NATURE FOR HEALTH AND EQUITY

Europeans face health and social challenges that merit urgent attention – obesity, mental health problems, social exclusion, air and noise pollution, and heat stress in cities.

These issues particularly affect socio-economically disadvantaged and vulnerable groups and put pressure on already stretched health budgets.

Lack of access to nature and natural areas contributes to health inequality, and improving it is key to tackling these challenges.

Wealth often determines access to nature in cities (Lee & Maheswaran, 2011), and these areas are under pressures of urbanisation and development.

According to a growing body of evidence, health inequalities are linked to access to nature. Health inequality affects all stages of life: pre-birth, childhood, adult life and old age. A number of studies show access to nature is vital for good mental and physical health at all ages.

Living in areas with green spaces significantly reduces income-related health inequalities, counteracting the effect of deprivation (Mitchell and Popham, 2008).

Links between nature and socio-economic inequalities

- People living in areas with high deprivation are more likely to have less access to green spaces and fewer opportunities for healthy activities (Marmot, 2013).
- Children in deprived areas are nine times less likely to have access to green space and places to play (National Children's Bureau, 2013).
- In Denmark, people living more than 1 km from green space were more likely to be obese and less likely to exercise rigorously than those living closer than 300 m (Toftager et al., 2011).

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Middle-aged men living in deprived urban areas with high amounts of green space have a 16% lower risk of dying compared with similar groups living in areas with less green space (Scottish Government, 2014).

Nature has multiple benefits

- In Spain, people living within 300 metres of green spaces report better self-perceived health and mental health (Triguero-Mas et al., 2015).
- Doctors prescribe fewer anti-depressants in urban areas with more trees on the street (Taylor et al., 2015).
- People are happier and have lower mental distress when living in urban areas with more green space (White et al., 2013).
- A review of multiple studies showed the positive links between biodiversity-rich environments and health and well-being (Lovell et al., 2014).

Role of nature for children and adolescents

From before birth to childhood, nature plays a crucial role in physical and mental health. Inequalities in early years have health implications later in life. Early contact with nature fosters positive attitudes for protecting the environment as an adult.

New-borns in areas with abundant green spaces have a higher birth weight and head circumference (Dadvand et al., 2012).

Nature and Children's Development

- Pregnant women living more than 300 meters away from green spaces have higher blood pressure compared to those who live closer (Grazuleviciene et al., 2014).
- Growing up and living in microbe-rich environments can reduce the development of allergies (Ege et al., 2011; Hanski et al., 2012; Haahtela et al., 2013).
- Living 2 to 5 km from diverse natural environments (like forest areas or traditional farms) reduces the chance of allergies in children 6 years or older (Ruokolainen et al., 2015).
- Access to nature can reduce childhood behavioural problems, such as hyperactivity, emotional symptoms and peer relationship problems (Amoly et al., 2014).
- 10-year-old children who spent their summer camp in nature were more environmentally friendly than those who spent it in the city (Collado et al., 2013).

Social Forest Initiative, Spain

Social Forest is a Barcelona-based organisation that provides training in forestry services to youngsters at risk of social exclusion. It promotes sustainable forest management and renewable energy, in particular local forest biomass. Social Forest intends to tackle youth unemployment and exclusion and to raise awareness of the health benefits of nature.

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REFERENCES

Amoly, E et al. (2014) Green and blue spaces and behavioural development in Barcelona schoolchildren: the BREATHE project. Environmental Health Perspective, 122, 1351–1358.

Barton, J and Pretty, J (2010). What is the Best Dose of Nature and Green Exercise for Improving Mental Health? A Multi-Study Analysis. Environmental Science and Technology, 44 (10) 3497–3955.

Bennet, S A et al. (2012) Playground Accessibility and Neighbourhood Social Interaction Among Parents. Soc Indic Res, 108, 199–213.

Booth, J E et al. (2010) Who benefits from recreational use of protected areas? Ecology and Society, 15 (3).

Burt, J et al. (2013) Monitor of Engagement with the Natural Environment Survey (2009 -2012): Visits to the natural environment - variations in characteristics and behaviours of social groups within the adult English population. Natural England Data Reports.

Collado, S et al. (2013) Experiencing nature in children's summer camps: Affective, cognitive and behavioural consequences. Journal of Environmental Psychology, 33, 37–44.

Dadvand, P et al. (2012) Surrounding greenness and pregnancy outcomes in four Spanish birth cohorts. Environmental Health Perspectives, 120, 1481-1487.

Ege, M J et al. (2011) Exposure to environmental microorganisms and childhood asthma. The new England Journal of Medicine, 364, 701–709.

Glasper, A (2011). Planning for a heat wave: the implication for health care. British Journal of Nursing, 20 (13), 834–835.

Grazuleviciene, R et al. (2014) The Influence of Proximity to City Parks on Blood Pressure in Early Pregnancy. *Int. J. Environ. Res. Public Health* 2014, *11* (3), 2958–2972.

Haahtela, T et al. (2013) The biodiversity hypothesis and allergic disease: World Allergy Organization position statement. World Allergy Organization Journal, No 6.

Hanski, I et al. (2012) Environmental biodiversity, human microbiota, and allergy are interrelated. Proceedings of the National Academy of Sciences of the United States of America, 109 (21) 8334–8339.

Lachowycz, K and Jones, A P (2014) Does walking explain associations between access to greenspace and lower mortality? Social Science & Medicine 107, 9–17.

Lee, A C K and Maheswaran, R (2011) The health benefits of urban green spaces: a review of the evidence. Journal of Public Health, 33 (2), 212–222.

Lovell, R et al. (2014) A systematic review of the health and well-being benefits of biodiverse environments. Journal of Toxicology and Environmental Health Part B, 17 (1), 1–20.

Maas, J et al. (2009) Social contacts as a possible mechanism behind the relation between green space and health: a multilevel analysis. Health and Place, 15 (2), 558–592.

Marmot, M (2013). Review of Social Determinants and the Health Divide in the WHO European Region: Final Report. World Health Organization.

Mitchell, R and Popham, F (2008) Effect of exposure to natural environment on health inequalities: an observational population study. The Lancet, 372 (9650), 1655–1660.

Nature's benefits for well-being, sense of place and community

Nature in your everyday environment is beneficial to general well-being. It creates a sense of space and community, including in ethnic and minority groups.

Green areas are an important factor for individuals and communities establishing a 'sense of place' and 'ownership' of the landscape (Maas et al., 2009).

General well-being and sense of space and community

- Among visitors to protected areas, minorities and socially excluded groups are markedly under-represented, as are younger people (Booth et al., 2010).
- 26% of the black and minority ethnic population in England visit natural environments three times a year or less (compared with 15% of the rest of the population) (Burt et al., 2013).
- Nature increases positive emotions and feelings of vitality (Tyrväinen et al., 2014).
- Improved access to woodland near deprived urban communities in Scotland promoted green space use, increased activity levels and perceived quality of life (Ward Thompson et al., 2013).
- Seeing one's neighbour at the local park can help to build familiarity, a sense of commonality, and sets the groundwork for future engagement (Bennet et al., 2012).

Neighbourhood Gardens in Vienna, Austria

Caritas Austria's neighbourhood gardens provide a space for care home residents to work with volunteers. The residents are the elderly, disabled and underage refugees separated from their parents. Gardening brings them together, providing a space for new social interactions and learning experiences.

Nature for mental health and therapeutic treatment

Access to nature and activities in nature improve self-reported well-being in disadvantaged groups and can contribute to improved mental health. More and more initiatives are using nature for green exercise and therapeutic purposes.

Green areas support mental well-being in the elderly (Rappe et al., 2008).

Mental Health Benefits of Nature

- Inequality in mental well-being is larger among people who report poor access to green areas, compared with those with good access (Mitchell et al., 2015).
- Short green exercise activities increased self-esteem and mood of participants in one study. People with pre-existing mental health conditions particularly benefit from an increase of self-esteem (Barton and Pretty, 2010).

Nature for Therapy – Alnarp Rehabilitation Garden, Sweden

Alnarp Rehabilitation Garden piloted an effective, nature-based treatment for individuals recovering from stress-related mental disorders, stroke and war neuroses. Participants with severe stress and/or mild to moderate depression significantly reduced their health care consumption. One year after rehabilitation, the costs for primary care dropped by 28% for the pilot, and days spent in hospital fell by 64% (Währborg et al., 2014).

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REFERENCES

Mitchell, R J et al. (2015) Neighborhood Environments and Socioeconomic Inequalities in Mental Well-Being. American Journal of Preventive Medicine, 49 (1), 80-84.

National Children's Bureau (2013) Greater Expectations: Raising aspirations for our children. National Children's Bureau, London.

Rappe, E et al. (2008) Group gardening in mental outpatient care. Therapeutic Communities, 29 (3) 273–284.

Ruokolainen, L et al. (2015) Green areas around homes reduce atopic sensitization in children. European Journal of Allergy and Clinical Immunology, 70, 195–202.

Scottish Government (2014) Greenhealth contribution of green and open space to public health and wellbeing Final Report. James Hutton Institute, Aberdeen.

Takano, T (2002) Urban residential environments and senior citizens' longevity in megacity areas: The importance of walkable green spaces. Journal of Epidemiology and Community Health, 56 (12), 913–918.

Taylor, M S et al. (2015) Urban street tree density and antidepressant prescription rates – A cross-sectional study in London, UK. Landscape and Urban Planning, 136, 174–179.

Toftager, M et al. (2011) Distance to green space and physical activity: a Danish national representative survey. J Phys Act Health, 8 (6), 741–749.

Triguero-Mas, M et al. (2015) Natural outdoor environments and mental and physical health: Relationships and mechanisms. Environmental International, 22, 35–41.

Tyrväinen, L et al. (2014) The influence of urban green environments on stress relief measures: A field experiment. Journal of Environmental Psychology, 38, 1–9.

Villeneuve, P J et al. (2012) A cohort study relating urban green space with mortality in Ontario, Canada. Environmental Research 115, 51–58.

Währborg P et al. (2014) Nature-Assisted Rehabilitation for Reactions to Severe Stress and/or Depression in a Rehabilitation Garden: Long-Term Follow-Up Including Comparisons with a Matched Population-Based Reference Cohort. J Rehabil Med 46, 271–276.

Ward Thompson, E et al. (2004) Open space and social inclusion: local woodland use in central Scotland. Forestry Commission, Edinburgh.

White, M P et al. (2013) Would you be happier living in a greener urban area? A fixed-effects analysis of panel data. Psychological Science, 24 (6) 920–928.

Benefits of nature for older people and longer life

Access to nature in daily life contributes to better health in old age. Reducing physical and socio-economic barriers and improving infrastructure and services are important to give elderly and physically disabled people access to nature.

There is a positive relationship between the presence of walkable green space and lower mortality rates among senior citizens (Takano et al., 2002).

Elderly people benefit from access to nature

- Green space access is linked to increased walking, and in deprived areas, to lower mortality (Lachowycz & Jones, 2014).
- Green space in urban environments is associated with long-term reduction in mortality, notably linked to air pollution (Villeneuve et al., 2012).

Nature for disadvantaged groups

The **Walkability Project in Pembrokeshire, UK,** supports groups with higher health risks by promoting walking in Pembrokeshire Coast National Park. The park authorities and local health board co-host the project. The cooperation of these two groups with the national park manager is considered a key success factor.

The **"Green routes without obstacles" project** by the Nature Conservation Agency of **Latvia** improved nature tourism opportunities for disabled people. This included creating new and adapting existing infrastructure, developing travel routes and giving advice on working with people with special needs.

Who can do what for nature, health and equality?

The evidence calls for increased efforts to provide accessible and well-maintained natural areas for particularly disadvantaged groups. This is not one stakeholder's responsibility, but an opportunity for all stakeholders.

Governments, international organisations and the European Union (EU) can contribute by recognising access to nature is a fundamental human right. In addition, they can protect nature, for example through the Natura 2000 network, fund investment and support related projects. Targeting EU budget to this area will improve EU added-value.

At national levels, it is important to accelerate the integration of nature and social concerns across policy areas, and commit to access to nature rights. Building codes should have minimum standards for nature proximity and health policies should take into account the preventative benefits of nature.

Cities and regions are important as most investment and action occurs here. They can invest in urban green spaces and improve access to biodiversity rich suburban and rural areas. Cities can follow Victoria-Gasteiz and Oslo's commitment to citizens having access to nature within 300 metres.

Health and care professionals should consider nature-based solutions for health and equality. Preventative and low-cost treatments can reduce public sector expenditure and citizens' costs.

Citizen initiatives, NGOs, government and protected areas managers should see the opportunities of turning networks of protected areas into accessible health hubs that offer benefits to all citizens.

This is an invitation for dialogue and cooperation to forge better outcomes for nature, equity, and well-being.

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Case studies: Schweitzer J-P, Mutafoglu K, ten Brink P et al. (2016) *The Health and Social Benefits of Nature and Biodiversity Protection: Annex 1: 20 Cases.* A report for the European Commission (ENV.B.3/ETU/2014/0039), IEEP, London / Brussels.

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