



HUMAN RESOURCE SKILLS IN TRANSPORT - A KEY FACTOR FOR A GREEN AND DIGITAL TRANSITION

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Key words: *human resources, logistics, training needs, skills, digitalized work processes, artificial intelligence, climate change, environment, sustainability*

Abstract: *Bulgaria and Turkey as neighbouring countries face similar challenges regarding climate change. One of the main polluters is the transport sector, so an important goal is to improve the skills of human resources in this area. The advent of artificial intelligence, digitised work tasks and the need to counter climate change are important objectives in the training of transport workers - both formal and on-the-job training. The two universities - Todor Kableshkov University of Transport in Sofia and Thracian University of Edirne - can cooperate very successfully. It is particularly important that transport performs well in terms of sustainability, as it is a consumer of finite resources and has a direct impact on nature.*

The objectives of the HR training are to reduce carbon emissions and mitigate the effects of climate change in the transport sector; to raise awareness of the Green Deal in order to actively involve and engage transport HR.

Sector-specific expertise and the implementation of scientific and technological advances and innovations are essential to raise skills in the field of green transport and environmental protection. The training will bring together the knowledge of experts to ensure the effective functioning of environmental regulations; cover the reduction of carbon emissions in international trade through the use of green transport solutions; positively influence the awareness raising of HR in transport in Turkey and Bulgaria; present the difficulties of green transport, the application of which in national economies is not an easy task.

INTRODUCTION

Bulgaria and Turkey as neighbouring countries have many common features in climate and nature. These issues need to be explored through in-depth research from different disciplines. The neighbourhoods of Adrianople raise a number of issues to be studied and solved with the help of experts from both Turkey and Bulgaria. One of the main polluters is the transport sector, so an important objective is to improve the skills of human resources in this area. The advent of artificial intelligence, all the digitised work tasks and the need to counter climate change, which is threatening the planet, are important objectives when training transport workers. This applies to both formal and informal on-the-job training. In

this respect, the two universities - Todor Kableshkov University of Transport in Sofia and Thracian University of Edirne - can cooperate very successfully.

Turkey is a regional centre for production, processing and export to major European and Middle Eastern markets[1]. This gives the transport sector excellent potential, but there is a need to help upgrade the skills of human resources and thus counter climate change. Turkey remains the seventh largest agricultural economy in the world and this is crucial for the development of employment, exports and production.

The main polluting factors in the Adrianople region are due to intensive agricultural production. Sustainability is a cross-cutting priority that concerns the protection of ecosystems, the enhancement of biodiversity and the preservation of water and soil quality. Pressures from climate change, soil erosion and biodiversity loss are increasing.

Agriculture globally, and in Turkey's target region, faces challenges as increased production must meet the needs of a growing population and also contribute to economic prosperity and social well-being without damaging natural resources. It is particularly important that transport performs well in terms of sustainability as it is a consumer of finite resources and has a direct impact on nature. For this reason, there is a growing need to improve the relationship between transport, the environment and climate. All the necessary actions to implement climate schemes and environmentally friendly solutions also concern the knowledge of the transport workforce.

OBJECTIVES OF HUMAN RESOURCES TRAINING

- Reduce carbon emissions and mitigate climate change in the transport sector
- Promote nature-based solutions (NBS) to prevent climate change.
- Reducing greenhouse gas emissions by implementing digital platforms in logistics processes, leading to sustainable delivery solutions, reducing time to market and promoting environmentally friendly operations management.
- Raising public awareness of the Green Deal [2] and climate change policies and pollution to actively involve and engage transport HR.
- Implement sustainable practices by reducing environmental impacts

THEORETICAL SETTING

The main challenges we face are increasing scarcity and rapid degradation of natural resources at a time when demand for food, feed and agricultural goods and services (including crops, livestock, forestry, fisheries and aquaculture) is growing rapidly. The largest population increases are projected in areas that depend on agriculture and where there are already high levels of food insecurity. Many interrelated factors also influence the overall problems: increased consumption of natural resources as a result of urban sprawl, competition between different agricultural sectors, expansion of agriculture at the expense of forests, industrial use of water. In many places, this is leading to the exclusion of traditional users from access to resources and markets. Climate change is reducing the resilience of production systems and contributing to the degradation of natural resources. Rising temperatures, changing rainfall patterns and extreme weather events are expected to become significantly more severe in the future; increasing movement of people and goods, changes in the environment and in production practices are giving rise to new threats from disease agents that can affect food safety, human health and the efficiency and sustainability of production systems

The situation is compounded by inadequate policies and a lack of technical capacity that can put entire food chains at risk. The policy agenda and the mechanisms for production and conservation are largely disconnected. Clearly integrated ecosystem and landscape management is lacking. In frontier areas, workers and producers still lack the necessary digital literacy and technical skills to use existing digital resources effectively.

Synergies and complementarities with the current EU Biodiversity Strategy and the Green Deal complement the Paris Agreement and will support EU climate efforts.

Sector-specific expertise and the deployment of new scientific and technological developments and innovations are essential to enhance skills in the field of green transport, environmental protection and climate change mitigation. The policies of the European Green Deal (EUGD) have influenced intra-EU trade and imports, and environmental and sustainability standards have become more stringent. This means that more requirements are needed for producers exporting to the EU; to be informed about the objectives and priorities of the GEA and to effectively implement them in their practices to comply with the higher standards.

The approach is to develop and promote innovative climate and biodiversity friendly schemes to achieve the goals set out in the Green Deal, to share best practices in the circular economy by achieving sustainable production and digitisation of supply processes. Workers in Turkey and Bulgaria, logistics professionals and transport staff can be successfully involved in a lifelong learning process [3].

It will bring together the knowledge of experts to ensure the effective functioning of the Green Deal and relevant environmental policies and regulations. The training will cover the reduction of carbon emissions in international trade through the use of green transport solutions. It will strengthen compliance of European countries and traders in the Adrianople region and make green transport policies in Turkey and Bulgaria more understandable and feasible.

It will have a positive impact on raising the awareness of HR in transport in Turkey and Bulgaria and is expected to contribute to improving the knowledge of environmental issues [4] It will also support the community's willingness to contribute to green transport policies and objectives, as this creates many difficulties in its application in national economies.

Identified training needs.

Logistics professionals, transport staff, households, the entire community of over 266,306 youth in the 20-29 age range, 426,000 rural women and people with disabilities, including 13,300 women in the Thrace region of Adrianople, Tekirdağ and Karklarelili.

- On-the-job training for the implementation of innovative climate-smart and biodiversity-friendly sustainable natural resource management schemes that contribute to climate change mitigation and adaptation, including carbon footprint improvement. The training is directly linked to the achievement of the climate objectives set out in the European Green Deal;
- In-service training to promote sustainable effective management;
- On-site meetings;
- Advice on implementing nature-based solutions (NBS) to prevent climate change;
- Workshops with transport workers from Turkey and Bulgaria
- Information meetings to demonstrate digital platforms used in the product delivery process;
- Technical training on how to use digital tools and platforms and how to improve logistics processes;
- Trainings on how to improve logistics processes and use green transport corridors;
- Online postings in online forums" Sustainable and environmental issues
- Awareness raising campaigns among businesses;
- Public awareness training on the Green Deal to successfully implement sustainable practices;
- Reduced use of paper for educational and training materials.
- Inclusion of relevant cross-cutting issues such as promoting gender equality.

RESULTS

Improved technical knowledge and skills of human resources in transport to use digital tools and platforms to solve logistics needs.

Reduced carbon emissions.

Improved intermodality and green transport corridors.

Increased public awareness of environmental issues related to waste management.

Reduced levels of environmental impact and carbon footprint.

Increased public awareness of implementing sustainable practices to reduce environmental impacts.

Reduced use of paper in work processes and for training materials.

ANALYSIS OF RESULTS

Participants should be encouraged, trained and supported by experts to apply what they have learned on international best practices related to their knowledge of environmental protection and reduction of carbon emissions from transport services. Digital tools and platforms will be presented to manufacturers, [5] and the implementation of best practices will be monitored, measured against the objectives of the European Green Deal.

The training will strengthen networks between educational institutions and companies in Turkey and Europe, highlighting the importance of green transport practices and their application in the export process.

EXPECTED EFFECT

Increased public awareness of the Green Deal.

Receive feedback from the sector on the difficulties of implementation.

Implementation of best practices exchanged and training of transport workers, logistics specialists, agricultural industry personnel, traders.

Measures that will contribute to active adaptation to climate change and environmental protection.

Acquisition of improved knowledge, skills and capacity to meet environmental challenges; improvement of public awareness of global issues regarding sustainable production and consumption and consumer behaviour; promotion of rural women, CSOs, youth and people with disabilities to actively participate in meetings, workshops and trainings to address environmental issues; access to international best practices and related learning resources; improve technical competence to use digitized platforms [6] for environmentally friendly transport solutions; reduce the volume of time/space consuming practical paper-based training manuals and reference books.

Difficulties to overcome include: lack of distribution channels and sufficient quantity of green transport solutions to meet the needs of the manufacturing market; lack of in-service training programmes to provide knowledge on carbon reduction; lack of green supply chain solutions; lack of training on clean environment-based actions; need to revise some parameters in the EHR [7].

CONCLUSION

Training tailored to the needs and constraints of human resources in transport-related sectors aims to enrich the vision and improve the practical knowledge of human resources in transport. They will acquire new and expand basic skills and apply them in the work process, being both competitive and environmentally friendly.

The training will influence long-term outcomes in line with the priorities of the European Green Deal and raise public awareness for the successful implementation of practices conducive to green transport and a sustainable climate [8].

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УМЕНИЯТА НА ЧОВЕШКИТЕ РЕСУРСИ В ТРАНСПОРТА - КЛЮЧОВ ФАКТОР ЗА ЕКОЛОГИЧЕН И ЦИФРОВ ПРЕХОД

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Ключови думи: човешки ресурси, логистика, потребности от обучение, умения, дигитализирани работни процеси, изкуствен интелект, изменение на климата, околна среда, устойчивост

Резюме: България и Турция като страни съседки са изправени пред сходни предизвикателства относно климатичните промени. Един от основните замърсители е сектор транспорт, затова важна цел е да се подобрят уменията на човешките ресурси в тази област. Навлизането на изкуствения интелект, дигитализираните работни задачи и необходимостта от противодействие на изменението на климата, са важни цели при обучението на транспортните работници - както при формалното, така и при обучение в рамките на работния процес. Двата университета - ВТУ Тодор Каблешков в София и Тракия университет в Одрин могат много успешно да си сътрудничат. Особено важно е транспортът да се представя добре по отношение на устойчивостта, тъй като той е потребител на ограничени ресурси и влияе пряко върху природата.

Цели на обучението на ЧР са намаляване на въглеродните емисии и смекчаване на последиците от изменението на климата в транспортния сектор; повишаване на

осведоменост за Зелената сделка с цел активно включване и участие на ЧР от транспорта.

Специфичният за сектора опит и внедряването на научно-технически постижения и иновации са от съществено значение за повишаване на квалификацията в областта на екологичния транспорт и опазването околната среда. Обучението ще обедини знанията на експертите, за да се гарантира ефективното функциониране на разпоредбите за опазване на околната среда; ще обхване намаляването на въглеродните емисии в международната търговия чрез използване на зелени транспортни решения; ще окаже положително влияние върху повишаването на осведомеността на ЧР в транспорта в Турция и България; ще представи трудностите пред зеления транспорт, чието приложението в националните икономики не е лесна задача.