Ann Ist Super Sanità 2021 | Vol. 57, No. 4: 361-363
DOI: 10.4415/ANN_21_04_11



# Publications from International Organizations on Public Health

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## FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

**A guide to forest-water management.** FAO Forestry Paper No. 185. Rome: Food and Agriculture Organization of the United Nations, International Union of Forest Research Organizations (IUFRO), U.S. Department of Agriculture (USDA) 2021; 184 p. ISBN 978-92-5-134851-2. A Guide to Forest-Water Management is the product of a collaboration among numerous experts worldwide supported by FAO, the European Commission, the United States Forest Service, the International Union of Forest Research Organizations' Task Force for Forests and Water, and the European Commission Joint Research Centre. This Guide is the first comprehensive global publication on the monitoring, management, and evaluation of forest–water interactions. It was developed to stimulate discussions on strategic forest management and governance for water and to provide general guidance on forest–water monitoring, management, and valuation at multiple scales. Because of the importance of context in forest–water relationships, this publication does not provide comprehensive and detailed guidance for all situations. It does, however, examine certain specific forest ecosystem types as examples to illustrate how sustainable forest management can support hydrologic functions and services at different scales, from local to landscape. The purpose of A Guide to Forest-Water Management is to improve the global information base on the protective functions of forests for soil and water. It reviews emerging techniques and methodologies, provides guidance and recommendations on how to manage forests for their water ecosystem services, and offers insights into the business and economic cases for managing forests for water ecosystem services. Intact native forests and well-managed planted forests can be a cheap approach to water management while generating multiple co-benefits. Water security is a significant global challenge, but this paper argues that water-centred forests can provide nature-based solutions to ensuring global water resilience.

Smits CHM, Li D, Patience JF, den Hartog LA. **Animal nutrition strategies and options to reduce the use of antimicrobials in animal production.** FAO Animal Production and Health Paper No. 184. Rome: Food and Agriculture Organization of the United Nations 2021; 98 p. ISBN 978-92-5-34670-9. This publication focuses on dietary strategies aiming to reduce the risk of enteric health problems during critical transition periods where antibiotic use is high. In fact, nutrition is one of the pillars of gastrointestinal health and contributes to minimizing antimicrobial use in farm animals. The main tools available for diet formulation, and feed and drinking water management, are described. This publication discusses in more detail the practical application of dietary tools during critical transition periods in the lives of swine, poultry, and ruminants, with an emphasis on the species categories for which antibiotic use is highest (piglets, broilers, and calves). Dietary measures adopted alongside biosecurity, genetics, animal health care, animal welfare and farm management are the keys to success in improving animal health and welfare.

**Climate-smart agriculture case studies 2021 – Projects from around the world.** Rome: Food and Agriculture Organization of the United Nations 2021; 98 p. ISBN 978-92-5-134616-7. This publication describes climate-smart agriculture (CSA) case studies from around the world, showing how the approach is implemented to address challenges related to climate change and agriculture. These case studies are grouped into chapters according to the five action points for CSA implementation: expanding the evidence base for CSA, supporting enabling policy frameworks, strengthening national and local institutions, enhancing funding, and financing options, and implementing CSA practices at field level. The aims of this publication are to demonstrate the relevance of all these five action points of CSA implementation, inspire stakeholders to implement CSA actions in response to climate change, show how recent CSA projects are contributing to the SDGs, and formulate recommendations for future projects based on the five action points approach. To do so, this publication provides examples of the innovative roles that farmers, researchers, government officials, private sector agents and civil society actors can play to transform food systems and help meet the Sustainable Development Goals; it also demonstrates how these actors can collaborate.

## INTERNATIONAL SCIENCE COUNCIL (ISC)

**Unleashing science. Delivering missions for sustainability.** Paris: International Science Council (ISC) 2021; 50 p. This report presents a framework of ideas on how science, along with science funders, policymakers, civil society, and the private sector, could rise to the occasion of acting effectively in the face of urgent and existential risks to humanity. The report offers a Framework to Unleash Mission-Oriented Science,

highlighting the need to focus on a limited number of Sustainability Science Missions asking for a major step change in the approach to science and science funding by delivering specific missions for science as they relate to the critical areas of food, energy and climate, health and wellbeing, water, and urban areas.

**A synthesis of research gaps for science to enable societies to accomplish the Sustainable Development Goals by 2030.** Paris: International Science Council (ISC) 2021; 39 p. This Document collects the inputs highlighted by the report *Unleashing science. Delivering missions for sustainability*. They have been distilled into five topical areas: Sustainable planet for a dignified human future; Economies for the People and the Planet; Towards integrated and inclusive governance and capable institutions at all levels; Digital transformations for humanity and inclusive sustainable development; and Understanding the processes of societal transformations in different contexts. In addition to these topical research areas, the inputs from the report provided valuable insights on how science systems, including science funding, need to evolve to support societal transformations required to achieve these Sustainable Development Goals (SDGs). These key findings are provided in the second section of this report, Reforming Science Systems. This section outlines five broad areas (strengthening the directionality of science, strategic collaboration and governance; changing the practice of science through new incentives and awards; boosting research capacity in the Global South; advancing Open Science globally; and strengthening trust in science and relevance for policy) with specific reform actions required for science systems, including science funding, to become more effective in supporting societal transformations towards sustainability.

## UNITED NATIONS ENVIRONMENTAL PROGRAMME (UNEP)

**Advancing the transition to an inclusive green economy – A policy review manual.** Nairobi: United Nations Environmental Programme 2020; 44 p. This manual provides policymakers with a methodology for conducting a review of a country's Inclusive Green Economy Policy framework, to take the pulse of the concept and related policies 10 years after the work on UNEP's Green Economy report was launched. The Green Economy Policy Review manual provides a step-by-step guide on how to conduct a review of an existing policy framework according to the following criteria: coherence with other policy frameworks, particularly the Sustainable Development Goals and the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC), including Nationally Determined Contributions (NDCs), as well as existing national frameworks; and effectiveness. The manual hence looks at two levels of achievement by analysing if the policies are aligned with national and international frameworks, and if the outcomes of the policies correspond to the intended objectives. The methodology in the manual was pilot tested in Hainan Province, China, Mongolia, and South Africa, which helped refine the methodology.

## EUROPEAN FOOD SAFETY AUTHORITY (EFSA)

EFSA Panel on Animal Health and Welfare (AHAW), Nielsen SS, Bicout DJ, Calistri P, et al. **Scientific Opinion on the assessment of animal diseases caused by bacteria resistant to antimicrobials: dogs and cats.** EFSA 2021;19(6):6680, 58 p. In this opinion the antimicrobial-resistant bacteria responsible for transmissible diseases that constitute a threat to dog and cat health have been assessed. The assessment has been performed following a methodology based on information collected via an extensive literature review and expert judgement. Details of the methodology used for this assessment are explained in a separate opinion. A global state of play of antimicrobial resistant Staphylococcus pseudintermedius, Staphylococcus aureus, Staphylococcus schleiferi, Escherichia coli, Proteus mirabilis, Klebsiella spp., Enterobacter spp., Pseudomonas aeruginosa, Clostridium perfringens, Clostridioides difficile, Enterococcus faecalis and Enterococcus faecium has been provided. Among those bacteria, EFSA identified S. pseudintermedius, E. coli and P. aeruginosa with >90% certainty as the most relevant antimicrobial resistant bacteria in the EU based on the available evidence. The animal health impact of these most relevant bacteria, as well as their eligibility for being listed and categorised within the animal health law framework will be assessed in separate scientific opinions.

EFSA Scientific Committee, More S, Bampidis V, Benford D, et al. **Guidance on risk assessment of nanomaterials to be applied in the food and feed chain: human and animal health.** EFSA Journal 2021;19(8):6768, 111 p. The EFSA has updated the Guidance on risk assessment of the application of nanoscience and nanotechnologies in the food and feed chain, human and animal health. It covers the application areas within EFSA's remit, including novel foods, food contact materials, food/feed additives and pesticides. The updated guidance, now Scientific Committee Guidance on nano risk assessment (SC Guidance on Nano-RA), has taken account of relevant scientific studies that provide insights to physico-chemical properties, exposure assessment and hazard characterisation of nanomaterials and areas of applicability. Together with the accompanying Guidance on Technical requirements for regulated food and feed product applications to establish the presence of small particles including nanoparticles (Guidance on Particle-TR), the SC Guidance on Nano-RA specifically elaborates on physico-chemical characterisation, key parameters that should be measured, methods and techniques that can be used for characterisation of nanomaterials and their determination in complex matrices. The SC Guidance

on Nano-RA also details aspects relating to exposure assessment and hazard identification and characterisation. Nanospecific considerations relating to *in vitro*/*in vivo* toxicological studies are discussed and a tiered framework for toxicological testing is outlined. Furthermore, *in vitro* degradation, toxicokinetics, genotoxicity, local and systemic toxicity as well as general issues relating to testing of nanomaterials are described. Depending on the initial tier results, additional studies may be needed to investigate reproductive and developmental toxicity, chronic toxicity, and carcinogenicity, immunotoxicity and allergenicity, neurotoxicity, effects on gut microbiome and endocrine activity. The possible use of read-across to fill data gaps as well as the potential use of integrated testing strategies and the knowledge of modes or mechanisms of action are also discussed. The Guidance proposes approaches to risk characterisation and uncertainty analysis.

## WORLD HEALTH ORGANIZATION (WHO)

**Global status report on the public health response to dementia.** Geneva: World Health Organization 2021; 137 p. ISBN 978-92-4-003324-5 (electronic version) ISBN 978-92-4-003325-2 (print version). Halfway into the implementation of the Global dementia action plan (2017-2025, representing the international commitment to meaningfully improve the lives of people with dementia), the Global status report on the public health response to dementia takes stock of actions driven by Member States, WHO and civil society since the adoption of the global action plan, identifies barriers to its implementation especially in light of the COVID-19 pandemic, and highlights areas where urgent, accelerated action is required. The report, which proposes recommendations across seven key action areas: dementia policy; awareness and friendliness; risk reduction; diagnosis, treatment, care, and support; support for carers; health information systems; and research and innovation, includes updated estimates on dementia burden and costs globally based on WHO's Global Health Estimates 2019 and the Global Burden of Disease study 2019. It also uses data submitted by 62 of WHO Member States to the Global Dementia Observatory. The report, written for national and state policy-makers, health-sector planners, academics and researchers, organizations involved in dementia education and service provision, as well as people living with dementia, their careers, and families, shows that while some progress is being made, urgent increased efforts are needed globally to reach the dementia targets by 2025.

**WHO global air quality guidelines. Particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide.** Geneva: World Health Organization 2021; 290 p. ISBN 978-92-4-003422-8 (electronic version) ISBN 978-92-4-003421-1 (print version). These Guidelines are the updated version of The WHO *Air quality guidelines – global update 2005. Particulate matter, ozone, nitrogen dioxide and sulfur dioxide*. The overall objective of the updated global guidelines is to offer quantitative health-based recommendations for air quality management, expressed as long- or short-term concentrations for several key air pollutants. Exceedance of the Air Quality Guideline (AQG) levels is associated with important risks to public health. These guidelines are not legally binding standards; however, they do provide WHO Member States with an evidence-informed tool that they can use to inform legislation and policy. The goal of these guidelines is to provide guidance to help reduce levels of air pollutants to decrease the enormous health burden resulting from exposure to air pollution worldwide. These guidelines, issued to protect populations from the adverse effects of air pollution, are designed to serve as a global reference for an audience of diverse groups of end-users, including those involved in policy-making, research, and advocacy.

**WHO guidance on research methods for health emergency and disaster risk management.** Geneva: World Health Organization 2021; 584 p. ISBN 978-92-4-003228-6 (electronic version) ISBN 978-92-4-003229-3 (print version). This Guidance is for the policy-makers, practitioners and community actors involved in health emergency and disaster risk management (Health EDRM). The main driver for this book – which arose from the work of the WHO Thematic Platform for Health Emergency and Disaster Risk Management Research Network (Health EDRM RN) – is the shared aim of Health EDRM stakeholders to reduce the risks and consequences for the many millions of people worldwide whose health is affected by emergencies and disasters each year. The 43 chapters contained in this book provide straightforward, practical guidance on how to plan, do and report a wide variety of studies that can answer quantitative and qualitative questions in different settings, with specific emphasis on health-related disasters. Case studies of direct relevance to Health EDRM provide real-life examples of research, to illustrate the methods and their impact. The Guidance begins with an overview of the Health EDRM framework and the role of research to explain the context, followed by an historical review of the impact of emergencies and disasters on public health and the development of Health EDRM policies, focusing on Japan as a case study. Sections 2, 3 and 4 cover three major aspects of the research process: identifying and understanding the problem that needs to be studied; determining the research question and developing a scoping study; and designing and conducting the main study. The book ends with a section on the practicalities of becoming a researcher and a glossary to explain terms that might be unfamiliar to some readers.