



## PRESS RELEASE

### **New partnership between the CBD Secretariat and HUMI to improve health through biodiverse urban green spaces**

- *The Healthy Urban Microbiome Initiative focuses on the role environmental microbiomes play in the causal pathway between biodiversity loss and the rise in immune-system related disease in humans*
- *These global challenges made more urgent by drivers of change: environmental degradation, climate change and population driven urbanisation*
- *This represents the first partnership on the health benefits of exposure to microbial diversity in the environment between the UN and academia.*

**27 November 2018** - The Secretariat for the Convention on Biological Diversity (CBD) and the Healthy Urban Microbiome Initiative (HUMI) are partnering to build a global movement for urban population health improvement through the creation and restoration of biodiverse urban green spaces.

Martin Breed, Beacon Fellow, School of Biological Sciences, University of Adelaide, said: “Restoring biodiverse urban green space means that urban populations will be exposed to greater microdiversity, which the weight of evidence suggests will also improve human health. Local community groups can work with local native species and build these biodiverse environments to benefit their health. These biodiverse places don’t need to be big parks either; road verges, rooftops and community spaces should all be in the mix.”

A key finding of the *State of Knowledge Review, Connecting Global Priorities: Biodiversity and Human Health*, jointly led by the CBD Secretariat and the World Health Organization (WHO) in collaboration with numerous experts, found that reduced contact with the natural environment and biodiversity leads to reduced diversity in the human microbiota.

As a result, reduced contact with nature, particularly in urban settings, can lead to immune dysfunction and therefore contribute to the rising global burden of non-communicable diseases affecting all countries worldwide. There are more microbial cells than human cells in the body and the immune system needs an input of microbial diversity from the natural environment in order to establish the mechanisms that regulate it.

Dr. Chris Skelly, Programme Director, HUMI and Head of Programmes at Public Health Dorset, UK, said: “The idea that increasing urban biodiversity will improve social justice might take a while for our Health Systems to take on board, but in the UK we are required by statute to reduce ‘health inequality’. Urban biodiversity, microbiomes, social justice – what could be more transformational?”

Dr. David Phillips, Chief Officer, Population Health, NHS Dorset, UK, said: “Health Systems around the globe are struggling to meet the demands of our non-communicable disease pandemic.” In the face of this large disease burden and health budget challenges, he suggests health care systems will have to work differently including through more ‘integrated care systems’ that move beyond exclusive thinking about individual ill health and health organisations in isolation.

According to Dr. Phillips one of the key benefits of urban restoration will be a healthier society. Correspondingly, stronger immunity could correlate to a reduction of noncommunicable diseases and related hospital admissions, saving national health systems precious resources and thereby reducing health inequality.

“Principles of systems thinking,” Dr. Phillips said, “are becoming increasingly well established in human health care and taken together with other cross sectional approaches can help address growing health inequalities in a truly cross disciplinary way. The HUMI work can support this focus on those with the worst outcomes in our community.”

Dr. Cristiana Paşca Palmer, CBD Executive Secretary, said the decision on ‘biodiversity and health’ adopted by Parties earlier this week at the UN Biodiversity Conference is of central relevance to the theme of the conference, “Investing in Biodiversity for People and Planet.” She said the decision “explicitly recognizes the importance of the human microbiome for human health, and the importance of biodiverse green spaces in urban environments, including their ability to provide physiological and psychological benefits.”

“This innovative partnership,” Dr. Paşca Palmer added, “not only contributes to catalysing innovative research, it also contributes to mainstreaming biodiversity across all scales. This includes microbial species, which are unseen by the naked eye and often overlooked, yet are the most abundant and diverse forms of life on Earth. As such, the potential for supporting healthy human microbiomes through biodiverse green spaces is enormous, and now we finally have tools to begin measuring these benefits.”

The HUMI 2020 Challenge, challenges the conservation, health and local government sectors to implement HUMI in at least 20 cities across 20 countries before the 2020 UN Biodiversity Conference, to be held in Beijing, and where the post 2020 global biodiversity framework will be agreed.

Dr. Paşca Palmer further noted that “the 2020 HUMI Challenge is a ‘no-regrets measure’ that harnesses nature-based solutions in urban areas as a means to delivering health co-benefits.”

Under its joint work programme with the WHO, the CBD Secretariat has worked with a range of partners to raise awareness on the health benefits of exposure to biodiverse green spaces in urban areas. Their work has extended to policy makers, academia and even the general public through communication materials, the development of open access courses and capacity-building workshops that bring together ministries responsible for biodiversity conservation and those responsible for human health.

In order to initiate a HUMI project under the 2020 Challenge launched with the CBD Secretariat, one must identify at least three key local partners with community, civic and health leadership willing to come together, with support from HUMI, to develop biodiverse urban green space and evaluate the impact of environmental microbiome exposures in improving the health of their city.

The CBD Secretariat is working with HUMI to address the interconnected global challenges of the declining exposure of urban populations to biodiversity and the relentless increase in the burden of chronic disease. This novel partnership will help stakeholders at the local level to maximize the opportunity for mainstreaming biodiversity and maximizing biodiversity and health co-benefits.

Human exposure to the environmental microbiomes found in biodiverse green spaces are now known to play a direct role in improving immune system function.

## **NOTES TO EDITORS**

### **About HUMI**

Since 2007, the majority of the world's population lives in cities. Developed nations are the most urban while developing nations are the most rapidly urbanising. Humans are losing contact with biodiversity and the natural world. At the same time, immune-related health disorders such as allergies, auto-immune and chronic inflammatory diseases are multiplying. Medical researchers now believe these important trends are linked.

The Healthy Urban Microbiome Initiative seeks to understand and recreate the immune-boosting power of high quality, biodiverse green spaces in cities to maximise population health benefits, bringing significant savings to health budgets, while delivering gains for biodiversity conservation and restoration. The initiative is science-led and community focused with a common goal to improve the health giving nature of urban green space. HUMI partners include scientists, local government and public health professionals working together to improve the health of all populations.

[www.humi.site/](http://www.humi.site/)

### **Convention on Biological Diversity (CBD)**

Opened for signature at the Earth Summit in Rio de Janeiro in 1992, and entering into force in December 1993, the Convention on Biological Diversity is an international treaty for the conservation of biodiversity, the sustainable use of the components of biodiversity and the equitable sharing of the benefits derived from the use of genetic resources. With 196 Parties, the Convention has near universal participation among countries. The Convention seeks to

address all threats to biodiversity and ecosystem services, including threats from climate change, through scientific assessments, the development of tools, incentives and processes, the transfer of technologies and good practices and the full and active involvement of relevant stakeholders including indigenous and local communities, youth, NGOs, women and the business community. The Cartagena Protocol on Biosafety and the Nagoya Protocol on Access and Benefit Sharing are supplementary agreements to the Convention. The Cartagena Protocol, which entered into force on 11 September 2003, seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. To date, 171 Parties have ratified the Cartagena Protocol. The Nagoya Protocol aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies. It entered into force on 12 October 2014 and to date has been ratified by 114 Parties.

For more information on the CBD-WHO Joint work programme visit: [www.cbd.int/health](http://www.cbd.int/health).

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