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## **ACCIDENTS AT WORK IN FORESTRY – SCALE OF PHENOMENON AND DOMESTIC LEGISLATIVE FRAMEWORKS**

**Abstract:** The aim of this article is to present issue concerning accidents at work in forestry including scale and specificity of the phenomenon and adequate legal frameworks. The article introduces basic statistical data concerning scale, structure and causes of accidents at work in forestry. Furthermore, the author also tries to characterize legal frameworks shaping basic principles regarding prevention and proceedings related to accidents at work in forestry.

**Key words:** accidents at work, human resources, forestry, law, regulations, Poland.

### **INTRODUCTION**

The phenomenon of accidents at work should be considered as very important issue from the standpoint of efficient human resources and risk management. Mentioned issues become a matter of particular importance in those economic sectors where specificity of work is linked with hazardous work conditions. There is no doubt that forestry is one of such sectors, where employees are more likely to be exposed to risk of accidents at work. Although the number of injured employees in accidents at work in forestry is relatively insignificant (less than 1% of all employed in the sector), it does not mean that the issue of accidents at work in forestry should not be linked with potentially serious complications and severe consequences for employers [CSO 2016]. Even single accident at work has potential of triggering series of severe labor, penal and civil consequences burdening employers.

The main aim of the article is to both present scale and structure of accidents at work in forestry and to characterize the adequate domestic legal frameworks. The article includes vital statistical data picturing scale and structure of working accidents in forestry in years 2010-2015. The article also presents analysis of regulations shaping such legal aspects as obligations and liabilities of employers or injured employees' possible claims. It should be highlighted at the beginning that domestic legislator precisely and sharply shapes employers' obligations and liability. Such tone of regulation aims, in particular, at ensuring safe and healthy working conditions of all employees.

### **SCALE AND STRUCTURE OF ACCIDENTS AT WORK IN FORESTRY IN YEARS 2010-2015 IN POLAND**

Table 1 presents statistical data concerning number of employees injured in accidents at work in forestry in 2010-2015 by type of accidents and period of inability to work after accident [CSO 2016]. The analysis of data leads to first conclusion that, as regards general scale of phenomenon, working accidents in forestry should be considered a minor problem. It is worth noting that total number of employees injured in analyzed period represented only minor percent of all employed in the forestry sector (not exceeding 1%). Focusing on evolution of analyzed phenomenon, it should be primarily highlighted that total number of employees injured in accidents at work in forestry remained relatively stable with insignificant downward trend in years 2012-2015. Biggest observed fluctuations were documented in years 2012-2013 when number of injured workers experienced reduction in number of 42 individuals year to year (-10%). Biggest, and at the same time the only observed growth was evidenced in years 2010-2012 when number of injured workers increased by 13 cases (+2% in two years).

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The data presented in table 1 introduces also other significant characteristics concerning work accidents in forestry. Analyzing frequency of occurrence of different types of accidents it should be primarily noted that vast majority of registered cases was classified as light accidents (from 96% in 2015 up to 98% in 2014). At the same time, only marginal cases were classified as fatal or serious accidents, representing from 2% to 4% of all registered accidents.

Presented statistical data (tab. 1) also allows to observe some regularities concerning consequences of work accidents in forestry. It should be noted that a vast majority of registered accidents resulted in work inability lasting at least 21 days. Also inability to work lasting from 4 to 20 days was relatively frequent consequence of accidents at work. At the same time, inability to work lasting up to 3 days was evidenced only in isolated cases. Such time diversification of work inability resulting from work accidents should be considered as a negative trend. Negative consequences of such regularity are especially disadvantageous for employers who lose employed man power for considerably long periods, which may affect efficiency and volume of production in extreme cases. It is also interesting to note that there is no apparent correlation between types of work accidents and period of work inability. Despite overwhelming dominance of light accidents, not life-threatening, majority of documented working absences caused by accidents at works lasted at least 21 days.

Table 1. Individuals injured in accidents at work in forestry by types of accidents and time of inability to work in years 2010-2015

Specification	2010	2012	2013	2014	2015		
					Total	Sector	
						Public	Private
<i>in thousands</i>							
Workers in forestry (total)	46,4	48,6	49,0	49,8	50,3	24,5	25,8
<i>Injured (in absolute numbers)</i>							
Total	427	440	398	388	385	241	144
<i>By types of accidents at work:</i>							
Fatal accidents	8	9	8	4	11	5	6
Serious accidents	4	5	4	5	5	-	5
Light accidents	415	426	386	379	369	236	133
<i>Of which accidents resulting in an inability to work</i>							
1 – 3 days	5	4	6	6	4	3	1
4 – 20 days	118	116	90	115	117	86	31
21 days and more	277	302	265	241	148	106	42

Source: Forestry 2016, CSO.

Table 2 present statistical data concerning major causes of accidents at work in forestry in years 2010-2015 [CSO 2016]. Analyzing abovementioned issue it is worth highlighting that major group of causes of work accidents was directly related to wider human factor. Inappropriate employee's actions at the time and work place constituted major cause of observed work accidents (from 54% in 2013 up to 64% in 2015). Including abovementioned cause and other causes related to employee's conduct (inappropriate mental-physical condition, inappropriate willful employee's action, not using protective equipment, inappropriate use of material agent) it should be clearly underlined here that majority of observed work accidents in forestry was directly related with

inappropriate conduct of employees (jointly from 69% in 2012 up to 78% in 2014 of all registered cases).

The analysis of data presented in table 2 also leads to the conclusion that causes independent from employees (inappropriate condition of material agent, inappropriate organization of work and work place) were responsible for a small minority of registered work accidents in forestry (average 14% in each of studied years). Such structure of causes may suggest that organization of work and work place in forestry is generally carried out correctly. Furthermore, it may also suggest that mechanical state of machines and equipment (material agent) basically guarantee safe working conditions,

The essence of work accidents in forestry lays mostly in inappropriate attitude and conduct of sector's employees. It appears that in order to reduce scale of work accidents, public and private employers should focus especially on adopting appropriate human resources policy. Desired effects may be achieved through introducing such measures like precise work monitoring, thorough health and safety at work (OSH) training or more strict employees' liability for careless and incompetent behavior during performance of work duties. We cannot forget that not respecting safety standards at work place may be hazardous for other employees.

Table 2. Causes of accidents at work in forestry in years 2010-2015

Specification	2010	2012	2013	2014	2015			
					Total	Sector		
						Public	Private	
Total	799	836	762	721	677	390	287	
Inappropriate condition of material agent	56	54	49	35	56	30	25	
Inappropriate organisation of:	work	24	25	30	25	27	12	15
	work post	33	46	33	39	15	10	5
Absence of inappropriate use of material agent	39	32	43	35	30	14	16	
Not using protective equipment	6	11	14	15	6	5	1	
Inappropriate wilful employee's action	56	47	46	47	31	13	18	
Inappropriate mental-physical condition of employee	20	24	15	17	22	13	9	
Inappropriate employee's action	453	459	414	449	432	237	186	
Other	112	138	118	59	67	56	11	

Source: Forestry 2016, CSO.

Statistical data presented in tab. 3 and 4 allows to conduct analysis of work accidents in forestry from the point of view of such aspects as work seniority and age of injured employees. The analysis leads to the conclusion that middle age (30-49 years) workers with longest work seniority (16 years and more) should be considered as working group most vulnerable to work accidents. On average, every third registered injured employee had 16 years or more of work seniority. In case of age, every fourth employee was between 30 and 49 years old. Second most represented group of



workers was characterized with shortest work seniority (on average 23% of injured employees). Among injured in work accidents in forestry, the workers with work seniority between 4 and 5 years and in teenage age (18-19years ) or in retirement age (65 or more) had weakest representation in registered accidents. Weak representation in indicated work groups is especially linked to the fact that workers in indicated age group represent marginal percentage of total number of employed in the forestry. On the other hand, the fact that majority of injured employees was characterized with rich professional experience should be considered as surprising regularity. It appears that most experienced employees working for many years, in connection to their experience and skill, would be the least, not the most, exposed to the risk of work accidents. Statistical data seems to undermine such assumption and indicates that precisely most experienced workers in middle production age are most accident-vulnerable group. It should be considered as important clue for employers who should focus especially on this particular work group in terms of implementing policies of safe working conditions.

Table 3. Injured individuals in accidents at work by work seniority in forestry in years 2010-2015

Specification	2010	2011	2012	2013	2014	2015
<i>in absolute numbers</i>						
Total	427	443	440	398	388	385
<i>by work seniority (in years):</i>						
18 and less	90	104	79	109	104	87
2 - 3	73	47	55	49	54	50
4 - 5	33	52	56	27	27	34
6 – 10	55	55	64	61	48	54
11 – 15	52	55	44	33	23	29
16 and more	124	130	142	119	132	131

Source: Forestry 2016, CSO.

Table 4. Injured individuals in accidents at work by age in forestry in years 2010-2015

Specification	2010	2011	2012	2013	2014	2015
<i>in absolute numbers</i>						
Total	427	443	440	398	388	385
18 and less	-	-	-	-	-	-
18 – 19	1	2	1	2	3	1
20 – 29	77	74	73	61	65	49
30 – 39	104	114	100	90	88	95
40 – 49	117	120	104	97	99	89
50-54	60	64	81	54	44	52
55 - 59	51	48	51	63	56	60
60 – 64	16	19	28	29	29	37
65 and more	1	2	2	2	4	2

Source: Forestry 2016, CSO.



## **LEGISLATIVE FRAMEWORKS CONCERNING ACCIDENTS AT WORK**

### **LEGAL DEFINITION OF ACCIDENT AT WORK**

Precise legal definition of accidents at work is included in the article 3 of Act of 30 October 2002 on Social security in respect of accidents at work and occupational diseases. According to the abovementioned article, an accident at work is defined as sudden event caused by external factor causing injury or death, which occurred:

- a) in the course of or in connection with performing by employee ordinary duties of superior's instructions,
- b) in the course of or in connection with performing by employee duties for employer, even without direct instruction or
- c) at the employer's disposal on route between place where employer is established and workplace defined in employment contract (art. 3.1. of Act 2002).

According to art. 3.2 of Act 2002, the same classification should be employed in cases of employee's accident which occurred:

- a) during travel on official duty
- b) during general self-defense trainings or
- c) in the course of fulfilling tasks assigned by trade unions operating at the work place.

The Act of 2002 also provides for other specific factual elements that should be considered as work accidents due to its connection to performing activities similar to work tasks. For example, fatal accident is defined as work accident resulting in death of employee which occurred in period not exceeding 6 months after day of accident (art. 3.4 of Act 2002). Furthermore, serious accident should be defined as accident resulting in serious injury in form of blindness, deafness, loss of speech, infertility or other injury or bodily harm infringing basic humanly functions or as terminal or life threatening disease, permanent mental disease, total or impartial incapacity to work or permanent, radical deformation of body (art. 3.5 of Act 2002).

To sum up, proper domestic regulations create vast catalogue of factual situations considered as work accidents or as equivalent event. As the most important factors of work accident we should consider:

- a) suddenness of event, defined as its transience,
- b) external cause defined as determiner not related to employee's organism,
- c) effects in form of injury or death of employee and
- d) relationship between accident and work in terms of time, place and function [Jaśkowski, Maniewska 2016].

### **THE EMPLOYER'S OBLIGATION CONCERNING ACCIDENTS AT WORK**

The employer's responsibilities related to accidents at work should be divided into two groups – prior and follow-up. Prior duties are preventive and related to assuring safe and healthy working conditions, while follow-up obligations mainly concern such issues as elimination of occurred threats, identifying causes and providing necessary assistance to injured employees.

The prior duties are:

- a) not admitting to work employees without necessary qualifications, skills and OSH training (art. 237<sup>3</sup> § 1 k.p.),
- b) providing employees with training and instructions in the fields of OSH regulations before work admittance (art. 237<sup>3</sup> § 2 and art. 237<sup>4</sup> § 1 k.p.),
- c) completing OHS training in the fields necessary for performing employer's duties (art. 237<sup>3</sup> § 2<sup>1</sup> k.p.),
- d) issuing detailed instructions and directives concerning OSH related to work places (art. 237<sup>4</sup> § 2 k.p.),



- e) providing employees with free of charge measures of individual protection, working clothing and shoes and to guarantee its proper state (art. 237<sup>6</sup>, 237<sup>7</sup>, 237<sup>9</sup> and 237<sup>10</sup> k.p.),
- f) not admitting to work employees not using necessary measures of individual protection, working clothing or shoes (237<sup>9</sup> § 1 k.p.),
- g) consulting actions related to OSH with employees or their representatives (237<sup>11</sup> a k.p.) and
- h) creation of health and safety services or health and safety commission in case of employing more than 100 or 250 employees (art. 237<sup>11</sup> and 237<sup>12</sup> k.p.).

There are also prior duties specific for forest and wood industry:

- a) respective safeguards of woodworking machines protecting against accidental recoil or ejection (§ 3 of Regulation 2000 ),
- b) proper checkup of fire protection installations (§ 4.1 of Regulation 2000 r),
- c) appropriate placement of machines and its elements protecting against life threats (§ 5 of Regulation 2000 r),
- d) admit only qualified individuals to fix devices and equipment (§ 10 of Regulation 2000),
- e) assuring minimal standards and parameters in using wood machines (§ 8-25 of Regulation 2002),
- f) proper training of employees using machines (§ 4 of Regulation z 2002),
- g) submitting machines to inspection before and after installation (§ 26 of Regulation 2002 r),
- h) assuring appropriate access of employees to data and manuals concerning machines (§ 30 of Regulation 2002 ),
- i) assuring proper state of work organization protecting against manual moving of loads (§9 of Regulation 2006),
- j) not admitting to work employees with health or mental problems (§ 9 of Regulation 2006),
- k) sufficient safety of forest work area by a clear mark of hazardous zones (§ 10 and 11 of Regulation 2006),
- l) not carrying out works during abundant rainfalls, strong winds, during storms, at temperature below -20° C and in cases of works on standing trees - below temp. -5° C and during limited visibility (§ 12 of Regulation 2006 r),
- m) assuring proper state of machines and equipment (§ 13 of Regulation 2006 ) and
- n) not transporting workers in manner of place not intended for such use (§ 15 of Regulation 2006).

The employer, due to occurrence of work accidents, is responsible for

- a) transferring injured employee to an appropriate position if an employee is not able to perform current work duties in result of an accident (art. 231 k.p.),
- b) undertaking necessary measure to eliminate or limit the danger,
- c) ensuring that first aid is provided to injured worker,
- d) establishing the circumstances and causes of accident,
- e) applying appropriate measures preventing similar accidents (art. 234 § 1 k.p.),
- f) notifying the relevant district labor inspectors as well as the prosecutor about fatal, serious or group accident (art. 234 § 2 k.p.). and
- g) keeping a register of accidents at work (art. 234 § 3 k.p.).

## THE EMPLOYER'S LIABILITY AND EMPLOYEE'S CLAIMS RELATED TO ACCIDENTS AT WORK

In order to fully understand legal aspects of accidents at work it is necessary to present fundamental instruments shaping both employer's liability and related claims granted to injured employees. It should be highlighted at the beginning that non-compliance with rules or principles of OSH is punishable for employers or responsible subordinates by fines of 1.000 – 30.00 PLN (art. 283 § 1 k.p.). Similar sanction shall be applies in cases of:

- a) failure to notice competent authority about fatal, serious or group work accident
- b) concealing occurrence of work accident or
- c) providing false data, evidences or documents related to work accidents (art. 283 § 2 pkt. 6 k.p.).

All above-mentioned acts are considered as offences against employees' rights, punishable by severe sanctions.

Accident at work may be also coupled with criminal responsibility of employer. According to art. 220 § 1 of Penal Code (k.k), anyone failing to perform responsibilities related to OSH at work, and thereby exposes an employee to an immediate danger of loss life or serious injury, is liable to imprisonment for up to three years [Faulkner 2012]. Such act done unintentionally is punishable by a fine, the restriction of liberty or imprisonment for up to one year. [Ziółkowski 2016]. Naturally, the employer is not always a liable party as he or she can appoint competent subordinate to fulfill OSH duties at work. However, such transfer of duties does not mean that employer is fully exempted from his obligation concerning care about appropriate working conditions.

Besides labor and criminal liability, the occurrence of accident at work may be also related with civil liability of employer. Injured employee or his/her family (in case of death), after satisfying their social security claims, may also submit civil claims against employer. Such procedure is possible in the case where awarded accident benefits do not cover whole suffered property and non-property damages [Witoszko 2008]. Injured party is entitled to submit claim for:

- a) single compensation for bodily injury or health disorder causes by accident at work, covering medical costs and training of injured employee for another occupation (art. 444 § 1 k.c.),
- b) monetary compensation for the harm suffered (art. 445 § 1 k.c.),
- c) appropriate annuity for employee in case of his complete or partial inability to work or if his future perspectives have diminished (art. 444 § 2 k.c.),
- d) reimbursement of medical cost and the funeral costs to the person incurring them in case of employee's death (art. 446 § 1 k.c.),
- e) annuity for closest people in case of his death (art. 466 § 2 k.c.),
- f) appropriate compensation to closest family of the deceased employee if as a result of his death their living standard has deteriorated significantly (art. 446 § 3 k.c.) and
- g) appropriate monetary recompense to closest members of deceased's family for the harm suffered (art. 446 § 4 k.c.) [Kucharska 2015].

Civil liability of the employer is an example of strict liability based of risk principle (art. 435 k.c.). The employer may be exempted from liability only in cases when the damage was caused by force majeure or by fault of third or aggrieved party (art. 435 k.c.). As it appears, eventual employer's civil liability for accidents at work is very strict and may result in compensations estimated in hundreds of thousands or even millions PLN.

Lastly, it is important to characterise employee's claims on field of social security. According to art. 237<sup>1</sup> k.p., worker having suffered from an occupational accident is entitled to obtain series of defined social benefits. The catalogue of such benefits is defined in art. 6 of Act on Social security in respect of accidents at work and occupational diseases and is composed of:

- a) sickness benefit for employee,



- b) rehabilitation services for employee not able to work after period of collecting sickness benefit,
- c) compensatory benefit due to remuneration decrease,
- d) single compensation due to chronic or long-lasting damage to health,
- e) work incapacity pension,
- f) training pensions due to necessity of requalification,
- g) coverage of dental, vaccination and orthopaedic equipment costs,
- h) single compensation for closest family of deceased employee
- i) survivor's pensions for closest family of employee entitled to collect work accident benefits,
- j) supplement to survivor's pensions for orphan and
- k) care allowance (Act of 2002).

The above-mentioned benefits are covered with use of funds from the Accident Fund. The Fund is fed from many sources, especially from employers' premiums. It is worth to note that accident benefits from the social security system have primary nature and civil claims should be considered as supplementary ones that may be submitted only in case when social benefits turned out to be not sufficient for total harm and damage coverage resulted from accident at work [Lach, Samol, Ślebza 2010].

#### CONCLUSION

The issue of accidents at work in forestry has remained at stable level in recent years. Having regard to scale of the analyzed phenomenon, it is justified to consider accidents at work in forestry as marginal issue. Concurrently, it is worth noting that majority of registered work accidents was qualified as light accidents (96%). Low rates of fatal and serious accidents should be considered as very promising regularity. However, it is necessary to point that majority of registered accidents resulted in relatively long absence from work (lasting over 21 days). Such scale of absence should be assessed as negative. It should be noted that each accident at work has negative consequence to employer, who experience long-lasting decrease in manpower.

Human factor should be considered as main group of work accidents causes. It seems that faulty, careless or incompetent behavior of workers was most common cause of registered accidents at work in forestry. The average injured employee can be described as worker with relative long work seniority (at least 16 years) and in age between 30 and 49 years. As it appears, the youngest and unexperienced workers are not most vulnerable groups of employees.

Having regard to domestic legal frameworks concerning accidents at work, it should be primarily noted that domestic legislator has introduced very wide and complex regulation. We can find very wide and precise definition of work accident and equivalent events. There is also complex regulation concerning employer's liability and responsibilities concerning preventing and eliminating consequences of accidents at work. It should be also noted that each accident at work is related to numerous employee's claims designed to compensate his injuries and harms. Furthermore, it should be highlighted that the employer's liability concerning work accident included labor, civil and criminal liability.

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