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Green and Social Innovations in Providing Effective Prevention and Security for Active Ageing

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***Abstract*. The ageing population will soon become one of the most demanding Big Societal Challenges that the world will face. In European union the percentage of the population over 60 years old is expected to increase from 20% to 33% between 2015 and 2050. The report reviews and analyses the role and potential of green and social innovations to foster the active ageing through complex research methods such as an in-depth study of main effects and added value of good practices that demonstrate the contribution of green and social innovations. The main objective of the paper is to analyze the main factors related with social and green innovations that foster healthy ageing and effective prevention and security of elderly people at a reasonable cost. The main conclusion of the research is that it demonstrates the potential of social and green innovation to improve the quality of life and personal security of old people while taking into account the new concepts and instruments related with the elements of Active Ageing Index.**

Keywords: ageing population, prevention, social security

I. INTRODUCTION

All countries in Europe are facing a dramatic societal challenge with the ageing population. By 2024, it is estimated that the population of individuals aged over 65 years will outnumber those under the age of 15. By the end of the current decade, the number of people aged 60 years and older will be 34% higher, increasing from 1 billion in 2019 to 1.4 billion. By 2050, the global population of older people will have more than doubled, to 2.1 billion [1]. This trend means new social, economic and health challenges, which demand a focus on healthy ageing to mitigate the impact of an ageing population. The current report is looking into the potential of social and green innovations that can mitigate the consequences for health and wellbeing of old people and improve their social security.

The purpose of the report is to review and analyze the role and potential of green and social innovations to foster the active ageing through complex research methods such as an in-depth study of main effects and added value of good practices that demonstrate the contribution of green and social innovations. An additional task of the current research is to analyze the main factors related with social and green innovations that foster healthy ageing and effective prevention and security of elderly people. Key methodological approach is the critical study of green and social innovations, their contribution to the assessment of Active ageing index and the applied contribution to better quality of life and improved security for elderly people. In order to introduce the conceptual framework the active ageing is defined as “helping people stay in charge of their own lives for as long as possible as they age and, where possible, to contribute to the economy and society”. The author explores an interdependency between the level of wellbeing as a factor for active ageing and the provision of social and health services, which are driven by social and green innovations. Furthermore, the article explores the areas in which social and green innovations are appearing in order to contribute to active, healthy and secure life of elderly people.

The phenomenon of ageing population. The aging process refers to the biological changes that occur over time, resulting in a gradual loss of physiological integrity, diminished function, and increased mortality risk [2]. Aging involves the deterioration of bodily functions and a decline in physical and mental capacity, primarily driven by cellular damage [2]. While aging is a primary risk factor for various diseases, it is important to recognize that aging itself is not a disease but a natural phenomenon. World Health Organization identifies active ageing as a “process of optimizing opportunities for health, participation and security, in order to enhance quality of life as people age” [3]. Active ageing is defined by the

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European Commission as "helping people stay in charge of their own lives for as long as possible as they age and, where possible, to contribute to the economy and society" [4].

II. ACTIVE AGEING INDEX

In this study, environmental and social innovations are associated with the availability of social and environmental investments aimed at achieving a positive effect on people and their security and wellbeing. At the same time, environmental and social governance is a key social security variable whose dynamics influence security factors. There is a direct dependence on social security, which is linked to increased investment in social infrastructure in order to strengthen the social protection systems that are crucial for the fight against poverty and inequalities.

In recent years, the trends in Europe have been quite negative, widening the gap between people's needs and the actual investments mobilized for social infrastructure, which are key determinants of social security. A number of studies by the World Health Organization show that public investment in social infrastructure is 20% lower than a decade ago, which means that services such as social assistance, health and social protection have reduced their standards and cannot meet existing needs.

The Active Ageing Index is a tool to measure the untapped potential of older people for active and healthy ageing across countries. It measures the level to which older people live independent lives, participate in paid employment and social activities, and their capacity to age actively [5].

Active Ageing Index (AAI) was developed and launched in 2012, in collaboration with the European Centre for Social Welfare Policy and Research in Vienna and with the support of the multi-stakeholder Expert group on AAI. It consists of four main areas as shown below in Fig. 1.:

Fig. 1. Components of Active Ageing Index
(Source: Leaflet on Active ageing index, https://unece.org/population/active-ageing-index)

The Active ageing index includes 22 indicators grouped into four domains - employment; participation in society; independent, healthy and secure living; and, the capacity and enabling environment for active ageing. The third domain for independent, healthy and secure living presents more examples of social and green innovation related with access to health services, physical safety and lifelong learning. Therefore, the fourth domain related with capacity and enabling environment for active ageing is focusing on green spaces and environment that contributes to physical, mental and social health of elderly people, and the maintenance of ecosystem services and biodiversity. Bulgaria is occupying a lower place in the index ranked with an overall score of 31.8 compared to the average score for the European Union of 35,7.

III. SOCIAL AND GREEN INNOVATINS FOR ACTIVE AGEING

The concept of social and green innovations does not have a single definition due to the multifaceted character of social challenges that are driving the social sector and the green transition. The numerous social risks that are accompanying the old population have a direct impact on their health, wellbeing and quality of life. The idea that social innovation is an effective way for dealing with societal challenges is manifested in policy discourses across the EU. Practitioners, scientific observers and other parties with interests in social innovation have reasons to believe that it can contribute to social transformation, and to consider the attendant practical challenges of such transformative social innovation.

Researchers and organizations dealing with this topic mainly use the general definition, which assumes that social innovation is an action based on both social ends and social means, which include new ideas (products, services, and models) that meet social needs (more effectively than alternatives) and create new social relationships or collaborations [6].

Green and social innovation can be reviewed in three main aspects related with prevention and support of ageing population such as:

- Innovations in service delivery – mobile and integrated social services, telemedicine for health diagnostics and access to health support;
- Innovations in green infrastructure for active ageing
- Security innovations for elderly people

A. Innovations in service delivery

Digitalization and information technology are perceived as a tool that optimizes the logistics chain in the provision of social services. At the same time, they are a major factor in moving towards environmental practices, especially when it comes to providing access to services to people in remote and sparsely populated areas. An example of the use of information technologies for the provision of health and social services is a social innovation for the implementation of telemedicine of the Municipality of Burgas.

The social innovation that is gaining popularity among Bulgarian municipalities is offering access to health services through information technologies, or so-called telemedicine. Burgas Municipality is one of the pioneers in Bulgaria in providing remote health services through telemedicine to hard-to-move and lonely elderly citizens who are users of social institutions in the city. The motives for this initiative are the increasing number of disabled and lonely elderly people using various social services in the municipality of Burgas, their need for consultations with specialist doctors and difficult access

to medical care due to their health condition or pandemic restrictions.

On the other hand, telemedicine will allow the necessary access to special care to be provided, even if the specialist concerned is located at a great distance. It offers a convenient way of communication between doctor and patient, eliminating the need for a physical visit to the doctor's office, especially in the period of influenza epidemics, bad weather conditions or difficult mobility of service users. Users of social services usually need help in adjusting drug doses, determining diet and physical activity, prescribing prescriptions for medications that have already been prescribed to them once. Therefore, telemedicine is a good solution for tracking patients with chronic diseases such as diabetes, high cholesterol or arterial hypertension.

With remote access to medical equipment, doctors can monitor and control their old patients and respond to their needs. The advantages of applying the social innovation are access to consultation with a specialist doctor beyond the limitations of specific medical fields, shortening the time between the occurrence of a health problem and primary consultation, improving the quality of health services, especially when tracking patients with chronic diseases, security for patients in epidemic situations, etc.

Information technologies are gaining popularity in social logistics, especially when they provide long-distance health care, which means that people in remote areas with limited access to healthcare can get the medical care they need. This saves time and resources for both doctors and patients and is a favorable opportunity to improve the quality and efficiency of social and health services. Innovative e-Health solutions can support disease prevention and promote healthy lifestyles, lead to improvements in citizens' quality of life and enable more effective ways of organising and delivering health services and care.

B. Green spaces for active ageing

As a complex green and social innovation, we can point out the design of friendly infrastructure for active walking. Walking for an average of 30 minutes a day can lower the risk of heart disease, stroke, and diabetes by 30% to 40%. Walking is associated with increased social interaction, the development of social capital and increased safety [7].

Green urban environment is widely accepted as a stress reduction factor. It is generally agreed that long term exposure to urban stressors such as noise, crowding and fear of crime without possibilities for restoration from stress, can affect mental health and increase the risk of depression, anxiety and fatigue syndromes [8]. Researchers have also demonstrated that increased access to green space may be linked to reductions in neighbourhood crime, violence, and aggression, which is a key factor for the security of old, people [9]. Access to green environment can also enhance social cohesion and reduce social risks for elderly people.

Design and delivery of open spaces that promote the health and wellbeing of people and the natural environment is a key challenge for health and urban planning in rapidly growing cities. There is growing recognition of the need for higher-density more compact urban form to accommodate the growing urban populations.

Neighbourhood connection, social capital and a strong sense of community are important because these have all been shown to be associated with improved wellbeing, increased feelings of safety and security, participation in community affairs and civic responsibility. Moreover, access to urban green space has also been linked to positive indicators of functioning societies, such as reduced fear and reduced levels of crime [10].

C. Security innovations for elderly people

A number of researchers point out that one of the most important conditions for the protection of mental and physical health is the guarantee of social security, which is directly dependent on the presence of social sensitivity in society [11, 12]. According to Yonchev, the security of communities determines the security of the individuals involved. In confirmation of this theory is the notion that any change in the environment has an impact on security by implying some response and can be understood as a reaction to an emerging and conscious challenge. The personal security environment can be seen as a state of absent risks and clearly defined and controlled threats to the individual and his physical and mental health, as well as his lifestyle [12].

Despite the availability of a number of technologies and innovations in social logistics to improve personal security, large groups of society remain quite vulnerable. Such a vulnerable group in terms of security are the elderly in urban environments. The proportion of people aged 65 and over who feel safe when walking alone in their neighbourhood measures the concept of 'fear of crime'. According to the data, 21.4% of older people (aged 65 and over) feel insecure walking alone in their neighbourhood (locality), almost twice the proportion of people in any other age group [13]. In addition, according to Eurostat, in 2019 the share of people in Bulgaria reporting crime, violence or vandalism in their neighborhood was the highest in the EU – 20.2%.

IV. NEW CHALLENGES FOR THE FUTURE

Over the last 150 years, life expectancy has risen by 50 years, and over the last half century, alone it has increased by three years every decade [14]. Growing challenges for the future are to provide effective prevention and support for ageing population at a reasonable cost. Healthy ageing facilitated by green and social innovations can be a reality for all. This will require a shift in focus from considering healthy ageing as the absence of disease to fostering the functional ability that enables older people to be and to do what they value. Actions to improve healthy ageing will be needed at multiple levels and in multiple sectors to prevent disease, promote health, maintain intrinsic capacity and enable functional ability [15].

A recent OECD study on social innovation confirms that improved access to integrated services such as health, childcare, housing and others for the elderly and people with disabilities can contribute to a significant reduction in inequality in society, reduce the level of poverty across different social segments, and thus increase social security [16]. The main directions in which the development of social innovations should be considered is to increase the opportunities for active ageing and improved social security for all generations.

At the same time, we are witnessing the growing role of digital technologies that promote social progress, facilitate innovation, increase security, while helping to improve personal security. More and more of the so-called critical activities, with most economic and social activities being entirely dependent on digital technologies. These activities include the health, safety and security of citizens, the effective functioning of basic services, as well as economic and social prosperity more broadly. Examples of such critical activities include a range of public services such as water and energy supply, health and social care provision, telecommunications, transport and urban services.

CONCLUSION

The main aim of this article was to provide a comprehensive overview of the development of social and green innovations and to emphasize the importance of new research in the field to promote active aging. With the continually growing older adult population, efforts should be directed towards exploration and integration of smart and ecological solutions that can positively influence physical and psychological wellbeing.

According to the World Health Organization, an age-friendly environment aims to promote active and healthy ageing by optimizing health, fostering inclusion and ensuring well-being in old age [17]. It adapts the physical and social environment to the needs of older people with different abilities. While the supportive physical environment focuses on components such as external environment, transport and mobility, and housing, the social dimensions of an age-friendly environment encompass areas such as social participation, social inclusion and non-discrimination, and civic engagement and employment. In general, the more accessible and age-friendly an environment is, the more active older people can be.

Furthermore, the current research demonstrates the potential of social and green innovation to improve the quality of life and personal security of old people while defining the key role of information technologies. The authors has outlined three areas related with innovations in social services, innovations in green infrastructure for active ageing and security innovations for elderly people.

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