



The Scientific Group for the  
UN Food Systems Summit  
<https://sc-fss2021.org/>

## Scientific Group Report Summary

# BOOST NATURE POSITIVE PRODUCTION

by

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This paper provides a high-level overview of evidence in favour of nature-positive food systems, discussing opportunities and challenges associated with sustainable, efficient agricultural production with a view to concrete policy suggestions.

### Definition

*Nature-positive food systems are characterized by a regenerative, non-depleting and non-destructive use of natural resources. It is based on stewardship of the environment and biodiversity as the foundation of critical ecosystem services, including carbon sequestration and soil, water, and climate regulation. Nature Positive Food Systems refer to protection, sustainable management and restoration of productive system. Finally, nature positive food systems cover the growing demand for food in a sufficient way and include sustainable and healthy nutrition.*

Cohen-Shacham et al. (2016) have defined the term Nature-based Solutions (NbS), an overall concept that we use for nature-positive food systems accordingly. It is based on three pillars:

- First Pillar: Protect natural systems and protected areas from new conversions for food production and save and set aside some land and water back to nature
- Second Pillar: Sustainably manage existing food production systems
- Third Pillar: Restore and rehabilitate degraded systems for sustainable food production and ecosystem services

The transition to nature-positive food systems is slowed or made impossible by numerous agronomic, economic and social challenges, which are compounded by deficits in knowledge systems.

- Agronomic challenges include yield reductions related with nature-positive production
- Economic challenges include higher labour demand, higher transactions costs, failed valorisation of sustainability throughout the value chain
- Political challenges include policy incoherence
- Deficits along the agricultural knowledge systems include weak knowledge and advisory systems.

A systematic change towards nature-positive food systems requires a fundamental reorientation of many societal actors and a realignment of the cooperation between them. The inclusion of local actors, particularly of the most vulnerable voices, in decision-making will lead to more effective solutions. The calls for action can provide guidance to ensure an integrated, systemic approach:

- Action 1: Increase policy coherence and strengthen adequate governance
- Action 2: Improve sustainable soil management
- Action 3: Boost knowledge and innovation for nature-positive food systems
- Action 4: Adapt and intensify the knowledge sharing of farmers, farm advisors and farm teachers.
- Action 5: Strengthen information for citizen on sustainable nutrition and food diets.
- Action 6: Empower rural areas by cross-farm co-operations and through high local value creation
- Action 7: Improve access to land, water and biodiversity especially for women

Today's food systems are "net nature-negative". They can, and must, become "nature-positive." Food systems across the world are driv-

ing habitat and biodiversity loss, land and water degradation, and greenhouse gas emissions. These phenomena, in turn, undermine the productivity, sustainability and resilience of food systems. This vicious circle can be broken if we take several fundamental steps to realign our food, feed and fiber production to achieve nature-positive agricultural production at scale.

This realignment builds on innovations at landscape-level, including soil and water management, land use planning, biodiversity conservation, principles of agroecology and circular economy approaches, new science and technologies in molecular biology and plant breeding, alternative protein sources, and digital tools for the management of agriculture, and land and natural resources.

Importantly, shifting food systems from net nature-negative to nature-positive will require not only innovation in technologies and practices, but changes in food systems governance. This entails radical change in policies, investments, incentives, and subsidies that today fail to promote these practices. Nature-positive approaches will need to be integrated into agricultural extension programs, school and college curricula, and vocational educational programs. And they will need to build on broad, inclusive and empowered partnerships – with women, small-farmers, and the private sector among others – to co-create, promote, and entrench nature-positive innovation.

The Scientific Group Papers for the UN Food Systems Summit are shared with the aim of providing information and facilitating discussion for transparent and evidence-based Summit preparations. The full paper can be accessed at <https://sc-fss2021.org/materials/scientific-group-reports-and-briefs>. Authors' affiliations are listed there as well.

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