

GREEN SPACE FOR HEALTH PROMOTION

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■ **KEYWORDS:** urban green, social benefits, climate change, biodiversity, well being

ABSTRACT

Green spaces or green infrastructure or urban green spaces are defined as outdoor spaces “partially or completely covered with grass, trees, shrubs or other types of vegetation and include, among others, parks, forests and municipal gardens”. The design and use of urban green spaces has become increasingly important in recent years as a form of contrast to the deleterious effects of urbanization. The presence of such spaces on the territory and access to the latter therefore represents a significant form of health promotion, as well as an important factor that determines it: it is therefore necessary to consider the main benefits provided by the presence of green spaces. These benefits can be of multiple nature: they go from environmental benefits (such as the management of clean water, the reduction of air and water pollution and protection against soil erosion) to social benefits (improvement of health and well-being, creation of new jobs, increase in tourism), up to consider benefits inherent in the adaptation and mitigation of climate change and biodiversity. It is therefore essential to have adequate design of green space: for these benefits to be effective, it is necessary to plan services to the person and adequate accessibility interventions, in line with the virtuous logic that green spaces can help to promote.

HISTORICAL PREMISE

Reality is basically made up of space. We live and move in space, and the measure of space determines the scanning of time and of existence of living beings. The consideration of space produces choices that are linked to an ancient but always current dilemma: *is it possible to live within a given environment and if it is possible how is it possible?*

In the last two centuries the natural space has been gradually thinning as a result of the spread of the industrial revolution and the capitalistic system, which have favored the anthropocentric model based on urbanization.

This phenomenon is evident not only in Europe, where by now the population of the cities far exceeds that of the countryside, but also in the rest of the world: it is enough to consider the Asian, African and Latin American megalopolises to understand their scope.

Industrial cities have developed based on the concept, of clear Tayloristic derivation, of the division of space according to the functions of industrial production: factories, offices, residential areas, green areas have been clearly delineating over the decades, breaking that continuous between human elements and natural elements still visible in cities until the eighteenth century.

Living and moving in the city has become increasingly problematic and the nature of the workplaces, completely artificial, has imposed sedentary conditions that in the long run have proved to be very harmful for the individuals destined to remain static in factories and offices for many hours a day.

The spaces for the movement were therefore designed and built to cope with this situation and for decades they have concentrated in fact in two types of well-defined places: city parks, the last vestiges of the natural environment, and sports centers, where you can carry

out what was called physical education.

Considered by the Enlightenment culture one of the cornerstones of health, physical education became a far widespread practice first in the bourgeois class and also among many aristocrats, and later also in the popular classes.

D’Alambert considered it in the category of rational sciences and Rousseau made it one of the cornerstones of his pedagogical theory.

In June 1793 the Committee for Education included physical education among the primary objectives of public education, and on 13 August of the same year the Convention reaffirmed its importance by arguing that it should enjoy, in scholastic education, the same time reserved for study and manual activities.

The development of physical education was linked to a double practical necessity: the first derived from the adoption of the mass conscription for the constitution of the people’s army, and therefore from the need to have young people who are motorically capable; the second was inherent in the development of the industrial revolution, which the new bourgeois leadership put in place in revolutionary France and for which they needed coordinated individuals and able to work fast on the machines.

From a general point of view, the exaltation of physical activity definitively ended with centuries of mortification of the body and also paved the way for the birth of modern sport.

In the nineteenth century, the epoch in which scientific progress established itself as the supreme ideal of the nascent bourgeois ruling classes, physical practice began to be applied to the therapeutic field. In England, as well as in the German-speaking world, the prescription of physical activity in cardiopathic patients became widespread. In Sweden, in the early 1800s, Pehr Henrik Ling organized a gym in which a free

body gymnastics was practiced in a structured way which then took the name of Swedish.

In the light of current biomedical knowledge, from any consideration of the questionable correctness of therapeutic indications, what must be emphasized is the gradual spread of a therapeutic approach to the disease founded, at a time when pharmacological solutions were not particularly developed, on physical exercise, modulated in duration and intensity on the pathological condition.

In the twentieth century, hand in hand with the further progress of therapeutic practices, the culture of prevention spread in a broad and structured way which, in recent years, has foreseen the role of physical activity as a fundamental element in the prophylaxis of multiple pathological conditions. From the 70s onwards, in parallel with the achievements of clinical pharmacology, diagnostic and therapeutic instrumental technology and the organization of health systems, the preventive, therapeutic and rehabilitative function of structured programs of physical activity has been fully recognized for a growing number of serious and widespread clinical conditions. Attention to lifestyle (the hippocratic memory regime) is a medical-health concept deeply rooted in the Western world, as highlighted, juxtaposed, even in the first text of medical professional ethics. One of the main objectives of physical activity is for example to demedicalize back pain through the use of a correct lifestyle, as widely recalled by the recommendations for the promotion of well-being and health given by the World Health Organization.

After the Second World War, however, the environmental situation deteriorated considerably as a result of the progress of industrialization.

Cities have incorporated growing portions of the countryside and industries have contributed greatly to the pollution of air, water and soil, flanked by the spread of motor vehicles and the extraordinary energy consumption necessary for the life of megacities.

The environment is therefore a fundamental factor for health, as the governments and entrepreneurs of industrial countries had well understood: one could not do without doctors but doctors were not sufficient to solve the complex problems of the natural and urban environment, the living and working conditions of the population, of the misery and degradation that constituted the other side of progress.

Natural areas have mainly suffered from the effects of industrialization. Moreover, since the agricultural revolution, human societies have always striven to modify the environment to take advantage of it: for example, deforestation was carried out to prepare cultivated fields, swamps and marshes were drained, mountains were dug but everything happened within the limits that human and animal labor force imposed. The machine has allowed operations of much wider scope and the natural environments have undergone drastic changes.

A possible solution to the harmful effects of urbanization could lie in the establishment and use of green spaces. In other words, it is a matter of restoring, within certain limits, the function that plants have played during the evolution of the planet: to give back to vegetation the role that belongs to it also for the protection of the human species.

■ GREEN SPACE FOR HEALTH PROMOTION

During the last two years, due to the Coronavirus emergency, numerous work activities have been forced to close. One of the most affected sectors was the sports and fitness one. Since March 2020, sports events and competitions of all kinds and disciplines have been suspended, as well as all organized sporting events and activities in gyms, sports centers, swimming pools and sports facilities.

One of the few forms of physical activity allowed was physical activity in the open air, first in individual form and later in small groups. This situation has led more and more people to rediscover the pleasure and benefits that derive from carrying out physical activity outdoors.

One of the possible definitions of the expression physical activity indicates it as “any movement of the body made through the contraction of skeletal muscles that involves a significant increase in energy demands above the rest values”; walking, running, playing, and exercising in the open air can therefore be counted as forms of outdoor physical activity.

During the period marked by the pandemic, the spaces where these types of activities can be carried out have included parks, gardens, paths, cycle paths and pedestrian areas, defined below as green spaces.

Green spaces or green infrastructure or urban green spaces are defined as outdoor spaces “partially or completely covered with grass, trees, shrubs or other types of vegetation and include, among others, parks, forests and communal gardens”. The concept of green space can therefore be extended to all those green spaces where you can spend free time, play, relax, walk, or simply pause.

The European Union describes green spaces as “a strategically planned network of natural, semi-natural areas along with other environmental elements, designed and managed with the aim of providing a wide range of ecosystem services such as water purification, better air quality, leisure space, mitigation and adaptation to climate change, the protection and increase of biodiversity in rural and urban areas as well as in natural territories”.

The set of green spaces therefore allows to improve the quality of the environment and, consequently, the health and quality of life of citizens.

■ ENVIRONMENTAL BENEFITS

The presence of urban green spaces has a positive impact on the environment, significantly affecting the territorial microclimate through the modification of extreme temperatures, the improvement of the hydrological cycle, the protection of biodiversity of flora and fauna as well as the consolidation of soil stability.

Temperature mitigation and adaptation to climate change

As it is well known and documented, the presence of green spaces in small and large cities represents an important source of refreshment for the territory. The main processes underlying the cooling effect of vegetation on the territorial microclimate are represented by the shade provided by trees and plants and their evapotranspiration processes. These effects can lead to temperatures being reduced by up to 8°C. The reduction of urban vegetation involves, instead, the in-

crease in the absorption of solar radiation contributing to the development of the urban phenomenon of the so-called “heat islands”. Rising urban temperatures adversely affect human health; in particular, certain demographic groups, such as children and the elderly, are more vulnerable to prolonged exposure to high temperatures. In a context in which the population is increasingly elderly, the positive effects mediated by the presence of green spaces in the reduction of mortality due to heat take on great importance.

Covering buildings with vegetation, for example by designing structures with green roofs, represents an innovative solution to reduce the temperature of the latter and the spaces surrounding them. The presence of green roofs brings numerous environmental and energy-saving benefits, since they lead to an improvement in air quality, removing carbon dioxide and releasing oxygen and water vapor, a reduction in the urban “heat island” effect and an increase in the thermal resistance of building roofs. The presence of various types of flowers and plants, in addition to adorning the landscape, also provides habitat for the fauna, thus favoring the protection of biodiversity.

Reduction of air pollution

Green spaces, and specifically green roofs, favor a reduction in air pollutants, including those produced by car engines, and atmospheric levels of ozone (O₃), whose rise in recent decades has been identified as the cause of the increase in asthma symptoms. Near green roofs, a reduction of 37% in sulphur dioxide (SO₂) values and 21% in nitric oxide (NO) values was observed.

Urban green spaces also represent an important resource useful for the storage of carbon (CO₂) from the atmosphere, thanks to the ability of plants to reduce their environmental level, storing it during the day. Within a day, a green roof can reduce the concentration of CO₂ in the surrounding areas by about 2%.

Reduction of energy consumption

As previously emerged, the presence of green spaces leads to a modest reduction in temperatures with a consequent mitigation of the climate, aspects that partly contribute to the reduction of energy consumption of buildings and CO₂ emissions.

Among the many benefits already mentioned of green roofs, we also include the possibility of reducing the energy demands of a building. A green roof is indeed able to intercept up to 87% of the solar radiation that would otherwise be absorbed by the building, resulting in a saving in the costs associated with the use of air conditioning. As a matter of fact, a significant difference was highlighted in the temperature measured in the interiors of a building covered by a green roof, in which the temperature did not exceed 30 °, compared to a building without the latter, with temperature values stably above 30 °. The increase in green infrastructure, such as an innovative saving technique, would therefore lead to a significant reduction in costs and energy related to the use of air conditioning.

Green roofs also lead to an improvement in the ability of buildings to retain heat during cold periods, reducing the demand for energy for heating.

Safeguarding biodiversity

The growing urbanization, in addition to the problems

already mentioned above, determines a reduction in the habitats available for plant and fauna species. Global estimates show that, due to climate change, more than half of all species may be at risk and will have to move to territories with more suitable climates. However, biodiversity plays a fundamental role in the sustainability of nature’s ecosystem; it is therefore important to prevent, or at least limit, the reduction of biodiversity. The promotion of biodiversity through the diffusion of urban green spaces on the territory is an option to be considered.

Trees, for example, represent one of the main sources of habitat for many wildlife species; the presence of parks and spaces rich in trees and plants is of fundamental importance for the survival of these species, even in an urban context. By preserving and extending green infrastructure, therefore, not only the biodiversity of the flora will be preserved, but also the biodiversity of the fauna species that live in urban environments.

A greater variety of fauna and plant species also brings benefits to humans; green spaces offer spaces where to appreciate these biodiversity, contributing to environmental education through the promotion of respect and protection of natural environments.

PHYSICAL AND SOCIAL BENEFITS

The presence on the territory of green space also involves a series of physical and social benefits. The literature suggests that frequenting urban green spaces positively affects an individual’s physical and mental health and prevents the risk of adopting incorrect lifestyles. Numerous social facilities emerge from the organization of sports and leisure activities in the context of green infrastructure. The community as a whole also benefits from the presence of green spaces in terms of cohesion and social equity. Parks and gardens can also represent places that promote tourism, education and sustainable mobility.

Health and well-being

Numerous publications demonstrated the links between green spaces and health and well-being. Green infrastructures are a space where you can spend your free time, play, relax, walk or simply stop, with a positive effect on physical and mental health.

The importance of green spaces as a form of disease prevention is still little considered today. However, numerous researches show that outdoor physical activity favors a reduction in blood pressure, cholesterol values and stress.

Green spaces represent firstly an important form of prevention of physical inactivity; in the development of diseases, physical inactivity is a risk factor on a par with tobacco consumption and an unbalanced diet. In Italy, sedentary lifestyle is responsible for 14.6% of all deaths, equal to about 90,000 deaths per year, and an expenditure in terms of direct health costs of 1.6 billion euros per year for the four diseases most attributable to it: breast and colorectal cancer, type 2 diabetes and coronary artery disease. The mortality rate could be drastically reduced if the share of the population that is sedentary or performing levels of physical activity below those recommended by the WHO, carries out levels of physical activity in line with WHO recommendations. The social and economic impact caused by sedentary lifestyle indicates how important

it is to encourage the attendance of urban green spaces to increase levels of physical activity and how it is necessary to consider this activity as a form of prevention of individual and collective health. The presence of urban green spaces is therefore a factor that favors the adoption of a more active lifestyle.

Carrying out adequate levels of physical activity leads to a slower decline in physical functions, favoring, particularly in the elderly population, a healthy aging, essential to maintain a good quality of life and adequate independence during old age. The maintenance of a good level of physical fitness, favored by carrying out outdoor physical activity, allows you to adequately complete the activities of daily life, without fatigue.

A study carried out in the United Kingdom showed a correlation between obesity and access to green spaces: people with access to green spaces had lower levels of obesity. In Italy it is estimated that about 25% of the population over 18 years of age is in excess of weight, a problem also presents in childhood: one in four children is obese. An obese individual will be at increased risk of developing conditions of arterial hypertension, hypercholesterolemia, hypertriglyceridemia and type 2 diabetes, all of which are associated with an increased cardiovascular risk. When people do not have spaces to walk, stroll or take part in sports or recreational activities they tend to gain weight; therefore, a condition of obesity is more frequent in places not suitable for carrying out physical activity. Conversely, a review of the literature in the American Journal of Preventive Medicine has shown that the creation or greater attendance of environments favorable to the performance of physical activity combined with greater information disclosure determines a 48% increase in the frequency of physical activity. By offering opportunities for outdoor physical activity, urban green spaces therefore favor an improvement in physical health and a reduction in the body weight of such subjects. Similarly, a recent publication has demonstrated a positive relationship between frequenting green areas and reducing cardiovascular mortality.

It has also been shown that the attendance of green spaces has a positive effect not only on physical health but also on mental health. The contact with nature and the frequentation of urban green spaces exerts a positive impact on mental well-being, favoring an optimistic and proactive attitude, improving social support, reducing stress and tensions and determining greater opportunities for physical activity. Recent research conducted in the UK hypothesized that physical activity in green spaces would improve mental health and well-being. This study evaluated the effect of certain types of outdoor exercises; all these activities have resulted in benefits in terms of health and mental well-being, indicating once again the benefits of green spaces on mental health and well-being.

Outdoor activities and the presence of green spaces have important implications for public and the environment health. A further study, published in the Netherlands in 2001, highlighted the link between green spaces and health. The results showed that in environments with a greater presence of green spaces, citizens reported fewer complaints about their state of health and had a better mental health condition. One of the authors of the study, Syerp De Vries, de-

als with various interventions that have as their object the renovation of slums in the city of Rotterdam, in particular school buildings. In them he redesigned the structure of the courtyards, equipping them with green spaces: the impact that these new dimensions exert on schoolchildren proves essentially positive.

The promotion of health favored by green spaces is not, however, attributable only to the performance of physical activity within them; green spaces represent an important resource that contributes to the reduction of air pollution, through the absorption, deposition and dispersion of air pollutants. Gardens, trees, parks and hedges can therefore help improve air quality and reduce noise pollution. The use of vegetation can help to counteract the propagation of noise through absorption or diffraction.

Green space and social cohesion

The creation and maintenance of urban green spaces is an effective way of promoting participation and social cohesion within a community. In Australia, for example, it has been observed that groups of individuals involved in projects to protect and improve the natural environment not only worked to restore and care for the environment but experienced a greater connection and trust in others thanks to greater interaction with their local community. This type of experience allowed citizens to spend more time in contact with nature, favoring, as previously emerged, an improvement in physical and mental health.

The presence of trees and gardens in the vicinity of residential complexes determines a habitual attendance of such spaces by residents, creating more opportunities for participation and social interaction. Compared to residents in areas without green spaces, those who live near green infrastructure are more involved in social activities, know the neighborhood better and develop a more rooted sense of belonging.

Green space and child development

Green spaces play a fundamental role for proper child development, encouraging play and recreational activities and encouraging contact with nature. Today, however, due to various factors, children are less and less frequenting parks and gardens, preferring the use of new technologies, such as computers and video games.

However, recreational activities are fundamental for the development of children, indeed playing is equivalent to learning. It is now known that play represents a critical element in child development, that can be used to strengthen muscle and basic coordination skills, basic motor patterns and cognitive functions. In addition, urban green spaces and parks encourage interaction with other children.

It is also important that schools and kindergartens have adequate green spaces to allow a wide variety of recreational and educational activities; green spaces provide spaces for school learning both formal, through training activities, and informal, carrying out play activities. Access to green spaces is associated in children with an improvement in mental health, general health and cognitive development.

Green space and aging

Numerous evidences suggest that involvement in gardening activities has benefits for physical and

mental health in elderly individuals. A recent study, conducted in the United Kingdom, has highlighted how disability and chronic diseases are not inevitable consequences of aging and can be alleviated by supporting the development of community gardening programs that favor an active lifestyle for these subjects. This study also highlighted how natural landscapes have a positive impact on the mental well-being of older subjects, how the development of gardening activities contributes to the social inclusion of these subjects and favors the development of social networks and how gardening activities not only allow participants to achieve a greater sense of fulfillment and satisfaction as a result of their involvement in the protection of natural environments; it also highlights how, in taking care of the plants, they also take care of the other participants, determining the emergence of a deeper sense of community.

While the above study highlighted the benefits of establishing social networks for healthy aging, recent research in Japan highlighted the importance of areas and walking paths for the longevity of older citizens. This study found that living in areas provided with pedestrian paths positively affects the longevity of older individuals regardless of their age, gender and socioeconomic status. The importance of urban green spaces for the health of senior citizens should therefore be emphasised in the planning and design of cities.

Green space and social equity

Recent studies show that average life expectancy in OECD nations is closely related to the degree of social equity. A society with large differences in terms of equity will also be more likely to be violent, having a negative impact on the well-being and mental health of the community.

The benefits provided by the presence of urban green spaces, in this case, play an important role in promoting the social well-being of communities and favor greater livability in the neighborhoods in the center of large cities. For children, teenagers and families at risk and with a low income, who would not otherwise be able to afford to enroll in a gym or other facilities, green spaces offer the opportunity to carry out recreational activities. The parks and gardens also provide spaces in poorer neighborhoods, where residents can experience a sense of community.

The unequal distribution of public parks among different cultural groups and socioeconomic classes risks harming residents, creating significant health costs due to physical inactivity. The correlation between poverty, social status, obesity, illness and environmental factors that discourage physical activity, including the absence of parks and recreational facilities, is now known. The design of residential neighborhoods in the city center should therefore consider the presence of green spaces as a form of reducing inequalities in terms of health and sociability of its residents. The environment, in its most complete and complex sense, including lifestyles, social and economic conditions, is a fundamental determinant for the psychophysical well-being and therefore for the health of people and populations. Many pathological processes find their etiopathogenesis in environmental factors, as evidenced also by recent acquisitions in the field of epigenetics.

The Ostrava Declaration of the Sixth Interministerial

Conference on Environment and Health (WHO 2017) indicates the crucial points on which the Environment and Health Strategy for the coming years must develop: environmental degradation, indoor and outdoor pollution, climate change, indoor and outdoor exposure to hazardous chemicals, the quality and safety of drinking water, contaminated sites, waste and the destabilisation of ecosystems that exacerbate social inequalities; the need to develop systemic, cross-sectoral actions that focus on prevention, paying the utmost attention to the most disadvantaged sectors; the importance of sharing responsibilities with all levels of government, from international and national to local, involving citizens and stakeholders with actions extended on the territory, inside and outside their borders and projected on long time scales. The aforementioned Declaration recognizes that the well-being of populations is closely linked to all the objectives of the 2030 Agenda and to the objectives of the Paris Climate Agreement, signed in 2015 by the United Nations Framework Convention on Climate Change (UNFCCC – CoP 21), which must necessarily be an integral part of the strategy.

The National Biodiversity Strategy recognizes the value of the One Health approach to address the cross-cutting issue of biodiversity and human health as an integrated approach consistent with the ecosystem approach, promoting a systemic vision of health, multidisciplinary and transdisciplinary, to address potential or existing risks that originate at the interface between human health, that of ecosystems and anthropized environments.

The health sector can make a decisive contribution to safeguarding biodiversity and improving the built environment by operating systematically, promoting environmentally friendly technologies, sustainable consumption, green building and urban green spaces and more efficient management of health systems.

Climate change poses a serious threat to global health and a major challenge for the 21st century. The scenarios foresee an imbalance of ecosystems with an increase in the intensity of health risks related to disasters, extreme events, water availability, food security and changes in the appearance and spread of diseases of infectious origin (pathogenic vectors, contaminated water and food). Gender inequalities, social and economic marginalization, conflicts and migration will also increase. The WHO estimates more than 250,000 more deaths per year in the world due to climate change for the period 2030-2050. The most vulnerable subgroups will be particularly affected: children, the elderly, people with chronic diseases and deprived socio-economic groups.

Tackling climate change represents an unprecedented opportunity for public health, through climate strategies that offer significant benefits to address some of the most pressing health problems. Resilience and climate adaptation for health, as well as mitigation strategies must interconnect with health programmes and activities, and health is central to the overall framework in combating climate change.

The EU launched climate change management and mitigation policies and biodiversity strategies, which are undergoing adaptation in the various member states. The United Nations 2030 Agenda and the aforementioned Paris Climate Agreement 2015, represent two fundamental reference frameworks to combat

climate change and lead towards a more sustainable development model; however, this challenge requires a radical change in production and consumption patterns.

In line with the strategy, which inspires the action of the WHO and the United Nations Framework Convention on Climate Change (UNFCCC) in interactions with the governments of different countries to define the “Country Profiles” on climate and health, the Country profile of Italy was defined in the context of the Italian Presidency of the G7 in 2017, as part of the project “Health effects of climate change in the Planetary vision health, which provides current data and future scenarios on climate change and health in the most relevant impact areas such as air pollution, heat waves, water resources and water management, infectious and vector diseases, primary production and food security, migrations, ecosystems and biodiversity erosion, including in urban environments. The data collected indicate an intensification of threats to the health of the Italian population, for which specific prevention actions are identified, coordinated with national mitigation and adaptation policies and strategies coordinated by the Ministry of the Environment and protection of land and sea (MATTM), through the “National Strategy” and the “National Plan for adaptation to climate change”.

Moreover, considering that due to the effect of global warming in cities “heat islands” are created, much warmer than in rural areas, the Ministry of Health has activated since 2005 the “National Operational Plan for the prevention of the effects of heat on health”, with which specific city forecasting alarm systems have been introduced on the national territory (Heat Health Watch Warning System-HHWWs) which can foresee, 72 hours in advance, the arrival of a heat wave and promptly activate prevention interventions at local level. This monitoring system is still in vogue. Air pollution, indoor and outdoor, is the main environmental risk factor for health. Transport and domestic heating are the main causes of emissions of pollutants of toxicological interest that raise greater concern in terms of health impact due to the high number of people exposed, in urban and extra-urban areas. Emissions from agriculture, energy production, industry and domestic settlements also contribute to polluting the air.

According to the WHO, air pollution is among the main causes of deaths due to non-communicable diseases such as stroke and cardiovascular diseases, cancers and chronic respiratory diseases.

Recent studies show that indoor household pollution is the third risk factor for the global disease burden, after high blood pressure and tobacco smoke.

Of great concern is the contribution of PM_{2.5} to air pollution from biomass mainly used for domestic heating.

To reduce urban air pollution, including climate-changing emissions, it is necessary to promote the use of cleaner energy sources and more sustainable urban transport systems, to design and create cities that foster healthy lifestyles and communities sustainable and resilient to climate change, as recommended by the WHO.

The burden of diseases associated with indoor and outdoor exposure to chemicals should also be highlighted. There are tens of thousands of chemicals on the

EU market and an unknown number of them have a negative impact on health and the environment. exposure to multiple chemicals at once, even at low doses (cocktail effect) exacerbate or negatively alter health impacts. Exposure to chemicals can cause, for example, congenital disabilities, respiratory problems, neurodegenerative diseases, skin diseases, endocrine disruption or cancer.

In all this we cannot fail to consider the environmental impact on the part of the livestock world. The European Commission in the Green Deal strategic document, which aims to address the problems related to the climate and the environment, addresses the aspect of consumer protection by analyzing and intervening along the entire production chain according to the farm to fork approach for a sustainable food policy. This means studying and applying policies to promote and support a more sustainable supply chain, with the aim of reducing greenhouse gases and all polluting factors starting from breeding through all production processes, transport and distribution, also with a view to reducing waste and therefore the production of waste.

The Task Force Ambiente e Salute (TFAS), established at the Ministry of Health in 2017, has a significant mandate aimed at “Building a national strategy for the coordination and integration of national and regional policies and actions in the environmental and health field: identification of shared standards and actions for the prevention, evaluation, management and communication of environment-health issues”, to create initiatives (including regulations) in support of the Plan to strengthen the “environment and health” governance, at various levels, between the responsible structures/ institutions.

As part of the CCM project “Integration, training and assessment of the impact of environmental pollution on health: Rete Italiana Ambiente e Salute (RIAS)” the aforementioned Network is being built, which contributes to the work of TFAS also through the development of operational tools.

The NFP 2020-2025, in line with the European and international guidelines, and taking into account the production guidelines aimed at reducing the environmental impact, as well as the new LEAs and in continuity with the NFP 2014-2019:

proposes a cross-sectoral and integrated strategy, aimed at achieving synergies between health services, responsible for human and animal health, and those responsible for environmental protection, to strengthen the One Health approach, with the aim of reducing avoidable diseases and premature deaths related to the environmental impact of production practices to protect the health and well-being of people and animals.

■ RISK FACTORS AND HEALTH DETERMINANTS

Based on the data illustrated above, the following categories of risk factors are identified:

- Exposure to chemical, physical and microbiological agents in indoor and outdoor environments.
- Climate change and extreme weather events.

In addition, there are the system criticalities indicated below, capable of affecting the activities of

- prevention and reduction of risk factors, and which could be solved through strategies and

interventions of a legal-administrative nature:

- Sectorality of standards and competences of health surveillance and environmental monitoring activities.
- Fragmentation of competences and lack of synergies between prevention and health promotion activities of the NHS and environmental protection activities of the SNPA.
- Low relevance of environment and health issues in the policies of other sectors: transport, construction, urban planning, agriculture, energy, waste, instructions.
- Inadequate application of tools to support administrations for the assessment and management of the health impacts of environmental issues.

■ STRATEGY

To promote the overcoming of technical-scientific and governance critical issues at national and regional

level, for health promotion, prevention, assessment and management of risks deriving from environmental, anthropogenic and natural factors, the NLP 2020-2025 proposes, following the One Health approach, to implement guidelines and actions adopted with the Ostrava Declaration combined with the objectives of the 2030 Agenda, providing for the following strategic lines:

- 1) Promote advocacy interventions in the policies of other sectors (environment, transport, construction, urban planning, agriculture, energy, education).
- 2) Promote and strengthen tools to facilitate integration and synergy between NHS prevention services and NHS agencies.
- 3) Adopt interventions for the prevention and reduction of environmental exposures (indoor and outdoor) and anthropogenic harmful to health.

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