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## **THE ANALYSIS OF ECONOMIC ACTIVITIES OF THE STATE FORESTS IN POLAND IN YEARS 1951-1975**

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**ABSTRACT.** The study comprises the analysis of economic activities of the State Forests in Poland in years 1951-1975. The subject of analyses comprises mean five-year values of basic economic tasks, employment structure and remunerations.

**Key words:** economic activities, State Forests

### **Introduction**

During years 1951-1975 the State Forests operated in different organizational environments and under various ministries. Until the middle of 1956, they were subordinated to the Ministry of Forestry and then to the Ministry of Forestry and Timber Industry. In addition, the State Forests changed their name and underwent different organizational changes of their individual levels of management. Nevertheless, the basic organizational units of the State Forests remained “forest districts”, although their sizes (area) were also altered. The understanding of economic phenomena occurring in state forestry from the perspective of several decades offers extremely valuable information allowing specialists, on the one hand, to assess complex economic processes taking place in forestry and, on the other, to create rational forest policies. The availability of source data makes it possible to try and analyse and evaluate the economic activities of the State Forests in the period from 1951 to 1975.

The aim of the presented study is to analyse economic activities of the State Forests in the light of the available sources. The object of the performed analyses comprises basic publications from the areas of forest management and economy. The necessary source data were obtained from statistical yearbooks published by the Central Statistical Office (CSO) and from materials stored at the General Directorate of State Forests. The analysis of the economical activities of the State Forests in years 1976-2005 will be presented in a separate publication.

### Analysis of economic activities

After the Second World War, the area of forests within Poland's new borders amounted to approximately 6.5 M. ha, i.e. 20.8% of the total area of the country, of which 5.4 M. ha were state forests. After the war, a period of expansion of afforested areas as well as the reconstruction of forests damaged during the war began. In addition, changes also occurred in the method of realization of individual economic-forestry operations.

The following main groups of problems constitute the subject of the economical analysis of the State Forests:

- 1) changes in the forest area, including the scope of regeneration and afforestation operations,
- 2) changes in the state of forest resources and differences in the intensity of timber harvest resulting from it,
- 3) changes in the scope of minor forest utilisation,
- 4) changes in employment and salaries.

Detailed source data in this regard are presented in Table 1.

The analysis of the economic activities of the State Forests was carried out on the basis of mean values from five-year periods in years 1951-1975.

During the analysed period, the total area of forests increased significantly from 5.7 M. ha in 1951 to 6.6 M. ha in 1975. The presented mean forest areas in the analysed five-year periods show a steadily growing trend. The strongest forest surface increases occurred in the period up to the 1965 after which the tendency for the forest area to increase dropped. Forest areas increased as a result of regeneration and afforestation operations. The largest area of regeneration in the post-war period was recorded in 1949 when over 240 000 ha of forests were regenerated. As to the analysed period, the five-year period from 1951-1955 was characterized by the largest areas of regeneration as more than 100 000 ha of forests were regenerated annually; the following five-year period (1956-1960) was characterized by only slightly smaller areas of annual regeneration. After 1960, the annual regeneration areas amounted to slightly more than 70 000 ha. The large areas of forest regenerations observed in 1950s can be attributed to: current felling regenerations, regeneration of forests damaged in the result of war activities and lack of appropriate tending during the Second World War and directly after it, since the regeneration area of bare patches and irregularly stocked open stands amounted to about 30 000 ha annually. During the consecutive years, the regeneration areas of bare patches and irregularly stocked open stands decreased and reached barely 13 000 ha in 1975. It turns out that during the initial period, i.e. in the five-year period of 1951-1955, over 7000 ha of forests were regenerated naturally. Year 1949 was a record one in this regard as over 25 000 ha were regenerated naturally followed by 1951 with 10 000 ha of forest area regenerated naturally. This phenomenon can be attributed to the following two factors. Firstly, there were considerable areas of war fellings as well as bare patches and irregularly stocked open stands which, due to shortage of people (workers and foresters), were not regenerated in the preferred artificial way and, consequently, those areas were allowed to regenerate naturally. Secondly, part of foresters (educated before the war) deliberately supported, wherever it was possible, natural regeneration and, in so doing, reduced significantly areas of backlogged fellings planned for artificial regeneration. The consecutive five-year periods are characterized by significantly smaller

**Table 1**

**Realization of basic economic tasks in the State Forests in years 1951-1975 – mean values**  
**(Las... 1997, Rocznik... 1956, 1962, 1976)**

**Realizacja podstawowych zadań gospodarczych w Lasach Państwowych w latach 1951-1975**  
**– średnie wartości (Las... 1997, Rocznik... 1956, 1962, 1976)**

	1951- -1955	1956- -1960	1961- -1965	1966- -1970	1971- -1975
Forest area (M. ha) Powierzchnia leśna (mln ha)	5.9	6.1	6.3	6.4	6.5
Forest regeneration (thou. ha) Odnowienia lasu (tys. ha)	108.8	97.8	76.4	73.0	74.7
including natural (thou. ha) w tym naturalne (tys. ha)	7.2	4.3	3.4	4.1	2.0
Afforestation (thou. ha) Zalesienia (tys. ha)	17.8	22.6	29.7	20.4	10.2
Large timber resources (gross) (M. m <sup>3</sup> ) Zasoby drewna grubizny (brutto) (mln m <sup>3</sup> )	775.4	802.0	864.3	918.9	959.9
Large timber harvesting (gross) (M. m <sup>3</sup> ) Pozyskanie drewna grubizny (brutto) (mln m <sup>3</sup> )	19.8	18.9	19.5	20.6	23.1
including – w tym					
final fellings – użytki rębne					
M. m <sup>3</sup> – mln m <sup>3</sup>	14.9	14.5	13.7	13.9	14.8
%	75	77	70	67	64
prescribed fellings – użytki przedrębne					
M. m <sup>3</sup> – mln m <sup>3</sup>	4.9	4.4	5.8	6.7	8.3
%	25	23	30	33	36
Large timber harvest (gross) (m <sup>3</sup> /ha) Pozyskanie drewna grubizny (brutto) (m <sup>3</sup> /ha)	2.69	2.49	2.48	2.56	2.83
Indicator increment (%) Wskaźnik pozyskania przyrostu (%)	68.8	65.4	62.2	67.3	70.7
Including resin (thou. t) Pozyskanie żywicy (tys. t)	–	19.9	22.4	20.8	22.2
Including tanning bark (thou. t) Pozyskanie kory garbarskiej (tys. t)	–	9.0	3.9	1.5	0.4
Including Christmas tree (M.) Pozyskanie choinek (mln)	–	1.2	1.5	1.5	1.4
Employment (thou.) Zatrudnienie (tys.)	–	128	158	159	135
Average pay (PLN) Przeciętna płaca (zł)	–	993	1 341	1 599	2 420

areas of natural regenerations ranging from 3000 to 4000 ha and the last five-year period – even below 3000 ha. It should also be emphasized that in years 1951-1955, on average, approximately 25 000 ha of forests were regenerated under stand canopy and not on clear cuttings.

However, the largest regeneration areas under stand canopy in the period after the war took place in 1949 – over 83 000 ha, 1950 – over 56 000 ha and 1951 – more than 39 000 ha. The growth of forest areas in Poland was also influenced by afforestation of former farmlands, wasteland and ameliorated land. During the analysed period, the five-year time from 1961-1965 is characterized by the highest area of this type of afforestation reaching 30 000 ha annually. This large area of afforestation is connected, primarily, with the afforestation of former farmlands. This was the result of taking over from the State Land Fund of property which, due to its location, size, soil quality and uncertain legal status (seizure of land owned by Germans, by large land owners, abandonment of land) was not managed agriculturally. Following the steady increase of forest areas as well as constant increase of timber volume, the analysed period is characterized by a continuous and, practically speaking, uniform increase of timber resources in the State Forests. The increase of timber resources during the 10-year period from 1951 to 1960 had a slightly lower dynamics than in the subsequent years. The dynamics of timber harvesting changes in the examined period were characterized by significant differences. In 1951, slightly over 16 M. m<sup>3</sup> of timber was harvested, while in 1975 – almost 25 M. m<sup>3</sup>. The five-year period from 1951-1955 was characterized by a higher mean annual timber harvest than the next two five-year periods, i.e. up to 1965. The last two five-year periods of the analysed period were characterized by distinctly higher levels of timber harvest. It appears that the increase in timber harvest recorded in the five-year period 1971-1975 resulted from the economic boom of early 1970s accompanied by increased demand for industrial and construction wood. The structure of the source of origin of the harvested timber during the analysed period changed considerably. We can observe an increase in the timber harvest from prescribed felling and decline in the timber harvest from final felling. Therefore, it can be assumed that the observed increase of the timber harvest in the analysed period was the result, primarily, of prescribed felling. Changes in the quantities of harvested timber from prescribed fellings in individual five-year periods showed different trends. Nevertheless, it was found that, during the analysed period of time, the share of timber derived from this type of utilization increased from 25 to 36%. This indicates increased size of thinning operations accompanied by the reduction of surfaces intended for clear cutting. In an attempt to scrutinise more closely the problem of the increased timber harvest in individual five-year periods, the author compared indices of timber harvest intensity which express the quantity of the harvested timber converted into 1 ha of area. It is evident from the analysis of these indices that they differed considerably but showed a very distinct growing trend. The highest timber harvest intensity indices were recorded in the following periods: 1951-1955 and 1971-1975, i.e. opposite five-year periods of the analysed period, and they amounted to 2.69 and 2.83 m<sup>3</sup>/ha, respectively, while 1960s were characterized by lower timber harvest intensity indices reaching the value of 2.48 m<sup>3</sup>/ha in the period of 1961-1965. A similar trend was observed in the case of the timber volume increment index. It was found the lowest in the five-year period of 1961-1965 reaching the value of 62%, whereas in 1971-1975 it reached its highest value of 71%. Therefore, it can be concluded that during the entire analysed period, the amount of the harvested timber was clearly lower than the current timber volume increment, hence the opinion about

“excessive felling” of forests during the analysed period is unfounded in the light of the analysed statistical data.

The analysis of the extent of the performed minor forest utilization operations was carried out beginning with the five-year period 1956-1960 as there were no well documented source materials concerning the earlier period. The performed analyses of selected operations concerning this type of forest utilization showed a steady growing trend, with the exception of the harvest of the tanner’s bark as the profession almost disappeared towards the end of 1970s as a result of development of chemistry and widespread application of chemical tannins. Resin tapping varied with its peak recorded during the five-year period from 1961-1965, when it reached over 22 000 t, while the lowest tapping of less than 20 000 t was recorded in the period from 1956-1969. Christmas tree production varied in different periods reaching the highest level (1.5 M. trees annually) during the decade from 1961-1970. After 1970, the production of Christmas trees dropped and this decline in the State Forests can still be observed due to the establishment of private Christmas tree plantations as well as the substitution of natural trees by artificial ones.

The presented analysis of economic activities of the State Forests revealed an increase of economic tasks practically in all areas of activity leading to increased employment. However, when comparing changes in the analysed economic tasks as well as changes in the employment in the State Forests, it must be emphasized that the observed increase in employment was slower than the increase of economic tasks. The presented changes in employment show that after 1970, the level of employment in the State Forests decreased in the result of reorganization of forest districts implemented at the beginning of 1970s. During this period, both the number of regional boards of the State Forests decreased and the number of forest districts was reduced (one forest district was created to replace two-three forest districts).

The above-presented analysis of the economic activities of the State Forests is supplemented with the analysis of remunerations. The mean remunerations in the State Forests during the analysed period of time showed a steady growing trend. Wages increased most rapidly in the periods: 1966-1970 and 1971-1975. Out of all the examined aspects of economic activities of the State Forests, changes in average wages were most conspicuous confirming the steady improvement of the workers’ salaries during the analysed period.

## **Recapitulation**

The performed analysis of the economic activities of the State Forests in years 1951-1975 confirms dynamics of changes in individual areas of these activities. The final evaluation of these economic activities is a result of 17 partial analyses representing specific (selected) areas of activities beginning with changes in the forest area ownership and timber resources through regeneration and afforestation operations, timber harvesting, minor forest utilization and ending with employment and remuneration. Detailed analyses show that, practically speaking, we can find positive changes in all the examined areas of activities which confirms the fact that the forest economy in this period was both good and rational.

During the analysed period of time the area of forests administered by the State Forests increased by 0.9 M. ha leading to the increase of woodiness of Poland from about 22 to about 27%.

The increase in the area of forests resulted in a simultaneous increase of standing timber resources which increased during the analysed period by approximately 250 M. m<sup>3</sup> of timber: from 735 M. m<sup>3</sup> in 1951 to 979 M. m<sup>3</sup> in 1975. This high increase of standing timber resources was the result not only of regeneration of backlog war fellings and afforestation of wastelands but also of increased timber volume increment as well as economical (rational) timber harvesting, below the current timber volume increment. It is true that timber harvesting increased by approximately 8 M. m<sup>3</sup>, from 16.3 M. m<sup>3</sup> in 1951 to 24.8 M. m<sup>3</sup> in 1975 but it exceeded 70% of the current increment only in some years. A very positive phenomenon observed in this period was the fact that increasingly higher quantities of timber were obtained as a result of prescribed felling and a gradual drop of the proportion of timber obtained as final felling. In 1951, about 26% of the harvested large timber derived from prescribed cutting, while in 1975, this type of timber constituted 37%. This indicates rational management of forest resources in Poland. The level of forest utilization depends, primarily, on the demand of industry for this raw material. This correlation is visible very distinctly in 1960s, because, although timber harvesting increased steadily, the rate of this increase was slower than at the beginning of 1970s. This dependence became very apparent in the timber harvesting index per 1 ha. This index reached its lowest value of 2.48 m<sup>3</sup>/ha in the period 1961-1965 and the highest value (2.83 m<sup>3</sup>/ha) in the five-year period 1971-1975. This phenomenon is also confirmed by the harvest index of timber volume increment which reached its extreme values in exactly the same five-year periods. The analysis of the economic activities in the area of minor forest utilization proved a bit more difficult due to the lack of reliable, precise data as well as seasonal (periodical) character of this kind of production. Nevertheless, it can certainly be concluded with complete responsibility that the analysed period represented the peak of development of minor forest utilization in Poland which has now, practically speaking, ceased to exist in structures of the State Forests. The analysed period also witnessed changes in the level and structure of employment. It can be said that until 1971, a steady increase of employment was observed which in 1960 attained the level of 160 000 employees. It should be emphasized that the observed increase in employment occurred mainly among forest blue-collar workers as there was shortage of highly educated forest personnel. It was only in early 1970s that the observed trends changed in favour of engineer-technical staff. The employed workers (foresters) made every effort to rationalize forest utilization contributing to the increase in forest resources.

The presented analysis of the economic activities of the State Forests in the light of the available statistical data allows to draw the conclusion that the period from 1951 to 1975 witnessed growing economic tasks and rational management in all areas of the analysed activities.

### Literature

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**ANALIZA DZIAŁALNOŚCI GOSPODARCZEJ LASÓW PAŃSTWOWYCH  
W POLSCE W LATACH 1951-1975****S t r e s z c z e n i e**

Działalność gospodarcza Lasów Państwowych w Polsce po II wojnie światowej była i jest różnie oceniana. Oceny nie zawsze są poparte wnikliwą analizą materiałów źródłowych. W pracy tej przeprowadzono analizę na podstawie materiałów źródłowych Generalnej Dyrekcji Lasów Państwowych oraz roczników statystycznych GUS. Przedmiotem analizy były cztery grupy zagadnień:

- zmiany w powierzchni leśnej, w tym rozmiar prac odnowieniowych i zalesieniowych,
- zmiany w stanie zasobów leśnych i wynikające z tego różne natężenia pozyskania drewna,
- zmiany w zakresie ubocznego użytkowania lasu,
- zmiany w zatrudnieniu i płacach.

Ze względu na liczbę zagadnień będących przedmiotem analizy, jak i okres badań, w pracy posłużono się wartościami średnimi z pięcioleci z lat 1951-1975.

Analiza wykazała dynamikę zmian w poszczególnych obszarach działalności. W analizowanym okresie powierzchnia lasów wzrosła o 0,9 mln ha, co spowodowało wzrost lesistości Polski z około 22 do 27%. Zdecydowanie wzrosły zasoby drzewne na pniu: mniej więcej o 250 mln m<sup>3</sup> drewna i osiągnęły w 1975 roku wartość 979 mln m<sup>3</sup>. W analizowanym okresie wzrosło również pozyskanie drewna i osiągnęło w 1975 roku wartość prawie 25 mln m<sup>3</sup>. Należy jednak zaznaczyć, że rozmiar pozyskanego drewna był cały czas mniejszy od wartości przyrostu drewna, co świadczy o racjonalnym gospodarowaniu zasobami leśnymi w kraju. W analizowanym okresie wzrosła również liczba zatrudnionych pracowników; swą największą wartość (160 tys. osób) osiągnęła w końcu lat sześćdziesiątych XX wieku.