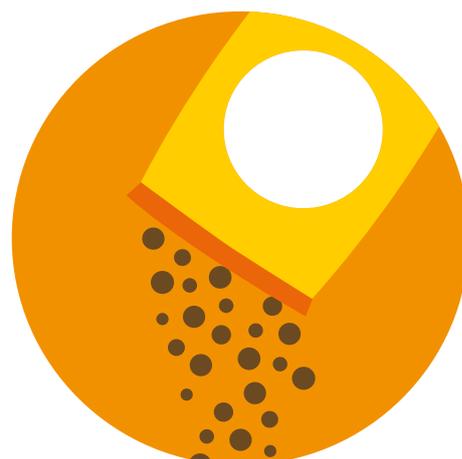




Food and Agriculture  
Organization of the  
United Nations

# KORONIVIA JOINT WORK ON AGRICULTURE

Summary of workshop on topic 2(d)



## Improved nutrient use and manure management towards sustainable and resilient agricultural systems

*The Koronivia Joint Work on Agriculture (KJWA) is a landmark decision that was reached at the UN Climate Conference (COP23) in November 2017 on the next steps for agriculture within the United Nations Framework Convention on Climate Change (UNFCCC). The decision officially recognizes the unique role that agriculture can play in tackling climate change while considering the vulnerability of the sector to climate change and approaches to achieve food security.*

### OVERVIEW

Efficient fertilizer use and enhanced manure management can increase food production and reduce greenhouse gas (GHG) emissions. Sustainable nutrient management is crucial to fulfilling the objective of the Paris Agreement to limit global temperature rising to 1.5° C. Using the right fertilizer, at the right rate, at the right time and in the right place optimizes nutrient uptake by plants while reducing losses to the environment and safeguarding our Planet's soil and water resources. Workshop discussions on the topic of improved nutrient use and manure management under the KJWA identified multiple challenges and opportunities moving forward.<sup>1</sup>

### Key facts and figures

- 1 Studies show that **nitrogen pollution** results in damage costing at least **EUR 70 billion per year** in the **European Union** alone.
- 2 The global efficiency of **nutrients added to soils** through **organic and synthetic fertilizers** is only about **50 percent**.
- 3 Improved **nutrient use** could lead to an **increase in production** by **up to 70 percent** for most crops, while **reducing emissions by 0.71 gigatons of carbon dioxide** equivalent annually.
- 4 In many parts of the world, **nitrogen application can be reduced with little negative effect** on yield, while **increasing nitrogen application in less productive systems can lead to significant gains in productivity**.
- 5 In **Africa**, where crop yield has been projected to decline by 10–40 percent by 2050 without adaptation, the use of **fertilizer** is at an **average of 16 kg/ha compared with over 100 kg/ha** in most other regions.

<sup>1</sup> This document provides a summary of discussions which took place at the UNFCCC workshop on topic 2(d) in Bonn in December 2019. The views expressed herein do not necessarily reflect the views or policies of FAO but only aim to facilitate knowledge sharing and support decision-making in the frame of the KJWA process. All the facts, figures, opinions or statements presented below are issued from the UNFCCC workshop report: <https://unfccc.int/event/improved-nutrient-use-and-manure-management-towards-sustainable-and-resilient-agricultural-systems>

## KEY CHALLENGES AND OPPORTUNITIES

### Need for measurement and assessment of nutrient use and manure management

There has been limited progress in the measurement and assessment of nutrient use and manure management which is essential to inform intervention and decision-making. Reinforcing data collection and analysis, and more focus at national and international levels following the Colombo Declaration on Sustainable Nitrogen Management<sup>2</sup> could lead to improved data-driven decision making going forward.

#### Potential entry points for Koronivia Joint Work on Agriculture

- The UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) and Subsidiary Body for Implementation (SBI) could support the development or adoption of existing guidance, tools and management systems<sup>3</sup> needed for measuring and quantifying progress towards nutrient use and manure management across agricultural production contexts.
- The SBSTA and SBI could promote and encourage research and knowledge sharing in the field of sustainable nutrient and manure management.
- Constituted bodies, financing entities and other organizations, could further assist with implementation of specific activities to improve nutrient use and manure management towards sustainable and resilient agricultural systems.

### Importance of integrated manure management

Improved manure management is necessary to achieve sustainable agri-food systems, with better nutrient cycling and improved soil health, and a reduction in the need for expensive inputs. The separation between feed sources and production systems creates manure surplus in some areas, which results in nutrient and energy losses, excess of GHG emissions, and other impacts on the environment.

#### Potential entry points for Koronivia Joint Work on Agriculture

Increased recognition of the potential of integrated manure management and reuse of nutrients towards meeting productivity goals and maximizing co-benefits for the environment including biodiversity, air and water quality, and improving soil carbon storage while reducing soil degradation.

<sup>2</sup> The Colombo Declaration on Sustainable Nitrogen Management signed in November 2019 aims to halve nitrogen waste by 2030.

<sup>3</sup> For example, the *International Code of Conduct for the Use and Management of Fertilizers*, endorsed by member countries at the 41st session of the FAO Conference in June 2019.

### Supporting farmers is essential: training knowledge and incentives

Farmers in general, and particularly women and young people, lack training and knowledge on sustainable management practices. Furthermore, in many countries, fertilizers are heavily subsidized, therefore discouraging farmers from adopting more sustainable practices.

#### Potential entry points for Koronivia Joint Work on Agriculture

- Encourage knowledge sharing, awareness-raising and training for farmers on best practices for manure management. Proven practices and approaches should be identified and encouraged, taking into account traditional techniques and knowledge from indigenous peoples.
- The current subsidizing systems could be reoriented to provide better opportunities for farmers, for example towards organic farming or agroecology.

### Consideration of agriculture as a specific sector under the United Nations Framework Convention on Climate Change

Agriculture is not considered as a specific sector under the UNFCCC, although countries are increasingly addressing agriculture and food security in an integrated manner.

#### Potential entry point for Koronivia Joint Work on Agriculture

The mandates of constituted bodies and operating entities could be extended to address the specificity of the agriculture sectors.

INFO:  
[www.fao.org/climate-change/our-work/what-we-do/koronivia/en/](http://www.fao.org/climate-change/our-work/what-we-do/koronivia/en/)

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Thanks to the financial support of



Federal Ministry  
of Food  
and Agriculture