

The Implications of desertification, land degradation, drought, sand and dust storms on human health and more...

[UNCCD library research covering the period 1996 to 2020]

Major studies to start with:

2020

- [The loss of nature and rise of pandemics. Protecting human and planetary health \(WWF\)](#)

At the time of writing, the world is in the grips of a global pandemic the like of which has never been seen before. The COVID-19 that has swept through countries and continents has caused untold human suffering, social upheaval and economic damage. But while the spread of the current crisis is unprecedented, the new coronavirus follows a number of diseases that have emerged in recent decades, such as Ebola, AIDS, SARS, avian influenza and swine flu. All originated in animals – and there is increasing evidence that humanity’s overexploitation of nature is one of the factors behind the spread of new diseases.

Human activities have significantly altered three-quarters of the land and two-thirds of the ocean, changing the planet to such an extent as to determine the birth of a new era: the “Anthropocene”. Changes in land use that bring wildlife, livestock and humans into closer contact with each other facilitate the spread of diseases, including new strains of bacteria and viruses. Meanwhile, illegal and uncontrolled trade of live wild animals creates dangerous opportunities for contact between humans and the diseases these creatures carry.

2019

- [Land under pressure – health under stress \(GLO working paper\)](#)
- [SDG 15: Health and terrestrial ecosystem. WHO Policy brief 2019](#)

The 17 Sustainable Development Goals (SDGs) all interconnect. SDG 15 is ambitious: it involves protecting, restoring and promoting all land-based ecosystems, and biodiversity. Sustainable ecosystems are essential for human health, whether through safe water supplies, sustainable food systems, crops, pollinators, soil and medicines, or climate change mitigation. SDG 3 is to ensure healthy lives and promote well-being for all at all ages, but it can only be achieved if SDG15 is achieved too.

- [Global Environment Outlook \(2019\) Healthy Planet- Healthy people](#)

2017

- **Healthy people, healthy planet. The role of health systems in promoting healthier lifestyles and a greener future(OECD)**

As the G7 economies continue their recovery from the Great Recession, the stress on their environmental resources is likely to grow, unless appropriate policy measures are taken. Air pollution, an important source of environmental stress, affects health outcomes directly, for example as a risk factor for respiratory and cardiovascular conditions, or indirectly, such as through the impacts on climate change and higher probability of extreme weather events. Many sources contribute to environmental pollution, including the overconsumption of food, unhealthy diets and food waste, unsustainable city growth, as well as overreliance on private motorised vehicles as a means of transportation. Each of these factors can also have a direct negative effect on various dimensions of health.

*This document, produced to inform the 2017 meeting of the G7 Ministers of Health, provides a broad overview of the main policy issues and some of the policy actions that G7 Health authorities can put in place to improve population health, while at the same time decreasing the human footprint on the environment. (<http://www.oecd.org/els/health-systems/healthy-people-healthy-planet.htm>) **all details please find below in the respective section covering 2013-2017 period, pages 9-12***

- **[The Lancet Countdown: tracking progress on health and climate change](#)**

The Lancet Countdown: tracking progress on health and climate change is an international, multidisciplinary research collaboration between academic institutions and practitioners across the world. It follows on from the work of the 2015 Lancet Commission, which concluded that the response to climate...

About Lancet collection: All articles saved in Library Intranet (search with Lancet will bring you all results)

2016

- **[Environmental indicator report 2016-More action is needed to protect the natural environment and people's health](#)**

Looking beyond 2020, much greater change will be required to achieve the EU's 2050 vision of 'living well within the limits of our planet', the report says. This will require more ambitious environmental policies and a more fundamental transformation of the key systems that support our society, like food,

energy, housing and mobility. The report stresses the need for more integrated policies and knowledge to achieve this long-term vision

- **Climate change poses increasingly severe risks for ecosystems, human health and the economy in Europe**

The observed changes in climate are already having wide-ranging impacts on ecosystems, the economy and on human health and well-being in Europe, according to the report '[Climate change, impacts and vulnerability in Europe 2016](#)'. The main health effects of climate change are linked to extreme weather events, changes in the distribution of climate-sensitive diseases, and changes in environmental and social conditions. River and coastal flooding has affected millions of people in Europe in the last decade. The health effects include injuries, infections, exposure to chemical hazards and mental health consequences. Heatwaves have become more frequent and intense, leading to tens of thousands of premature deaths in Europe. This trend is projected to increase and to intensify, unless appropriate adaptation measures are taken. The spread of tick species, the Asian tiger mosquito and other disease carriers increases the risk of Lyme disease, tick-borne encephalitis, West Nile fever, dengue, chikungunya and leishmaniasis.

- **[Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks](#)**

The main message emerging from this new comprehensive global assessment is that premature death and disease *can* be prevented through healthier environments – and to a significant degree. Analysing the latest data on the environment-disease nexus and the devastating impact of environmental hazards and risks on global health, backed up by expert opinion, this report covers more than 100 diseases and injuries. For ease of reference see **the report in our library**, check out the title link above.

2013

- **Short- and Long-term Effects of Drought on Human Health**

Drought and desertification contribute not only to water and food shortages and often famine, ... *health* effects are not only short-term or life-long problems

www.preventionweb.net/english/hyogo/gar/.../ole-MoiYoi,%202012.pdf

2012

- **[Our Planet, Our Health, Our Future – Human health and the Rio Conventions: biological diversity, climate change and desertification](#)**

Exploring the linkages between health and biodiversity, climate change and desertification

The World Health Organization (WHO) has published a discussion paper on the linkages between health and biodiversity, climate change and desertification, the representation of health in the three Rio Conventions, and the opportunities for more integrated and effective policy.

Read more and download the publication: [Our Planet, Our Health, Our Future – Human health and the Rio Conventions: biological diversity, climate change and desertification](#). Major study (discussion paper 64 pp.)

http://www.who.int/globalchange/publications/reports/health_rioconventions.pdf (p34-42) drought, dust, sand storms etc. Click on this link: [For your ease of reference the report is included in our catalogue as well](#)

2009

- [World Ecology report \(Special focus : Desertification: Its effects on people and land.](#)

Dryland populations are often marginalized and unable to play a role in the decision making processes that affect their well-being, making them even more vulnerable. In drylands, people depend on ecosystem services for their basic needs, which in turn are dependent on water availability and climate conditions. The extent of the health impact depends on a complex mix of factors involving a population's vulnerability and on pre-existing conditions, including age, gender, disability, genetics, immune status and access to health services. In arid, semi-arid and dry sub-humid areas, desertification and drought are directly linked to food and water shortages, conflicts, mass migration, increased risk of fires and limited access to health care. (**in our library as well**)

2018-2020

- [Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health](#)

By unsustainably exploiting nature's resources, human civilisation has flourished but now risks substantial health effects from the degradation of nature's life support systems in the future. Health effects from changes to the environment including climatic change, ocean acidification, land degradation, water scarcity, overexploitation of fisheries, and biodiversity loss pose serious challenges to the global health gains of the past several decades and are likely to become increasingly dominant during the second half of this century and beyond.

The content below is available in the Knowledge Hub library section

- [Just published: Special report n°33/2018: Combating desertification in the EU: a growing threat in need of more action](#)

- [Cognition impact of sand and dust storms highlights future research needs?](#)
- [Future of Food and Beverage . The new Raconteur report](#)
- [Global land use implications of dietary trends](#)
- [Managing Soil Health for Sustainable Agriculture \(Vol.I and Vol. II\)](#)
- [A Comparative Analysis of Climate-Risk and Extreme Event-Related Impacts on Well-Being and Health: Policy Implications](#)
- [New Article: A strategy for defining the reference for land health and degradation assessments](#)
- [The Lancet Planetary Health is a new online journal which cover the interplay between health and the determinants of health in our living and physical world.](#)
- [The 2018 report of the Lancet Countdown on health and climate change: shaping the health of nations for centuries to come](#)
- [Focus on climate change and mental health](#)
- [The health impacts of climate-related migration](#)
- [What are the health costs of environmental pollution?](#)
- [Negative impacts of noise on human health.](#)
- [Urban forests add to cities' health and wealth](#)
- [Dry forests special: Wild food - a recipe for health?](#) (Dry forests also provided an important source of bushmeat, ranging from small rodents to large mammals like hippos and elephants. A [2012 study](#) found that people living in rural areas of the Yucatan Peninsula, Mexico ate nearly 5 kilograms of wild bushmeat per person every year. Households in the Argentine Chaco ate wild meat nearly eight days a month – a higher proportion than for chicken and pork, according to [2006 research.](#))
- [Forests Europe new publication: Human health and sustainable forest management](#)
- [Biodiversity and Health in the Face of Climate Change](#)
- [New report highlights the business case for investing in soil health](#)
- [34 Indigenous Crops Promoting Health and Feeding the World](#)
- [New Article: A strategy for defining the reference for land health and degradation assessments](#)
- [Well-fed world can slow warming too](#)
- [First Special Issue of Current Opinion in Environmental Science & Health \(COESH\) now online](#)
- [Exploring the Climate Change, Migration and Conflict Nexus \(International Journal of Environmental Research and Public Health\)](#)
- [The cost of a polluted environment: 1.7 million child deaths a year, says WHO](#)
- [Climate change already bringing disease, air pollution and heatwaves](#)
- [The GEO 6 regional assessment recognizes Africa's rich natural capital](#)
- [TEEB for Agriculture & Food: Scientific and Economic Foundations report](#)
- [Analysis of Sand and Dust Storms \(SDS\) between the years 2003 and 2016 in the Middle East](#)
- [Dust Disregards Political Boundaries, Let's Act Together](#)

- [New Report Sets Targets for Healthy and Sustainable Food Systems](#)
- [IUCN welcomes first-ever UN report acknowledging healthy ecosystems as a human right](#)
- [Article: Twentieth-century hydroclimate changes consistent with human influence](#)
- [Working on a warmer planet: The impact of heat stress on labour productivity and decent work](#)
- [Forests Europe new publication: Human health and sustainable forest management](#)

Focus on: Environment and climate change. *Climate change and environmental degradation undermine the rights of every child.*

Resources from UNICEF

- [Are climate change policies child-sensitive? A guide for action: Summary](#)
- [Silent suffocation in Africa: Air pollution is a growing menace, affecting the poorest children the most](#)
- [A gathering storm: Climate change clouds the future of children in Bangladesh](#)
- [Danger in the air: How air pollution may be affecting the brain development of young children around the world](#)
- [Thirsting for a future: Water and children in a changing climate](#)
- [Clear the air for children: The impact of air pollution on children](#)
- [Unless we act now: The impact of climate change on children](#)
- [It is getting hot: Call for education systems to respond to the climate crisis \(perspectives from East Asia and the Pacific\)](#)

<https://www.unicef.org/environment-and-climate-change>

Are children the worst affected?

Droughts and changing global rainfall patterns are leading to crop failures and rising food prices that are destroying livelihoods, driving migration and conflict, and undermining opportunities for children and young people.

Already today, some 785 million people lack access to basic water services. And by 2040, almost 600 million children are projected to live in areas where the demand for water will exceed the amount available.

Without action now, climate change will exacerbate the inequalities that children already face, and future generations will suffer.

Droughts and changing global rainfall patterns are leading to crop failures and rising food prices, which for the poor mean food insecurity and nutritional deprivations that can have

lifelong impacts. These also have the potential to destroy livelihoods, drive migration and conflict, and cripple opportunities for children and young people.

Children are the most vulnerable to diseases that will become more widespread as a result of climate change, such as malaria and dengue fever. Close to 90 per cent of the burden of disease attributable to climate change is borne by children under the age of 5.

Climate change is a direct threat to a child's ability to survive, grow, and thrive.

As extreme weather events such as cyclones and heatwaves increase in frequency and ferocity, they threaten children's lives and destroy infrastructure critical to their well-being. Floods compromise water and sanitation facilities, leading to diseases such as cholera, to which children are particularly vulnerable.

Children are the least responsible for climate change, yet they will bear the greatest burden of its impact.

Resources from WHO

The drivers of air pollution are the same as those of climate change. Approximately two billion children live in areas where air pollution levels exceed standards set by the World Health Organization (WHO) – causing them to breathe toxic air and putting their health and brain development at risk. Every year, over half a million children under the age of 5 die from air-pollution-related causes. Even more will suffer lasting damage to their developing brains and lungs.

- [Pneumonia](#) remains the leading infectious cause of death among children under 5, killing approximately 2,400 children a day. Child deaths caused by pneumonia are strongly linked to undernutrition, lack of safe water and sanitation, indoor air pollution and inadequate access to health care – all challenges that are exacerbated by climate change.

https://www.who.int/health-topics/air-pollution#tab=tab_1

Air pollution kills an estimated seven million people worldwide every year. WHO data shows that 9 out of 10 people breathe air containing high levels of [pollutants](#). WHO is working with countries to monitor air pollution and improve air quality.

From smog hanging over cities to smoke inside the home, air pollution poses a major [threat to health](#) and climate. The combined effects of ambient (outdoor) and household air pollution cause about seven million premature deaths every year, largely as a result of increased mortality from stroke, heart disease, chronic obstructive pulmonary disease, lung cancer and acute respiratory infections.

More than 80% of people living in urban areas that monitor air pollution are exposed to air quality levels that exceed WHO guideline limits, with low- and middle-income countries suffering from the highest exposures, both indoors and outdoors.

Air pollution infographics

<https://www.who.int/airpollution/infographics/en/>

- **Public health, environmental and social determinants of health (PHE)**

<https://www.who.int/phe/infographics/environmental-impacts-on-health/en/>

An estimated 12.6 million deaths each year are attributable to unhealthy environments - nearly one in four of total global deaths. Environmental risk factors, such as air, water and soil pollution, chemical exposures, climate change and ultraviolet radiation, contribute to more than 100 diseases and injuries. https://www.who.int/phe/health_topics/en/

- **10 facts on preventing disease through healthy environments**

<https://www.who.int/features/factfiles/environmental-disease-burden/en/>

- **[Environmental Health](#) . Promote health for all through a healthy environment. (U.S. Department of Health and Human Services)**

Humans interact with the environment constantly. These interactions affect quality of life, years of healthy life lived, and health disparities. The World Health Organization (WHO) defines environment, as it relates to health, as “all the physical, chemical, and biological factors external to a person, and all the related behaviors.”¹ Environmental health consists of preventing or controlling disease, injury, and disability related to the interactions between people and their environment.

The Healthy People 2020 Environmental Health objectives focus on 6 themes, each of which highlights an element of environmental health:

1. Outdoor air quality
2. Surface and ground water quality
3. Toxic substances and hazardous wastes
4. Homes and communities
5. Infrastructure and surveillance
6. Global environmental health

Creating healthy environments can be complex and relies on continuing research to better understand the effects of exposure to environmental hazards on people’s health.

- **[Droughts: Health Information Guide](#)/U.S. National Library of Medicine**
<https://disasterinfo.nlm.nih.gov/droughts>

- [Twentieth-century hydroclimate changes consistent with human influence](#) (Article, read only full text online)

2013-2017

From the headlines:

- [G7 Health Ministers Recognize Impacts of Environmental Degradation on Human Health](#)

The Group of 7 (G7) Health Ministers recognized an urgent need to build political momentum on addressing the impacts of environmental degradation on health. The ministers adopted a Communiqué that outlines key global health challenges, discusses the impacts of environmental factors on health, highlights gender perspectives on health policies and rights for women, children and adolescents, and addresses antimicrobial resistance.

<http://www.oecd.org/els/health-systems/healthy-people-healthy-planet.htm>

- **DOWNLOAD [HEALTHY PEOPLE, HEALTHY PLANET](#)**
- **Download the [presentation](#) from Mark Pearson, Deputy Director of Employment, Labour and Social Affairs at the OECD**
- **Read the G7 Milan Health Ministers' Communiqué, 5-6 November, 2017: "[United towards Global Health: common strategies for common challenges](#)"**
- From the **Communiqué** : *We recognize the urgent need to build political momentum on the importance of addressing the impacts of environmental degradation and other factors on health and coordinated action for strengthening health systems, in line with aid effectiveness principles.*

POLICY RECOMMENDATIONS

- Support the development and implementation of nutritional guidelines promoting healthier food consumption – as this can lead to less stress on the environmental resources used in food production – as well as reduce the environmental footprint in hospitals and in nursing homes by encouraging healthier food consumption, waste reduction and cleaner energy generation;
- Create partnerships with various national and local stakeholders, including local city authorities and ministries of industry, environment, transport, and agriculture, in order to incorporate health and environmental considerations into urban planning schemes;

- Implement public health actions encouraging more physical activity and greater reliance on active modes of transportation, such as through physical activity-promoting mass media campaigns, bike sharing schemes and creating low-emission zones.

February 2017

- [Droughts and flooding rains already more likely as climate change plays havoc with Pacific weather](#)

Global warming has already increased the risk of major disruptions to Pacific rainfall, according to our [research published today in Nature Communications](#). The risk will continue to rise over coming decades, even if global warming during the 21st century is restricted to 2°C as agreed by the international community under the [Paris Agreement](#).

<http://reliefweb.int/report/papua-new-guinea/droughts-and-flooding-rains-already-more-likely-climate-change-plays-havoc>

- [Statement by the IGAD Executive Secretary on the current drought in the Greater Horn of Africa](#)

The climate predictions and early warnings produced by IGAD through advanced scientific modeling and prediction tools, which were provided to Member States and the general public, have elicited early actions (preparedness and mitigation measures). Highly comparable to the 2010 GHA drought, the current depressed rainfall and resultant poor vegetation conditions since March 2016 eroded the coping and adaptive capacities of the affected people. It also depleted water points, reduced crops, forages and livestock production, increased food insecurity, and adversely affected the livelihoods of vulnerable communities in the region.

<http://reliefweb.int/report/somalia/statement-igad-executive-secretary-current-drought-greater-horn-africa>

January 2017

- [Latest update from the KHub .-> http://knowledge.unccd.int/publications/barcelona-dust-forecast-center](#)

High vigilance for dust-related meningitis over N. Senegal, S. Niger and W. Chad, See the latest news and maps on dust [here](#). **Barcelona dust forecast center** https://twitter.com/Dust_Barcelona

See also the updates from Barcelona dust forecast center related to health issues [HERE](#)

- [Global Warming and Its Health Impact \(study Jan 2017\)](#)
<http://theijoem.com/ijoem/index.php/ijoem/article/view/963>
<http://theijoem.com/ijoem/index.php/ijoem/issue/view/36>

- Sandstorm causes health problems

<https://www.unisdr.org/archive/45756>

- MEDLINE database (**full access is paid! See some references to articles below**)
<https://health.ebsco.com/products/medline>

- Dust storms are an indication of an unhealthy environment in East Asia.

<https://www.ncbi.nlm.nih.gov/pubmed/16572293>

- The Mental Health Outcomes of Drought: A Systematic Review and Causal Process Diagram

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4627029/>

- Environmental challenges in Aral Sea Basin: Impact on Human Health

https://www.researchgate.net/profile/Akanksha_Gupta25/publication/305953081_Environmental_Challenges_in_Aral_sea_basin_impact_on_Human_health/links/57a730c808ae3f452937a066.pdf

2016

- [WHO report : Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease](#)

2015/2014/2013

- [Is the changing climate changing African ecosystems?\(Thiaw, Ibrahim\)](#)

On food security, the Africa Adaptation Gap Report reiterates a bleak future. Its data on the effect of climate change on crop yields for key staples in Africa point to mean yield changes by the 2050s of -17% for wheat, -5% for maize, -15% for sorghum, and -10% for millet.

- [Health Effects of Drought: a Systematic Review of the Evidence\(full text pdf\)](#)

doi: [10.1371/currents.dis.7a2cee9e980f91ad7697b570bcc4b004](https://doi.org/10.1371/currents.dis.7a2cee9e980f91ad7697b570bcc4b004)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3682759/>

The probability of drought-related health impacts varies widely and largely depends upon drought severity, baseline population vulnerability, existing health and sanitation infrastructure, and available resources with which to mitigate impacts as they occur. The socio-economic environment in which drought occurs influences the resilience of the affected population. Forecasting can be used to provide advance warning of the increased risk of adverse climate conditions and can support the disaster risk reduction process.

- **Drought in India 2015-16: When Coping Crumples - A Rapid Assessment of the Impact of Drought on Children and Women in India**

<http://reliefweb.int/report/india/drought-india-2015-16-when-coping-crumple-rapid-assessment-impact-drought-children-and>

http://reliefweb.int/sites/reliefweb.int/files/resources/pub_doc117.pdf

- **Desertification and its effects on health: The role of an international interface for science, policy and civil society (2014)** Article from Mariam Akhtar-Schuster
- **The Role of ecosystem services in climate change adaptation and disaster risk reduction (article 2013)**

Managing ecosystems to conserve and improve their health is crucial for sustaining the various ecosystem services important to human well-being. Healthy ecosystems also act as buffers, increasing the resilience of natural and human systems to climate change impacts and disasters.

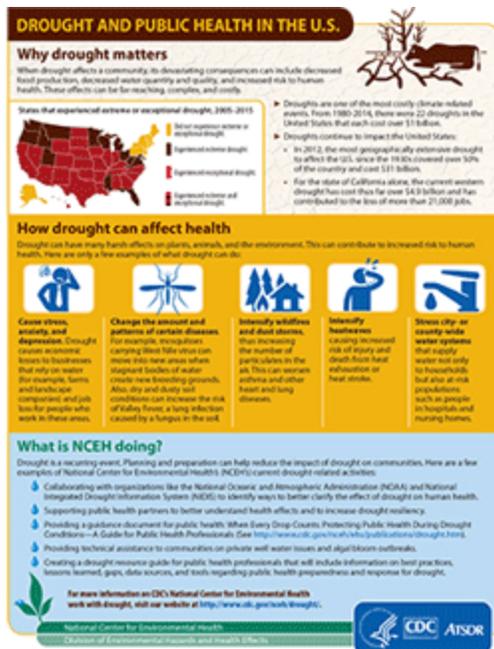
- **Drought and Your Health**

<https://www.cdc.gov/features/drought/>

Cycles of drought have affected North America for the last 10,000 years. Droughts can last from a single season to many decades and can affect from a few hundred to millions of square miles.

Drought can affect areas or communities differently depending on several additional variables. These variables include:

- the structure and capacity of existing water systems,
- local governance of water use,
- economic development,
- the at-risk populations living within the affected area, and
- other societal factors, such as the presence of local social networks.



For more information on drought, [see our infographic \[1.69 MB\]](#), which offers an overview on these three main questions: Why drought matters? How drought can affect health? What is NCEH doing?

Severe drought conditions can negatively affect air quality. During drought, there is an increased risk for wildfires and dust storms. Particulate matter suspended in the air from these events can irritate the bronchial passages and lungs. This can make chronic respiratory illnesses worse and increase the risk for respiratory infections like bronchitis and pneumonia.

<https://www.cdc.gov/features/drought/>

1996- 2012

From the headlines

- [EPA official blames dust storms on "faulty human activities"](#)

KUWAIT, March 20 (KUNA) -- Director of the Coastal Desertification Department of Kuwait's Environment Public Authority (EPA) Farah Ibrahim said the faulty human activities risk degenerate the wildlife and result in dust storms.

Speaking to KUNA on Tuesday in the wake of the dust storm that hit the country early this week

<http://www.kuna.net.kw/ArticleDetails.aspx?id=2228513&language=en>

- [Double trouble in the sands](#)

Rare clash of two weather fronts and desertification in Iraq bring choking dust to the UAE

The widespread storm, which has laid a veil of fine dust across most of the GCC, will gradually clear off by tomorrow and temperatures will start to climb again, weather forecasters said yesterday.

The powerful storm, described by several meteorologists as the 'Super Sandstorm', has affected the entire Arabian Gulf and parts of Southeast Asia. Conditions took an awful turn when two storms from different directions clashed, with the impact felt across the Arabian Peninsula.

<http://earthobservatory.nasa.gov/NaturalHazards/>

<http://gulfnews.com/news/gulf/uae/weather/double-trouble-in-the-sands-1.997569>

- **Mongolia- Dust in the wind**

<http://ubpost.mongolnews.mn/index.php/community/88888940-community-top/6871-dust-in-the-wind>

1. Climate change will also worsen respiratory diseases (2012)

22 March 2012-Washington: Global climate change magnifies the effects of pollution and will worsen the incidence of asthma, allergies, infections and cardiovascular diseases worldwide, says a study.

"Since my research focuses on environmental air pollution and its impact on the respiratory system, my biggest concern has been with issues of air quality," said Kent Pinkerton, professor of paediatrics at the University of California, who co-authored the study.

"These include more smoke and particulate matter from more wildfires, which are known to increase in frequency as the climate warms, and the presence of airborne particles from dust storms caused by desertification," added Pinkerton.

The study outlines a complex web of interrelated respiratory health effects from global climate change, the journal Proceedings of the American Thoracic Society reports.

1. <http://resiliencesystem.org/official-american-thoracic-society-workshop-report-climate-change-and-humanhealth>
2. http://www.khaleejtimes.com/Displayarticle09.asp?section=health&xfile=data/health/2012/March/health_March47.xml
3. <http://www.rtcc.org/living/experts-climate-change-to-increase-lung-diseases/>
4. <http://postnoon.com/2012/03/19/climate-change-will-also-worsen-respiratory-diseases/38449>
5. http://www.eurekalert.org/pub_releases/2012-03/uoc--lde030912.php
6. <http://www.ucdmc.ucdavis.edu/publish/news/medschool/6320>

"Since my research focuses on environmental air pollution and its impact on the respiratory system, my biggest concern has been with issues of air quality," said Pinkerton, who is co-author of the paper and the organizer of the workshop upon which the paper is based. "These include more smoke and

particulate matter from more wildfires, which are known to increase in frequency as the climate warms, and the presence of [airborne particles from dust storms caused by desertification](#)

The position paper was written by a 10-member committee that included representatives from Europe, Asia, India, the Middle East and Africa."In these proceedings, we address such questions as how climate change may impact the distribution of respiratory disease worldwide, the impact of heat stress and adaptation, and how extreme heat affects the individual and the community," said [Kent Pinkerton](#), professor of pediatrics at the [UC Davis School of Medicine](#) and director of the [UC Davis Center for Health and the Environment](#).

Among the recommendations:

Desertification: Understand how climate forced desertification and the long term transport of mineral dusts will impact respiratory health

2. [Ecosystem Management: Tomorrow's approach to enhancing food security under a changing climate Article \(2011\)](#)

The greatest challenge for governments and global leaders is to adjust national and international economies in line with climate change mitigation and adaptation efforts whilst maintaining ecosystem health and financial stability. Use of the life support services of ecosystems will help economies, financial institutions and societal behavior to make those adjustments in progressing towards a food secure, green low carbon economy, but only if ecosystem health is maintained.

Feeding the world at a time of climate change, environmental degradation, increasing human population and demand for finite resources requires sustainable ecosystem management and equitable governance. Ecosystem degradation undermines food production and the availability of clean water, hence threatening human health, livelihoods and ultimately societal stability. Degradation also increases the vulnerability of populations to the consequences of natural disasters and climate change impacts. With 10 million people dying from hunger each year, the linkages between ecosystems and food security are important to recognize. Though we all depend on ecosystems for our food and water, about seventy per cent of the estimated 1.1 billion people in poverty around the world live in rural areas and depend directly on the productivity of ecosystems for their livelihoods. Healthy ecosystems provide a diverse range of food sources and support entire agricultural systems, but their value to food security and sustainable livelihoods are often undervalued or ignored.

3. [Desertification Poses Problems for Child Health \(2010\)](#)

27/2/2010 - Desertification and drought are major challenges for Africa and its children, and the international community is responding with urgency

2010 marks the start of the United Nations Decade for Deserts and the Fight against Desertification. This international decade of observance is designed to focus international attention on the importance of drought and desertification, climate change, and poverty.

The United Nations formally recognized the importance of the issue with the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. The convention is “mindful that desertification and drought affect sustainable development through their interrelationships with important social problems such as poverty, poor health and nutrition, lack of food security, and those arising from migration, displacement of persons and demographic dynamics.”

Africa in particular is extremely vulnerable to drought. Indeed, the World Food Programme has identified the response to drought as one of the key gaps in international disaster prevention and mitigation strategies. Some countries, such as the United States, have used their respective foreign aid agencies to create early warning famine systems, which use geography-related technology to survey agricultural land and predict and prevent famines, based on climate and environmental conditions. The United Nations Environment Programme works to reverse this trend by planting trees as a means of reforestation. Reforestation can reduce the leaching of soil nutrients and increase the fertility of the land, leading to increased food production.

Desertification represents a substantial challenge to poverty reduction, because it usually translated into a decrease in arable land (land that can be farmed), a decrease in the country’s agricultural production, and decreased food availability. This, in turn, will foster malnutrition and chronic hunger. In [Angola](#), for instance, drought is substantial problem and one that requires urgent attention, as agriculture accounts for 8% of gross domestic product—providing incomes to much of its rural populace. In Angola, 35% of the population is estimated to be food insecure and 31% of children are underweight. The country’s global hunger index has been described as “alarming.” Such realities are reflected in the country’s high indicators for child and infant mortality.

Training rural families with the knowledge to practice sustainable farming is key to improving their incomes and the [lives of children](#), for with increased incomes, families will be better empowered to send their children to school.

Globally, every 3.6 seconds, a child dies of hunger. Reversing this trend and halving this statistic comprise part of the first of the [Millennium Development Goals to Eradicate Extreme Poverty and Hunger](#).

<http://www.soschildrensvillages.ca/News/News/child-charity-news/Pages/Desertification-Child-Health-603.aspx>

4. Assessing potential desertification environmental impact in life cycle assessment (2010)

38 percent of world's surface in danger of desertification

"Despite improvements in the [life cycle assessment](#)(LCA), it has a methodological weakness, which is a lack of environmental impact categories to measure the effect of human activities such as cultivation or grazing on the soil", Montserrat Núñez, lead author and a researcher at the Institute of Agro Food Research and Technology (IRTA), tells SINC.

The research, published in the latest issue of the *International Journal of Life Cycle Assessment*, is the first study in the world to include the impact of desertification in the LCA, based on classifying 15 natural areas or "eco-regions" according to their degree of aridity. By simultaneously using the LCA and a Geographic Information System (GIS), the researchers have shown that eight of these 15 areas can be classified as at risk of desertification, representing 38% of the land surface of the world.

Part 1: Methodological aspects/Montserrat Núñez & Bárbara Civit & Pere Muñoz &

Alejandro Pablo Arena & Joan Rieradevall &Assumpció Antón

<http://springerlink.com/content/u7mj4x087324t7p6/fulltext.pdf>

in LAND USE IMPACTS/ Int J Life Cycle Assess (2010) 15:67–78

5. Managing the health effects of climate change(2009)

Costello, A., Abbas, M., Allen, A., *et al.*(2009). Managing the health effects of climate change. *Lancet*. 373: 1693–733. Lancet and University College London Institute for Global Health Commission. (<http://www.ucl.ac.uk/global-health/>)

The report (a copy in our Library)can be accessed at:

www.ucl.ac.uk/global-health/ucl-lancet-climate-change.pdf

<http://www.ucl.ac.uk/global-health/outcomes/reports/publications-docs/publications>

6. Argentina NAP(2009)

The only possible way to grow up is in a healthy body. And this statement is not only valid for an individual, but also for the whole world. Therefore, three of the eight Millennium Development Goals (MDG) are related to health. They are as follows: 1) Reduce child mortality, 2) Improve maternal health, 3) Combat HIV/AIDS, malaria and other diseases. In this sense, the main purpose of this edition of the Digital Newsletter is also related to health: to the health and degradation of land. Within the framework of the Conferences on Desertification, Zoonosis and Animal and Human Behaviour called "Desertification as an emerging and re-emerging factor in Zoonosis", held in the Universidad Nacional de Morón and organized by the Agreste Foundation in the frame of the NAP, Dr. Ricardo Ferrari posed the possibility of considering desertification from a transdisciplinary point of view, without delimiting it to a

specific cause and a consequence, and without approaching it from only one science. He explained that, although the world went through climate change processes in the past, the difference with the present is the time in which they are occurring: evolution was an answer to these changes, but the speed of current change makes difficult to get an answer. The changes produced in the behaviour of the different species and their consequences are closely observed: these changes in desertified areas have an impact on the regions which desertification has not reached yet, as they disorganize and change them. That is why it is necessary to consider the environmental system as globally as possible, taking into account that a simple change occurring in some place in the country can impact on the "global village". This shows that to limit approach to only one science makes that all causes of desertification fail to be considered.

<http://www.ambiente.gov.ar/archivos/web/DCSyLD/file/Peridico%20Digital/Digital%20Newsletter%20n%C2%BA%2014%20English%20Version.pdf>

7. What is desertification, and how does it impact health? (2008)

The potential impacts of desertification on health include:

- higher threats of malnutrition from reduced food and water supplies;
- more water- and food-borne diseases that result from poor hygiene and a lack of clean water;
- respiratory diseases caused by atmospheric dust from wind erosion and other air pollutants;
- the spread of infectious diseases as populations migrate

<http://who.int/features/qa/69/en/index.html>

8. Global Environment Outlook: environment for development (2007)

(GEO-4) assessment is a comprehensive and authoritative UN report on environment, development and human well-being, providing incisive analysis and information for decision making.

GEO4: Chapter 3 Land (2007)

Chapter 3 addresses the land issues identified by UNEP regional groups, and highlights the pressures of human demands on the land resource as the cause of land degradation. **Malnutrition and hunger, water-borne diseases, respiratory problems etc**

http://www.unep.org/geo/geo4/report/03_Land.pdf

http://www.unep.org/geo/GEO4/report/GEO-4_Report_Full_en.pdf

9. Desertification puts the health and well-being of more than 1.2 billion people in more than 100 countries at risk, according to the United Nations.

The theme of this year's World Day to Combat Desertification, held every year on 17 June, is 'Desertification and Climate Change – One Global Challenge' (15 June 2007)

10. Severity of desertification on world stage (2007)

http://www.esa.int/esaEO/SEM5KQXXV2F_index_0.html

11. WHO report : Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease (2006)

http://www.who.int/quantifying_ehimpacts/publications/preventingdisease/en/

http://www.who.int/quantifying_ehimpacts/publications/preventingdisease.pdf(the full text report). **The new report is from 2016 and you may wish to have a look at in our library, check out the link [HERE](#)**

12. What does land degradation mean for health?

These social and environmental processes are stressing the world's arable lands and pastures essential for the provision of food and water and quality air. Land degradation and desertification can affect human health through complex pathways. As land is degraded and in some places deserts expand, food production is reduced, water sources dry up and populations are pressured to move to more hospitable areas <http://www.who.int/globalchange/ecosystems/desert/en/>

13. Desertification Called Global Health Threat (2006)

Growing populations and unsustainable land use practices are causing the world's deserts to expand, swallowing previously productive lands and placing millions of lives in jeopardy.

According to the United Nations' Millennium Ecosystem Assessment, desertification threatens dry land areas that make up 34% of the earth's total land area and are home to about 2 billion individuals. It is occurring around the globe, including the United States, China, and many countries in western Africa. In these areas, pressure from population growth, climate change, and poor agricultural practices can cause these fragile ecosystems to become degraded. This degradation can cause mass migration, famine, massive dust storms, and political instability, all of which may contribute to significant health problems in affected regions.

<https://jamanetwork.com/journals/jama> (Let me know if you would like to have the fulltext article as it is not open access!)

14. Millennium Ecosystem Assessment -Ecosystems and Human Well-Being: Desertification Synthesis (2005)

An increase in desertification-related dust storms is widely considered to be a cause of ill health (fever, coughing, and sore eyes) during the dry season. Dust emanating from the East Asian region and the Sahara has also been implicated in respiratory problems as far away as North America and has affected coral reefs in the Caribbean.

<http://www.millenniumassessment.org/documents/document.355.aspx.pdf>

15. Increasing dust storms in Asia affecting health of Canadians, study says

Thursday, June 16, 2005 [Increasing dust storms in Asia affecting health of Canadians, study says](#)

TORONTO (CP) - A growing number of sandstorms as far away as China that researchers blame on climate change are contributing to an increase in health problems for Canadians, such as coughing, fevers and sore eyes, a new international report warns. A growing number of sandstorms as far away as China that researchers blame on climate change are contributing to an increase in health problems for Canadians, such as coughing, fevers and sore eyes, a new international report warns.

The study, co-authored by a Hamilton researcher and to be released Thursday, says global warming and population growth are drying out parts of the planet.

It ranks desertification - the transformation of fertile land into a desert, often by human activity or climate change - as one of Earth's chief environmental challenges for the future.

While the precise extent of desertification around the world is still unknown, three studies in the last 15 years have found 10 to 20 per cent of the planet's drylands have been affected, said Adeel, and even more could be at risk in the future, he warned.

The report recommends improving irrigation methods around the world to prevent overgrazing and water loss, alternative sources of energy such as solar power and encouraging alternative industries like ecotourism to lessen the impact of desertification.

Adeel's findings were the culmination of a three-year global study, entitled Ecosystem and Human Well-Being, being released Thursday to coincide with the United Nations World Day to Combat Desertification and Drought. <http://www.medicineonline.com/news/12/729/Increasing-dust-storms-in-Asia-affecting-health-of-Canadians-study-says.html>

<http://canadaeast.com/apps/pbcs.dll/article?AID=/20050616/CPN/22470018>

16. **Global environmental change and human health: biodiversity, climate and desertification** . Carlos Corvalan, Protection of the Human Environment WHO -Geneva (2 pager) 2003

https://unfccc.int/files/adaptation/adverse_effects_and_response_measures_art_48/application/pdf/200307_who_environmental_change_health.pdf

17. Human Health and the Environment (2001) OECD

Environmental degradation can have a significant impact on human health. Estimates of the share of environment-related human health loss are as high as 5% for high-income OECD countries, 8% for middle-income OECD countries and 13% for non-OECD countries. •Air pollution and exposure to

hazardous chemicals are important causes of the environment-related burden of disease in OECD countries. The transport and energy sectors are major contributors to air pollution, while important sources of chemical pollution are agriculture, industry, and waste disposal and incineration. • Opportunities for reducing environment-related health risks are considerable. The benefits of many environmental policies in terms of reduced health care costs and increased productivity significantly exceed the costs of implementing these policies. Environmental damage is responsible for 2-6% of the total burden of disease in OECD countries. The health-related costs of environmental degradation. The impacts on human health from degradation of the environment affect society not only in terms of loss of quality of life, but also in terms of expenditure on health care, loss of productivity and loss of income. Since these impacts are very different, different approaches are required for estimating their magnitude

IMPORTANT! See UNCCD newsletter here

18. The health impacts of desertification and drought Review. UNCCD Newsletter, no. 14, pages 4-6 (2000) (in our catalogue)

Although further research is necessary, there is sufficient evidence that droughts and desertification negatively influence human health. In areas affected by desertification, health policies need therefore to be fully integrated into programmes to combat desertification. The health impacts of desertification can be divided into malnutrition and famine, water borne diseases, other infectious diseases, respiratory diseases and burning injuries.

19. Human health severely affected by desertification and drought, says the World Health Organization - 2000

"In Africa, some 49% of the 10 million annual deaths among children under 5 years of age are associated with malnutrition. Desertification, deforestation and overuse of wilderness areas have drastically reduced the amount of supplementary products gathered in the bush, which provide nutritional supplements to entire families. Furthermore, changes in local biodiversity can put at risk traditional medicine, which plays a very important role all over Africa."

WHO points out that the drying of water sources forces people to use heavily polluted water, leading to severe epidemics. In particular, desertification and droughts can increase water-related diseases such as cholera, typhoid, hepatitis A and diarrhoeal diseases. Malaria epidemics are also subject to rapid increases in incidence, usually related to season and population movements. The Sahel is the only dryland in the world to have experienced a long drought, with a 21% decline in annual rainfall over the past 100 years. Rainfall has also become less predictable, making malaria prevalence in Sahelian countries appear to be in decline but likely to become unstable, with epidemics occurring in years with excessive rainfall.

http://www.unccd.int/media/pressrel/showpressrel.php?pr=press10_12_00

See the recovered link from the archive here

http://archive.unccd.int/media/pressrel/showpressrel.php?pr=press10_12_00

20. Desertification and drought greatly affects Africans' health – October 2000

The effects of desertification, drought and poverty can include protein-energy malnutrition intrauterine growth retardation and deficiencies of several micronutrients (such as iron and Vitamin A), infections, blindness and anaemia.

WHO points out that the drying of water sources forces people to use heavily polluted water, leading to severe epidemics. In particular, desertification and droughts can increase water-related diseases such as cholera, typhoid, hepatitis A and diarrhoeal diseases. Malaria epidemics are also subject to rapid increases in incidence, usually related to season and population movements

http://www.afrol.com/Categories/Health/health048_desertification.htm

21. Methods of assessing human health vulnerability and public health adaptation to climate change- The potential health effects of desertification and drought

http://www.euro.who.int/_data/assets/pdf_file/0009/91098/E81923.pdf

22. Desertification, drought and their consequences 1996

<http://www.fao.org/sd/EPdirect/EPan0005.htm>

23. Water for health

http://www.who.int/water_sanitation_health/takingcharge/en/index.html

24. News on from TUNZA <http://www.ourplanet.com/>

A special supplement on health and the environment: Healthy people in a healthy environment. This links the health of young people/children with the environment and examines this in the context of the UN's Convention on the Rights of the child (CRC). Based on the Children's Environment and Health Action Plan for Europe (CEHAPE) and Article 24 of the CRC, the booklet looks at water and sanitation; safe environments, physical activity and healthy diet; outdoor and indoor air quality; exposure to chemicals and noise; air pollution; climate change; consumerism and resource use and how these impact the citizens of the future leading healthy lifestyles and enjoying physical wellbeing. Complete with useful tips.

<http://www.ourplanet.com/ourplanet.html>

Back issues

http://www.ourplanet.com/tunza/tunza_back_issues_frame.html

25. In focus: Soil the forgotten element

http://www.ourplanet.com/tunza/tunza_back_issues_frame.html

For your ease of future reference:

For the latest resources related to health and environment issues, but also to zoonosis, covid etc , please check regularly

- [Knowledge hub](#)
- the [library daily updates](#) or just
- [see the latest results on health impacts](#)
- Please have a look at health impacts results from [Khub post here](#) as well or just perform a search with keywords and combination of such either in the library catalogue or in the knowledge hub.

Regarding the latest information on COVID-19 impact, the linkage between animal's and human health are not fully covered in that research as there are lots online and some are already in our catalogue if you check out the daily updates or just perform a search with selected keywords.. A separate research could be done on zoonoses/diseases transmission etc. mainly looking into scientific evidence published. Here is a resource from the [American Association for the Advancement of Science](#).

During a pandemic accurate, scientifically verified information isn't just important—it can save lives. With a global crisis underway, science is more important than ever. That's why AAAS and Science are striving to provide you with the best and most timely research, analysis, and news about COVID-19.

[Visit AAAS "Coronavirus: Research, Commentary, and News" page](#) to find the latest updates on what we know about the pandemic, the race for a cure, and the research and experts behind the headlines.

See just a few from the articles headlines:

- [G20 leaders must answer to COVID-19](#)
- [COVID-19 needs a Manhattan Project](#)
- [New coronavirus outbreak: Framing questions for pandemic prevention](#)

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