

The global microbiome research landscape

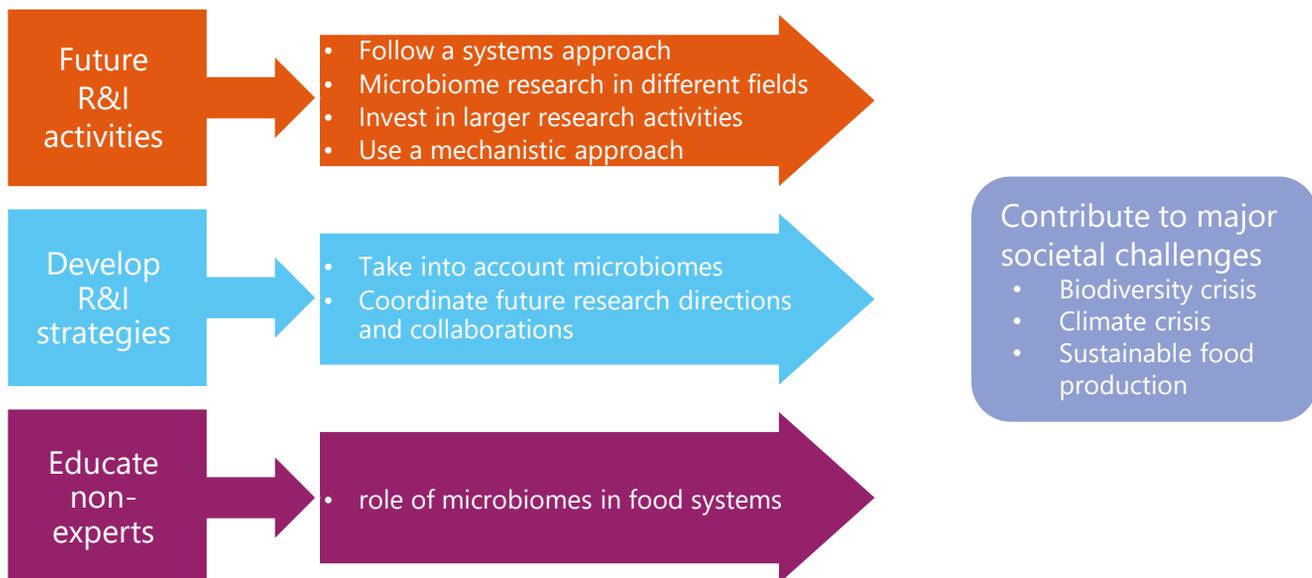
Microbial communities are essential in the bioeconomy and need to be considered when moving towards sustainable food production. However, the emerging field of microbiome research is fragmented within scientific fields. More insights into the current research and innovation landscape is needed to overcome this fragmentation, strengthen collaborations and increase synergies across fields that study microbiomes.

To **map** the global research & innovation landscape of microbiomes throughout the food system and beyond information about research strategies, research activities and infrastructures from 25 countries and supra-national activities was collected. The mapping revealed that **microbiome research occurs in many science fields** (e.g. soil, human, plant, food, aquatic etc.), but is **fragmented over fields**.

Several **reasons for fragmentation** are identified:

- #1 size of projects often support one junior scientist
- #2 many projects use descriptive designs within one environment
- #3 microbiomes receive little attention in research and innovation strategies addressing agriculture, environment or bio-economy

Recommendations:



Questions about the global research landscape: Annelein Meisner (Annelein.Meisner@wur.nl) or Christine Bunthof (Christine.Bunthof@wur.nl) from Wageningen University & Research



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 818116



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Recommendations:

Future R&I activities

- Follow a systems approach
- Microbiome research in different fields
- Invest in larger research activities
- Use a mechanistic approach

Develop R&I strategies

- Take into account microbiomes
- Coordinate future research directions and collaborations

Educate non-experts

- role of microbiomes in food systems

Contribute to major societal challenges

- Biodiversity crisis
- Climate crisis
- Sustainable food production

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