



Food and Agriculture Organization  
of the United Nations



# MICROBIOME: THE MISSING LINK?

SCIENCE AND INNOVATION FOR HEALTH, CLIMATE  
AND SUSTAINABLE FOOD SYSTEMS

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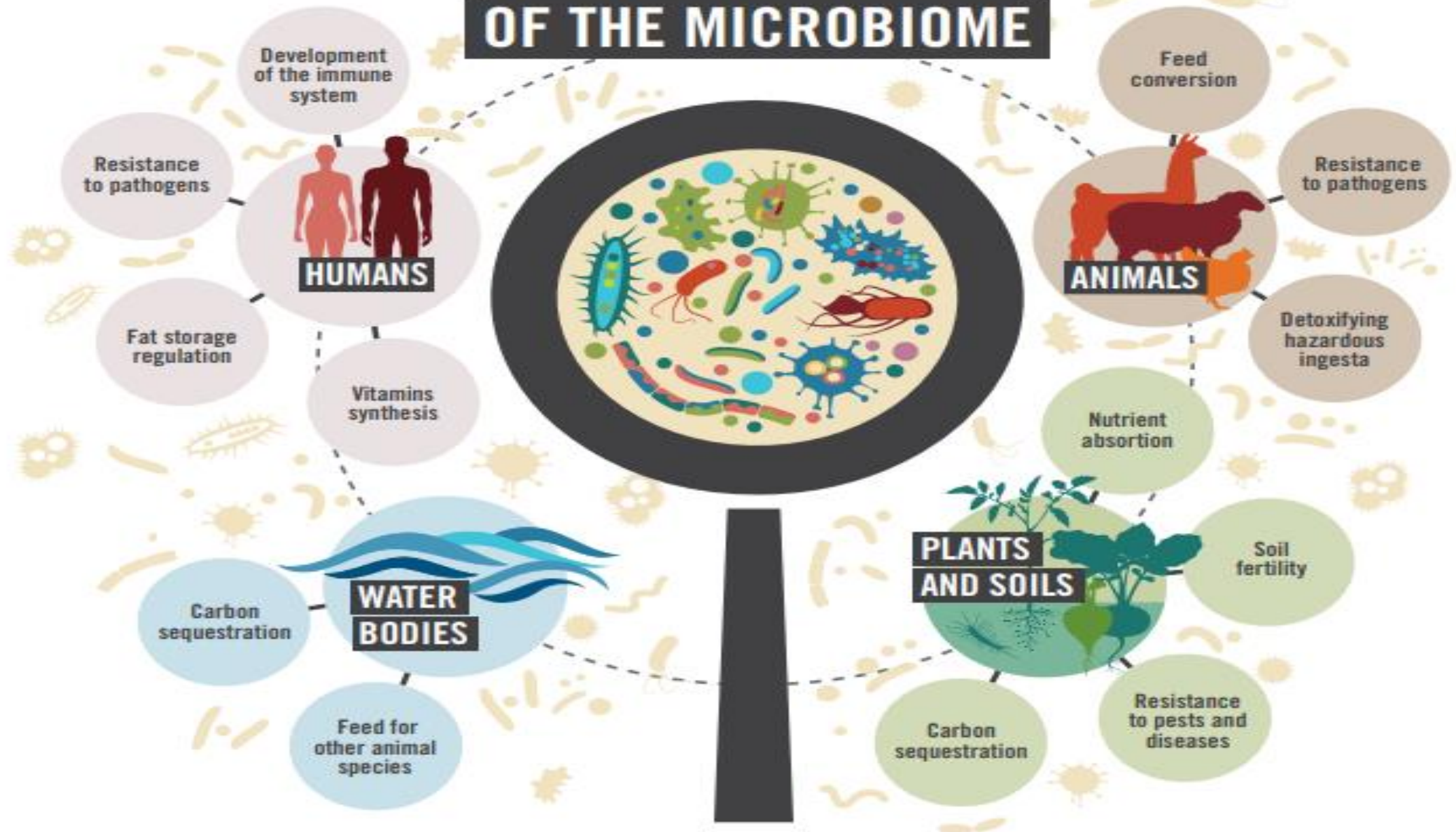


Food and Agriculture Organization  
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*26 November 2020*

Presentation of the Action Plan for the  
industrial implementation of the Italian  
microbiome initiative for improved human  
health and agro-food production

# POSITIVE SERVICES OF THE MICROBIOME



# FAO'S ROLE

BRIDGING BOUNDARIES BETWEEN  
**SCIENCE AND POLICY**



Microbiome  
Network

Technical  
work



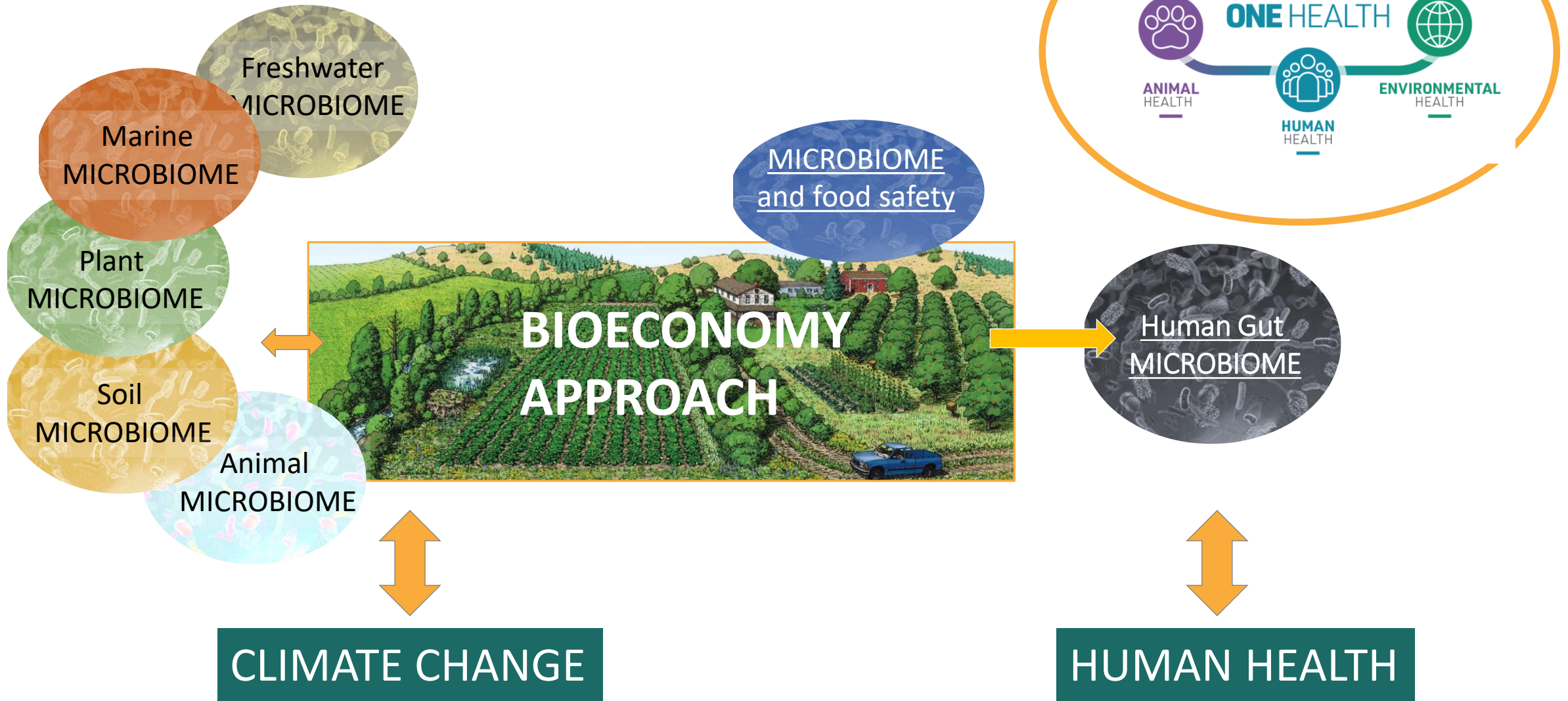


Image sources:

Examples of Diversified Farming Systems. UC Berkeley Food Institute. <https://food.berkeley.edu/about-us/centers/dfs/examples-of-diversified-farming-systems/>

British Veterinary Association <https://www.bva.co.uk/news-and-blog/blog-article/covid-19-has-there-ever-been-a-more-critical-need-for-one-health/>

# Technical work – Literature reviews

## Opportunities for innovations and food system transformation: towards a sustainable and circular bioeconomy

### **Soils, Plants and Climate Change**

“The soil microbiome controls greenhouse gas fluxes and mediates multiple Ecosystem Services.”

### **Food Safety**

“There are associations between certain compounds in food and impacts on the gut microbiome.”

### **Human Gut Microbiome, Diets and Human Health**

“Diet is one of the main factors shaping the gut microbiome. Recent microbiome research provides explanations and strengthens what we know about healthy/ unhealthy diets.”

# Microbiome Network - Highlights

*1 – 24 July 2020*

**Microbiome: The Missing Link? Virtual Learning Pathway**

*10 November 2020*

**Reconvening of Microbiome Network**

**Continued growth:**

- **Technical** work, state of the art
- **Partnerships**

## **5 bold gaps**

1. Scaling up innovations
2. Co-developing knowledge
3. Microbiome literacy
4. Informing the future of research
5. Science-policy linkages

**FAO: closing gaps and building bridges**

related to the **microbiome** and **sustainable and circular bio-economy** in **agri-food systems transformation.**



**Active and vibrant global learning network**

# FAO and the IAP for the Italian Microbiome Initiative

- Common understanding of the contribution of microbiome science and innovation for agri-food system sustainability, i.e.
  - Agri-food systems role in obesity/NCDs (*linked to COVID19 morbidity and mortality*)
  - Agricultural production, productivity, innovative microbiome-based solutions to old and new problems
  - Climate change, biodiversity loss and environmental degradation
- Commonality in actions, esp. around IAP actions related to:
  - Cooperation and partnership
  - Regulatory and policy implications
  - Public understanding
- Opportunity for sharing and partnership with other microbiome initiatives
- Looking forward to discussing collaboration between Italy, the EC and FAO - sharing our common understanding and concrete actions with other FAO member countries in the Global South and the International Bioeconomy Forum.