

Source: (Suchecki, 1934b).

the economic reconstruction of a Polish village destroyed by war conflagration (Miklaszewski, 1947; Więcko, 1948). It should be also be noted that the needs fulfilled by theft, which intensified after the war, along with the general impoverishment of rural village communities, were also important for rebuilding and sustaining the countryside (Mokulski, 1935).

As was mentioned before, in the first years after the First World War, nearly three-quarters of the forest area in Poland was in private hands, mainly forest estates over 500 hectares and peasant forest with areas less than 50 ha. In 1921, 75 per cent of the total population were peasants (Kołodziejczyk, 2002), and the forests in the worst condition belonged to them. Peasants were unable to assign maximum value to forests; they did not take into account the importance of forests as a form of a savings bank and a source of building material in the case of fires for entire villages, which, after all, mainly had a wooden infrastructure. In the peasant forest, focus was placed on the litter (forest bedding), whereas the wood had secondary importance. As the forester Jan Małecki wrote, 'the forest for peasants is a granary with litter for raking and striping, it is a pasture for cattle as long as it is not too far from the yard, it is a source firewood, and finally a benefactor when it is time to repair a collapsing cottage or build a new barn or pigsty' (Małecki, 1922: 29). Despite this, the importance of private forests was particularly high as they covered much larger areas than the state forests. As early as December 1918, forest protection offices were established, whose task was, in particular, to supervise private forests.

The wood use presented in Table 2 is only approximate; the statistics could not include or publish some of the amounts of harvested wood. For instance, the amount of wood used by the rural population to cover their needs (usually without a bill) is only approximate, and there were no data available to better estimate the amount of used raw material (Suchecki, 1934a).

Wood has been a significant product consumed by the mining sector. In the interwar period, wood played a major role in the reconstruction of the mining industry as well as in maintaining and keeping mines operational. A mine of coal or other minerals could not exist without wood material. Originally, larch and oak wood were used in the mines; however, due to the decreasing availability of these species, the mining industry began to diversify into pine, spruce and fir. Wood in the mines fulfilled many different functions. It was used in the form of stands and canopies to prevent collapse after the extraction of coal or other minerals and to alert workers by crackling when masses of coal or rock were falling down (Oszelda, 1935). Roundwood was also used to make mining ladders. Sawn wood, in the form of planks and boards, was used to build dams to protect the mines against, water and air, for formwork walls, to build gutters and grooves and for all other carpentry works. According to Jerzy Oszelda (1935), a scientist, ecologist and forester, each mine had a number of carpentry workshops in which various wooden instruments and devices were

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prepared in a low-cost fashion. Wood in the mine was also used for the construction of sleepers for over- and underground railways and for the construction of shaft guides, creating a vertical track along which cages or skips moved. In the interwar period, mines regularly consumed large amounts of various wood materials, and the level of wood consumption in mines was directly related to the coal boom.

The use of wood in transport was also of great importance. The tracks of the railway lines rested on wooden sleepers, the durability of which was estimated at twelve years for oak and nine years for pine. According to the work of the Polish forester Kazimierz Suchecki (1934a), it was estimated that at the beginning of 1934, Polish railway tracks were laid on forty-six million sleepers, and each year, it was necessary to replace about five million (Suchecki, 1934a). The construction of the railway carriages was also largely based on wood; 8–10 m^3 of wood raw material was used to build one wagon. It should also be mentioned that the railways used wood for the construction of bridges, warehouses and ramps. In addition, wooden telegraph and telephone poles were set up along the railway lines; their number in 1934 was estimated at 2.5 million (Suchecki, 1934a). Also, the infrastructure for road transport used wood. The largest amount of it was used in the construction and maintenance of wooden bridges as well as wooden sleepers in bridges, with the main structure being built from other materials.

Agriculture at that time functioned based on the wood used to build and maintain carts, ploughs, harrows and many other necessary tools. Wooden buildings were common even in large and modernising cities, although they were successively displaced, first by brick and stone from the walls and then by steel and reinforced concrete from roof structures (Tłoczek, 1980). Nevertheless, construction in the countryside in the interwar period was based mainly on wood. Statistical data from 1925 show that in the eastern voivodships, the share of wooden buildings in rural development was 75–95 per cent (Tłoczek, 1980). Władysław Ekielski (1915) pointed out that wood was the most easily accessible building material in the countryside, and the construction of the building structure on one's own was an expected skill for peasants.

Polish papermaking in the interwar period was not at a high level. In 1938, Poland produced approximately 210,000 tonnes of paper, which, in comparison with Germany at that time, which produced about 3,150,000 tonnes, is an eloquent illustration of the low level of Polish industrialisation in the interwar period (Sowiński, 1939). Nevertheless, wood raw material needs had to be met, despite the level of low industrialisation. Other industry branches, including factories for military equipment, began to experience increasing shortages of wood.

Such shortages of available raw material largely resulted from wood exports. Due to the use of available raw materials to reconstruct the country, until 1921, wood exports from Poland were negligible (Figure 1). The first significant economic relations, although limited by the destroyed railway rolling stock, were established with importers from France, England, Belgium and the Netherlands. Due to the unstable situation in Germany, related to plebiscites and party fights, timber was transported by sea through the port in Gdańsk.

The increase in wood exports in 1922/23 (see Figure 1) was caused by a drop in the Polish mark (the currency of the Kingdom of Poland). However, it did not last long: the Baltic states, Czechoslovakia and Romania, supplied the international market with the highest-quality raw material, while Russia flooded Western markets with huge amounts of wood, thus lowering the market price. The situation changed in 1924 with the abolition of export tariffs on some wood materials, a reduction in the turnover tax, changes in regulations and the introduction of credit freight (Janiczek, 1939). In 1924, for the second time, the 'złoty' was reintroduced as Poland's currency. The stabilisation of the new currency in 1925 increased the demand for wood products. At first, Poland's main outlet was Germany. However, in July 1925 a ban on the export of wood materials to Germany was introduced, as a result of which Poland redirect wood to the markets of France, England, the Netherlands and Switzerland.

Following changes in Poland's internal relations in 1928 (first elections to the Seym and Senate after Piłsudski's coup on 12th May 1926), changes in the balance of economic forces in Europe and

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Figure 1. Export of wood and its products from 1920–38.
Source: GUS (Rocznik Statystyczny Rzeczpospolitej Polskiej) 1920–39.

the increase in the price of wood raw material in connection with the demand from 1927, Polish wood exports decreased significantly. In the following years, the situation worsened even more, mainly as a result of Soviet dumping and competition for Polish timber from the Scandinavian and Baltic countries. According to Professor Mieczysław Janiczek (1939), changes in the economic situation in 1933 brought a revival for the wood industry, and compared to the previous year, the production of wood raw material in Poland increased by 20 per cent. This growth was related to the reduction of timber harvesting by other exporting countries and the introduction of the embargo on Russian timber by the United Kingdom, which increased the import of timber from Poland by 100 per cent. In the following years, Great Britain was the main importer of Polish timber due to the strong construction movement and increased armaments.

Game

The economic importance of forests was also associated with game. The condition of Poland's game after the First World War was – in line with that of the forests – poor. The military operations, followed by the spread of poaching, resulted in the almost complete annihilation of some species. The bison, whose number in the Białowieża Forest had been about 500 head, disappeared from the area completely (Miklaszewski, 1947). The moose population, which was hunted for its valuable meat, skin and antlers, was extremely limited. Impacted to a lesser extent, but also severely affected, were populations of wolf, white hare and hazel grouse. The deer and roe deer populations were brought to a state of near extinction locally. According to contemporary reports, the populations of wild boars, European (brown) hares and partridges did not decrease as a result of military operations (Miklaszewski, 1947). Polish game management, although not reaching the same level as that in Germany or Czechoslovakia, was a positive factor in the domestic production and food markets. Game was a critical food reserve, and at the same time one of the forms of mobilisation of provisions for the rebuilding of Poland. Due to the economic policies of the Polish government and the activities of numerous hunting associations, the state of game began to gradually improve. In December 1927, pursuant to a decree of the President of the Republic of Poland (1927), a new hunting law came into force, covering the entire country and containing the most severe criminal sanctions in Europe.

According to Jan Miklaszewski (1947), due to sustainable game management, normalisation of the natural increase of game through rational hunting practices, combating poaching, the introduction of protective and hunting periods, feeding certain species during winters and establishing

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nature reserves contributed to an increase in the number of game animals, Poland's wildlife became the most diversified in Europe. Game management brought the state considerable income. The income from the lease of state-owned areas for hunting was estimated to be: from hunting card fees, 99.31 kg of gold in 1938/39 and 79.59 kg in 1937/38; from issuing firearm licenses, 72.86 kg in 1936/37 and 63.03 kg in 1935/36 (Edvinsson, 2016; Miklaszewski, 1947). Game management also brought government income related to tax levies to local government authorities and rents collected by municipalities for the lease of hunting grounds. Of significant importance was the trade of a variety of hunting gear, weapons, ammunition, food for animals and turnover associated directly or indirectly with hunting. All of this contributed to the financial turnover in a percentage large enough to be taken seriously by both the state and society generally.

Polish forests during the German occupation

It can be argued that a variety of activities and the creative thinking of the Polish administration in the interwar period led to the recovery of the burned and devastated forests of Poland. In a relatively short period of time, law and order were introduced into Polish forests. Sustainable use was established, and protection policies were introduced and enforced. Because of sustainable game management, wildlife in the forests recovered and became significantly more diverse and abundant. Polish forests continued on this trajectory until 1st September 1939, when the Second World War started.

After the Germans entered Poland, the forest policy of subsistence economy, 'Bedarfsdeckungs-Wirtschaft', introduced during the First World War, returned in a tightened form. The following objectives were set for Polish forests (Fromer, 1947):

(1) covering the needs of the Wehrmacht;
(2) delivering wood needed for the reconstruction of the country;
(3) relieve German forestry;
(4) increasing the number and diversity of animals; use game to supply Germany with food.

The head of the forest department of the Warsaw District of the General Government for the occupied Polish lands, Oberregierungsrat Küchler, stated that: 'After taking over forests by German forestry authorities, all Polish forest property – to the last tree – must be used to supply the quantities of wood necessary to achieve the ultimate victory' (de. Endsieg) (Fromer, 1947: 89). During the occupation, the German authorities in the General Government introduced laws regulating logging by establishing a minimum amount of timber to be harvested and not, as was customary, by a maximum amount. Moreover, the order of felling was designed in such a way that the devastation of forests was an inevitable consequence. According to the professor and forester Józef Broda (1997) the occupiers, apart from various assortments of timber, also obtained huge amounts of non-timber forest products; in particular, resin and tanning bark, which were highly important to the war industry, were exported (Broda, 1997). In the territories incorporated into the Reich, German hunting laws were in force. The main goal set for game management in Polish lands was to create a diversified game stock and use hunting as a means to provide food for Germany (Fruziński, 1997).

Perhaps inevitably, the Second World War brought enormous damage to Polish forests. During the five years of the war, the main front line swept through Polish territory twice: in 1939 and 1941 from west to east and in 1944–5 from east to west (Broda, 1997). Across the country, vast spaces of deforested clear-cutting areas appeared. In addition, as Edward Więcko (1948), the professor, forester and economist pointed out, Poland suffered losses in forest infrastructure, timber inventories secured by the occupant and various indirect losses. All damage suffered by state

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and private[2] forests as a result of the occupation is expressed in a global loss of national wealth worth 1,135,290 kg of gold (Edvinsson, 2016; Fromer, 1947).

The Third Reich, fully aware of the importance of forestry for the nation, sought to destroy and devastate Polish forests while satisfying its own needs and saving its own forests. The main reason for the destruction was not military operations, but planned and systematic actions aimed at satisfying the economic needs of the Reich. The aggressors protected their forests by shifting the entire burden of war supplies onto the forests of the occupied countries. According to Rudolf Fromer – an expert witness in the trial of Ludwig Fischer, the Nazi Governor of the Warsaw District within the General Government for the Occupied Polish Region – the size and manner of the devastation of Polish forests weakened the Polish economy, causing shortages in timber supplies, difficulties in rebuilding the country, deregulation of water management and, among others, a passive balance of trade of timber and the necessity of bearing the enormous costs of rebuilding damaged forest areas (Fromer, 1947).

Summary and conclusions

This article has reviewed the challenges facing forest management in the period 1918–45. It shows that during the third partition of Poland, the partitioning states (Russia, Prussia and Austria), driven by fiscal incentives and incessant financial problems, used Polish forests as a source of funds to cover national shortages or as a reward for their dignitaries, as occupiers using Polish forests without considering the long-term implications. After gaining independence, Poland was been left with damaged or destroyed forest areas. Timber was the main raw material used to rebuild the country, which suffered huge losses from the First World War. Shortly after regaining independence, state-owned followed by privately-owned forests were obligated to provide 30 per cent of utility wood from AAC. Because of a variety of activities and the creative thinking of the Polish administration, forests were recovered and reached a state where they could provide the nation with construction material and firewood. In the interwar period, timber was mainly used as firewood, for construction purposes, for communications and mail purposes, in the mining industry, in papermaking, in farming, for the production of matches, among others. Non-timber forest products, mainly game, also played an important role in local and national economies. Likewise, the condition of game after the First World War was poor. Military operations, followed by the spread of poaching, resulting in decimation of many populations of wildlife, which had serious consequences for food reserves and as one of the forms of mobilisation of provisions for the rebuilding of Poland. The management and hunting industry also brought a large financial turnover, both to the state and wider society. To protect and help rebuild wildlife, in 1927, a new nationwide hunting law came into force, containing the most severe criminal sanctions in Europe. Thanks to sustainable game management and national laws, Poland's wildlife became the most diversified one in Europe within a short time. This trend was reversed with the outbreak of the Second World War, when Polish forests were used to meet the needs of the Wehrmacht, relieve German forestry and to provide the German population with game. The aggressors protected their forests by shifting the entire burden of war supplies onto the forests of the occupied countries.

Review of professional and scientific literature from the period 1918–45 has shown that forests and their products played an important role after Poland regained its independence. Timber and other forest products, including game, had been major raw materials in many industries. Management of state and privately-owned forest allowed to fulfil in a sustainable manner the demands of a recovering economy. The literature from the interwar period, as well as contemporary works, proved that the value of forests and their products has been recognised, and efforts have been undertaken to ensure their continuity. Unfortunately such knowledge has also been reflected in the actions of Nazi Germany occupying Poland during the Second World War.

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Third Reich used Polish forests to fulfil its own needs without proper management, which inevitably and intentionally led to their devastation. In addition, there has been enormous damage to Polish forests as a result of military operations.

The partitions and both wars brought enormous damage to Polish forests. They have had played many roles, and their importance has been subject to various economic needs, perceptions and policies. As it has been demonstrated in the article, in all hardship of this time they were an important part of Polish economic, political and cultural life.

Competing interests. The author declares none.

Notes

1 During the Russian Partition it happened gradually and thanks to numerous studies and documents, which meant to transfer knowledge to private owners of forest. Important sources were publications in *Sylwan* (a peer-reviewed scientific journal published since 1820). In the Prussian Partition c. after the 1840s and in Austrian Partition c. after 1950s.

2 Due to the lack of data on private forests, the estimated losses are analogous to the losses incurred by state-owned forests.

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