

INTERNATIONAL LEGAL REGULATION OF IMPACT OF OCCUPATIONAL INJURIES AND DISEASES ON AGRICULTURAL WORKERS' HEALTH

WPŁYW MIĘDZYNARODOWYCH REGULACJI PRAWNYCH DOTYCZĄCYCH WYPADKÓW W PRACY ORAZ CHOROÓB ZAWODOWYCH NA ZDROWIE PRACOWNIKÓW ROLNYCH

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ABSTRACT

Introduction: Agricultural workers' health depends on many factors: working conditions, security arrangements, medicine, quality of drugs, the environment, etc. Occupational injuries and diseases are also among the factors that can negatively affect their health.

The aim: To analyze provisions of the international legislation and scientific literature concerning existence of restrictions on impact of occupational injuries and diseases on agricultural workers' health.

Materials and Methods: International acts, data of international organizations and conclusions of scientists have been examined and used in the study. The article also integrates information from scientific journals and monographs from a medical and legal point of view with scientific methods. This article is based on dialectical, comparative, analytic, synthetic and comprehensive research methods. Impact of occupational injuries and diseases on agricultural workers' health has been studied within the system approach, as well as analysis and synthesis.

Conclusions: The level of occupational morbidity, traumatism and above all standard of agricultural workers' health depends on the way of occupational safety organization. Working conditions and safety in agricultural industry and therefore the appropriate standard of health remain unsatisfactory in many countries.

KEY WORDS: occupational traumatism, occupational diseases, agriculture, human health

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INTRODUCTION

Among other factors, agricultural workers' health depends on the level of traumatism and occupational morbidity. And it is commonly known that agriculture is one of the most traumatic industries. Many workers are traumatized, killed and get occupational diseases due to accidents that occur as a result of agricultural work. It is evident that the level of occupational morbidity, traumatism and above all standard of agricultural workers' health depends on the way of occupational safety organization. But, unfortunately, working conditions and safety in agricultural industry and consequently the appropriate standard of health remain unsatisfactory in many countries. The risk of falling a victim of an occupational accident or disease in developing countries is several times higher than in developed countries. True official statistics on industrial risks in agriculture are missing. Official data on a number of accidents and occupational diseases is inaccurate and deliberately underestimated. Enterprises very often do not report minor occupational injuries and accidents. According to International Labour Office (ILO) estimates, workers suffer 250 million accidents every year. Out of a

total of 335,000 fatal workplace accidents worldwide, there are some 170,000 deaths among agricultural workers [1].

The international community comes to a conclusion that all states should report systematically on human health, as well as on impact of industrial factors on workers' health. All states also should report publicly on progress made by each state towards the issue [2, p. 9].

THE AIM

To analyze provisions of the international legislation and scientific literature concerning existence of restrictions on impact of occupational injuries and diseases on agricultural workers' health.

MATERIALS AND METHODS

In 1946, the Constitution of the World Health Organization (WHO) defined that health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The Constitution of the WHO also states that the enjoyment of the highest attainable standard

of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition [3].

The right to health is both dependent and is a prerequisite for the fulfilment of all other human rights, such as the rights to information, education, and asylum; the right to physical and psychological inviolability; the right to protection from abuse and violence: each of them plays an important role in enjoyment of the right to health and consequently creation of favourable conditions for health [2, p. 11]. The right to work shall also be exercised solely in the light of the full realization of the right to health.

Basic international labour safety provisions were laid down in Art. 7 of the International Covenant on Economic, Social and Cultural Rights, adopted by General Assembly of the United Nations on December 16, 1966. The States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favourable conditions of work which ensure, in particular safe and healthy working conditions.

A more detailed international legal regulation of agricultural workers' safety and health is carried out by ILO Convention concerning Safety and Health in Agriculture (No. 184) adopted on 21 June 2001. Member States which ratified the Convention shall formulate, carry out and periodically review a coherent national policy on safety and health in agriculture. This policy shall have the aim of preventing accidents and injury to health arising out of, linked with, or occurring in the course of work, by eliminating, minimizing or controlling hazards in the agricultural working environment. According to Art. 1 of the Convention for the purpose of this Convention the term agriculture covers agricultural and forestry activities carried out in agricultural undertakings including crop production, forestry activities, animal husbandry and insect raising, the primary processing of agricultural and animal products by or on behalf of the operator of the undertaking as well as the use and maintenance of machinery, equipment, appliances, tools, and agricultural installations, including any process, storage, operation or transportation in an agricultural undertaking, which are directly related to agricultural production. That is, in this context, agriculture is defined rather broadly and not only as crop production, animal husbandry and fishery production in rural areas, but also in combination with the technological processes of processing agricultural products.

The provisions of the aforementioned Convention are based on the principles embodied in the relevant international conventions and recommendations on labour, health and safety, particularly in ILO Convention concerning Conditions of Employment of Plantation Workers (No. 110) adopted on 24 June 1958, ILO Convention concerning Benefits in the Case of Employment Injury (No. 121) adopted on 08 July 1964, ILO Convention concerning Labour Inspection in Agriculture (No. 129) adopted on 25 June 1969, ILO Convention concerning Occupational Safety and Health (No. 155) adopted on 22 June 1981, ILO Convention concerning Occupational Health Services (No.

161) adopted on 25 July 1985, ILO Convention concerning Safety in the Use of Chemicals at Work (No. 170) adopted on 25 June 1990 and corresponding ILO Recommendations etc.

ILO Recommendation concerning the Protection of Workers against Occupational Hazards in the Working Environment due to Air Pollution, Noise and Vibration (No. 156) adopted on 20 June 1977 contains important provisions on the protection of workers against occupational hazards. According to Art. 1 to the greatest extent possible, the provisions of this Recommendation should be applied to all branches of economic activity including agriculture; the supervision of the health of workers should be provided.

Art. 16 of the Recommendation provides that the supervision of the health of workers should include, as determined by the competent authority (a) a pre-assignment medical examination; (b) periodic medical examinations at suitable intervals; (c) biological or other tests or investigations which may be necessary to control the degree of exposure and supervise the state of health of the worker concerned; (d) medical examinations or biological or other tests or investigations after cessation of the assignment which, when medically indicated, should be made available as of right on a regular basis and over a prolonged period.

In its turn ILO Convention concerning Labour Inspection in Agriculture (No. 129) adopted on 25 June 1969 stresses that the labour inspectorate in agriculture shall be notified of occupational accidents and cases of occupational disease occurring in the agricultural sector in such cases and in such manner as may be prescribed by national laws or regulations. As far as possible, inspectors shall be associated with any inquiry on the spot into the causes of the most serious occupational accidents or occupational diseases, particularly of those which affect a number of workers or have fatal consequences. But given the specificity of agricultural activities, in which the family-type organization of agricultural activities prevails, the above provisions of international and national legislation are not always respected.

Cultivation is one of the main areas of agriculture with the highest level of traumatism, occupational diseases and deaths of people: these problems mainly occur to tractor and machine operators, repairmen, people working with pesticides and agrochemicals, etc. Furthermore, the worst traumas are seen at livestock and beet farms which have a low level of mechanization compared with other undertakings.

The most common risks that can result in injuries and diseases due to performing professional functions in agriculture can be caused by: machinery such as tractors, trucks and harvesters, and cutting and piercing tools; hazardous chemicals: pesticides, fertilizers, antibiotics and other veterinarian products; toxic or allergenic agents: plants, flowers, dusts, animal waste, gloves (chrome), oils; carcinogenic substances or agents: certain pesticides such as arsenicals and phenoxy-acetic herbicides, UV radiations, parasitic diseases such as bilharziasis and facioliiasis; transmissible

animal diseases: brucellosis, bovine tuberculosis, hydatid disease, tularaemia, rabies, Lyme disease, tinea, listerioses; other infectious and parasitic diseases: leishmaniasis, bilharziasis, fascioliasis, malaria, tetanus, mycosis; confined spaces such as silos, pits, cellars and tanks; noise and vibration; ergonomic hazards: use of inadequate equipment and tools, unnatural body position or prolonged static postures, carrying of heavy loads, repetitive work, excessive long hours; extreme temperatures due to weather conditions; contact with wild and poisonous animals: insects, spiders, scorpions, snakes, certain wild mammals [1]. It is rather justified to pay great attention in the scientific literature to dangers associated with human interaction with plant protection products, namely pesticides and agrochemicals, without which agriculture is simply not possible now [4]. Moreover, various scientists have studied the effects of other factors on human health and safety [5, 6, 7, 8, 9, 10], but the problems of international legal regulation of the impact of occupational injuries and diseases on agricultural workers' health has not been sufficiently researched.

At the international legal level, special attention is paid to the loss of health by children obliged to work in agriculture due to various circumstances. Among the international legal acts, one should note ILO Convention concerning the Age for Admission of Children to Employment in Agriculture (No. 10) adopted on 16 November 1921, Art.1 of which states that children under the age of fourteen years may not be employed or work in any public or private agricultural undertaking, or in any branch thereof save outside the hours fixed for school attendance. If they are employed outside the hours, of school attendance, the employment shall not be such as to prejudice their attendance at school. Similar provisions are enshrined in most statutory acts of the world.

According to the Food and Agriculture Organization of the United Nations there are an estimated 168 million child labourers worldwide, 98 million (nearly 60 percent) of whom work in agriculture. The majority work as unpaid family members, often starting at an early age, and may do hazardous work that includes exposure to pesticides, dangerous machinery, heavy loads and long hours. Evidence shows children and adolescents working in agriculture suffer higher rates of injury and death than adults [11], that shows the need for additional strengthening of the protection of the right to health of minors working in agriculture.

The scientific literature focuses on the fact that children working in the livestock sector are at risk of disrupted physical, mental, moral and social development. It is widely thought that working closely with livestock carries inherent risks of health problems caused by working long hours in extreme weather conditions, poor sanitation and hygiene, using chemical products (e.g. disinfectants to treat animals) and inhaling (livestock) dust. In addition, there are direct risks of injury when handling animals and sharp tools used in livestock work activities. Risks include being bitten (also by wild animals and insects) [12, p. 7]. Thus, children working in the livestock sector are exposed to a number of health and safety risks [12, p. 18].

Most experts insist that children working in agriculture have a higher relative risk of injury than children working in other industries, and specific occupational hazards increase the odds of injury for these children [13].

In addition to the negative physical consequences for child health, child labour in agriculture poses a significant threat to emergence of psychological disorders. According to the United States Department of Labour's Findings on the Worst Forms of Child Labour (USDOL, 2010), children are involved in animal slaughter in both Brazil and Ecuador. In the urban pockets around New Delhi in India, Sekar (Bahugana, 2004) identified children engaged in the slaughter, segregation, cleaning, cutting and selling of meat. According to Sekar, in addition to the high risk of physical injury, the difficult working conditions of being exposed to "tortured, bloody and dying animals" has an adverse impact on the mental, physical, moral and psychological development of children [12, p. 36].

RESULTS AND DISCUSSION

There is no single classification of the causes of occupational injuries in the world. In the scientific literature there are three types of causes of occupational injuries: technical, organizational and health. Inadequate design of machines and equipment, technological process itself, failure of machine and manual tools, absence or imperfection of protective machinery and equipment are usually classified as technical reasons. Misarrangement of working process, use of hazardous working methods, non-compliance with safety rules, lack of individual protective means are categorized as organizational reasons. Violation of sanitary conditions on worksite, poor lighting, high temperature and humidity, industrial dust, high concentration of toxic substances in the air, indoor air pollution, high noise, etc. should be noted among health reasons [14].

Occupational injuries happening in agriculture are one of the subspecies of occupational injuries; they are significantly different from industrial injuries under the conditions of occurrence, character and localization, the way of providing medical care and preventive measures. Among working conditions that can contribute to occurrence of occupational morbidity or injuries, one can distinguish the following: the fact that most of the tasks are carried out in the open air, exposing the workers to climatic conditions; the seasonal nature of the work and the urgency of certain tasks in specific periods; the variety of tasks to be performed by the same person; the type of working postures and the length of the tasks performed; the contact with animals and plants, thus exposing workers to bites, poisoning, infections, parasitic diseases, allergies and other health problems; the use of chemicals and biological products; the considerable distances between workers' living quarters and workplaces [1].

The main preventive measures regarding occupational injuries and morbidity in agricultural industry are its mechanization, development of workers' culture and above all improvement of occupational safety and health measures. International organizations and communities deal-

ing with occupational morbidity also play a significant role in development and organization of problem-solving related to occupational diseases and injuries. Among them we can select the International Commission on Occupational Health (ICOH) is an international non-governmental professional society whose aims are to foster the scientific progress, knowledge and development of occupational health and safety in all its aspects. It was founded in 1906 in Milan as the Permanent Commission on Occupational Health. Today, ICOH is the world's leading international scientific society in the field of occupational health with a membership of 2,000 professionals from 93 countries.

The ICOH is recognised by the United Nations as a non-governmental organisation (NGO) and has close working relationships with ILO, WHO, UNEP and ISSA. The most visible activities of ICOH are the **triennial World Congresses on Occupational Health**, which are usually attended by some 3,000 participants. The 2000 Congress was held in Singapore, the 2003 Congress in Iguassu Falls (Brazil), the 2006 Centennial Congress was held in Milan (Italy), the 2009 Congress was held in Cape Town (South Africa), the 2012 Congress in Cancun (Mexico), the 2015 Congress was held in Seoul (Rep. of Korea), the 2018 Congress venue shall be Dublin (Ireland) while the 2021 Congress will be in Melbourne (Australia). ICOH has 37 Scientific Committees. Most of these committees have regular symposia, scientific monographs and review the abstracts submitted to the International Congresses [15].

The International Labour Organization and World Health Organization conducts regular activities concerning workers' health. In particular, on 9-12 December 2003 on Thirteenth Session of the Joint ILO/WHO Committee on Occupational Health Geneva, summary report was made. The agenda of the meeting, as determined by the Governing Body, and with the agreement of the World Health Organization (WHO) was as follows: 1. Integrated approach to occupational safety and health. 2. Occupational safety and health management systems. 3. Advice on priority fields in occupational health [16].

According to the European Commission the most common fatal work-related disease groups are cancers (25%), circulatory diseases (21%), and communicable diseases (28%) [17, p. 5].

There is a list of occupational diseases [18] where occupational diseases of agricultural workers are not singled out since the same disease may occur among workers of different professions. Similar lists of occupational diseases are also approved at the levels of individual states, for example, in Poland [19], Ukraine [20] and other countries.

Pneumatic hammer disease is one of uppermost among the occupational diseases of agricultural workers. Mechanical oscillatory motion repeated at certain intervals is considered to be the main factor that leads to the development of this disease.

It should be noted that the vibration is perceived by all cells and tissues of the body, but the most susceptible to mechanical vibration is bone, and nervous tissue. Vibration receptors (lateral surface of the foot, as well as the distal

portions of the skin of hands) provoke the development of increased excitability of the relevant departments of the central nervous system.

When local human vibration disease patients usually complain of pain in the limbs, which usually disturbed during the night. Patients plagued by headaches, dizziness, irritability, poor sleep. Perhaps the main clinical signs of disease pathology are impaired peripheral circulation, asymmetry develops blood pressure [21].

Occupational diseases caused by biological factors of the working environment, which are livestock and poultry, is mostly widespread among workers of the livestock sector. It is believed that stockpiles of livestock farms are the main source of chemical and biological contamination, since they contain a large number of pathogenic microorganisms and eggs of worms. In poultry farming, poultry flour, feathers, dandruff, as well as vegetable dusts are among the main biological factors of poultry houses contamination.

Gases play an important role in causing lung disorders in the agricultural setting. In swine confinement buildings and in poultry facilities, ammonia levels often contribute to respiratory problems. Exposure to the fertilizer anhydrous ammonia has both acute and long-term effects on the respiratory tract. Acute poisoning from hydrogen sulphide gas released from manure storage facilities in dairy barns and swine confinement units can cause fatalities. Inhalation of insecticidal fumigants can also lead to death [22].

ILO Convention concerning Safety and Health in Agriculture (No. 184) adopted in 2001 contains a separate section on animal welfare rules and protection against biological risks. Thus, Art. 14 of the aforementioned Convention states that national laws and regulations shall ensure that risks such as those of infection, allergy or poisoning are prevented or kept to a minimum when biological agents are handled, and activities involving animals, livestock and stabling areas, comply with national or other recognized health and safety standards.

Occupational infectious and parasitic diseases of agricultural workers include diseases that are homogeneous with the infection with which workers contact during their work. Such diseases include anthrax, brucellosis, herpes simplex, histoplasmosis, tuberculosis, tularemia, and the like [23].

The main reason for occurrence of occupational infectious or parasitic diseases of agricultural workers is usually their exposure to infected materials, diseased animals or birds, infected soil or water during their care, and in relation to veterinarians it is treatment of infected animals or birds. Veterinarians, shepherds, milkers, leather and bristle workers, livestock slaughterhouses can be exposed to the most serious risk of getting an occupational infectious or parasitic disease.

In order to prevent immediate contagion with occupational infectious or parasitic diseases, the following measures should be taken: strengthening veterinary and sanitary monitoring of all processes related to animals; carrying out an immediate isolation of sick animals (and humans) in case of suspicion and necessary vaccination

of humans and animals; observing sanitary working conditions; conducting medical tests of workers being in contact with livestock.

A separate group of agricultural workers, namely machine operators and workers of repair shops, are exposed to a significant impact from the production noise, which may result in occupational hearing loss. Noise-induced hearing loss (NIHL) is the most common occupational disease in Europe, accounting for about one third of all work-related diseases, ahead of skin and respiratory problems [24]. Among preventive measures of occupational hearing loss, one can distinguish putting various ear-plugs, cotton wool into the acoustic meatus; using anti-noise inserts, headphones, helmets, etc. Along with occupational hearing loss, there are two more forms of specific noise action: noise injury and hearing fatigue. At the international level, attention to the impact of noise on workers' health has also been paid. Thus, in 2003, Directive 2003/10/EC of the European Parliament and of the Council on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise) was adopted. Article 5(1) of the directive requires that, taking into account technical progress and the measures available to control the risk at source, 'the risks arising from exposure to noise shall be eliminated at their source or reduced to a minimum'.

It is possible to distinguish a separate group of diseases associated with unfavorable industrial microclimate, which is understood as combination of temperature, humidity, air velocity on the place of work. In agriculture, industrial microclimate depends entirely on the meteorological, climatic and weather conditions of the region where agricultural activity is conducted. Agricultural workers very often encounter such a negative phenomenon as overheating of their body which can result in its peculiar form - a sunstroke.

An important place among occupational diseases of agricultural workers is taken by disorders caused by functional strain. Hard physical labour, local exercise stress and significant static tension due to repeated movements of limbs, as well as prolonged stay in forced posture are the main adverse factors in course of these diseases. It is possible to allocate such occupational diseases caused by functional strain as occupational dyskinesia, diseases of the peripheral nervous system and locomotion apparatus [25].

The issue of proper and adequate compensation for the loss of agricultural workers' health is important. According to Art. 1 of ILO Convention concerning Workmen's Compensation in Agriculture (No. 12) adopted on 12 November 1921 each Member of the International Labour Organisation which ratifies this Convention undertakes to extend to all agricultural wage-earners its laws and regulations which provide for the compensation of workers for personal injury by accident arising out of or in the course of their employment. Whereas Art. 2 of ILO Convention concerning Workmen's Compensation for Occupational Diseases (No. 18) adopted on 10 June 1925 states that each Member of the International Labour Organisation

which ratifies this Convention undertakes to consider as occupational diseases those diseases and poisonings produced by the substances set forth in the Schedule appended hereto, when such diseases or such poisonings affect workers engaged in the trades or industries placed opposite in the said Schedule, and result from occupation in an undertaking covered by the said national legislation. As for agricultural workers, the Schedule mentions an anthrax infection resulted from work in connection with animals infected with anthrax, handling of animals carcasses or parts of such carcasses including hides, hoofs and horns, loading and unloading or transport of merchandise. Later, provisions of the aforementioned Conventions were amended and embodied in ILO Convention concerning Benefits in the Case of Employment Injury (No. 121) adopted on 08 July 1964.

ILO Convention concerning Sickness Insurance for Agricultural Workers (No. 25) adopted on 15 June 1927 as well as ILO Convention concerning Compulsory Old-Age Insurance for Persons Employed in Agricultural Undertakings (No. 36) adopted on 29 June 1933, ILO Convention concerning Compulsory Invalidity Insurance for Persons Employed in Agricultural Undertakings (No. 38) adopted on 29 June 1933, ILO Convention concerning Compulsory Widows' and Orphans' Insurance for Persons Employed in Agricultural Undertakings (No. 40) adopted on 29 June 1933, which were amended by ILO Convention concerning Invalidity, Old-Age Survivors' Benefits (No. 128) adopted on 29 June 1967, are important for the agricultural workers affected from occupational diseases or injuries. Current ILO Convention No. 25 provides for the compulsory sickness insurance system shall apply to manual and non-manual workers, including apprentices, employed by agricultural undertakings. It shall, nevertheless, be open to any Member to make such exceptions in its national laws or regulations as it deems necessary in respect of temporary, casual, occasional and subsidiary employment; workers who are not paid a money wage; workers below or above age-limits to be determined by national laws or regulations; members of the employer's family etc. Art. 6 circumscribes main requirements to insured objects, namely sickness insurance shall be administered by self-governing institutions, which shall be under the administrative and financial supervision of the competent public authority. Institutions founded by private initiative must be specially approved by the competent public authority. It also provides duties of the insured persons. In particular, Art. 7 stipulates that the insured persons and their employers shall share in providing the financial resources of the sickness insurance system. It is open to national laws or regulations to decide as to a financial contribution by the competent public authority.

CONCLUSIONS

As we see, the specifics and system of safety and health measures for agricultural workers should be closely linked to the ever-increasing number of technological processes, various substances, working conditions that pose a risk to their life and health, and therefore, it is necessary to take into account these new hazardous and harmful factors in

order to develop effective health and safety measures and means as well as their consolidation at the legislative level of individual countries.

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