



Integrating Agroecology and One Health: A Path to Sustainable Food Systems and Improved Health

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Problematics...



• How to integrate these two concepts?

• How can this integration be applied?

How to integrate these two concepts?



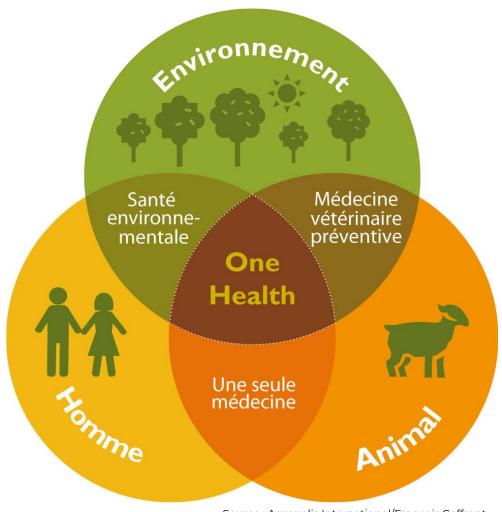


Integrated and

unified approach

Health"

Optimising the health of humans, animals and the environment



Source : Agropolis International/François Coffrant, dossier n° 25, décembre 2019



Crops and Livestock

"Agro
Ecology"

The study of interactions between living organisms and the environment



- Sustainable and holistic approach
- Designing agricultural and food systems
- Incorporating ecological principles
- Social and economic considerations

PARTICIPATION

Encourage social organization and greater participation in decision-making by food producers and consumers to support decentralized governance and local adaptive management of agricultural and food



FAIRNESS

Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade fair employment and fair treatment of intellectual property rights.



LAND AND NATURAL RESOURCE GOVERNANCE

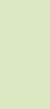
Recognize and support the needs and interests of family farmers, smallholders and peasant food producers as sustainable managers and guardians of natural and genetic resources.





CONNECTIVITY

Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies.



RECYCLING

Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass.



INPUT REDUCTION

Reduce or eliminate dependency on purchased inputs.

SOCIAL VALUES AND DIETS

Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy diversified, seasonally and culturally appropriate diets.

ECONOMIC DIVERSIFICATION

from consumers.

Diversify on-farm incomes by

ensuring small-scale farmers have

value addition opportunities while

greater financial independence and

enabling them to respond to demand



CO-CREATION OF KNOWLEDGE

knowledge including local and scientific innovation, especially through farmerto-farmer exchange.



SYNERGY

inhance positive ecological interaction, synergy, integration, and complementarity amongst the elements of agroecosystems (plants, animals, trees, soil, water)



genetic resources and maintain biodiversity in the agroecosystem over time and space at field, farm and landscape scales.



SOIL HEALTH

Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and by enhancing soil biological activity.

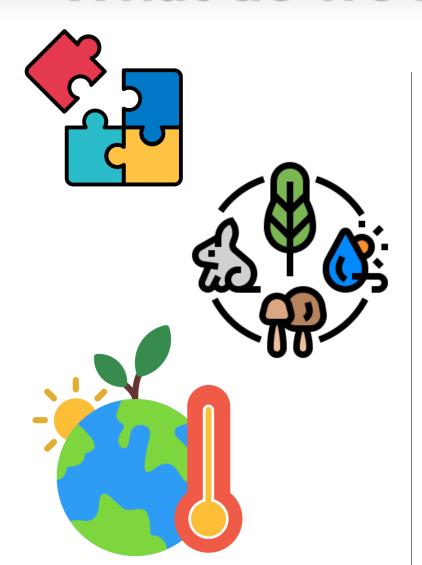


welfare.



What do we have in common?





- Common holistic approach: ecosystem health is closely linked to social and economic factors
- In particular, **agroecology** aims to:
 - Preserving the health of soils, crops and natural habitats Environmental health
 - Preventing animal diseases and reducing inputs → Animal and human health
 - The resilience of ecosystems to climate change through the adoption of agroecological practices

How important is this integration?



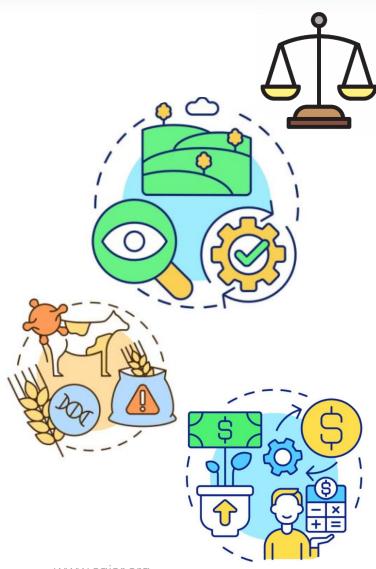


- Consider the challenges threatening food systems
 - **Environmental health:** Greenhouse gas emissions (agriculture +++), soil erosion, water pollution, ... Climate change!
 - **Animal health:** contagious and zoonotic animal diseases, drug resistance (antibiotics, antiparasitics, etc.), ...
 - **Human health:** Malnutrition, food-borne diseases and zoonoses, ...



And how to face these challenges? ...





- Influencing agricultural and health policies → More consistent regulation and good management of food systems
- Adopting good sustainable farming practices →
 Reducing the environmental impact of farming, optimising the use of local resources, improving disease resistance, ...
- Economic viability → ↑ Farm income and ↓ Public health costs.

A real-life example...

Integrated Herd-Health Package

National and regional stakeholders









ICARDA

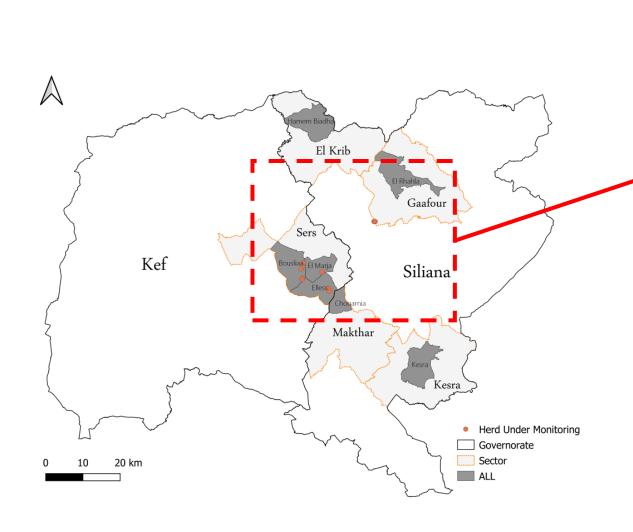




Female farmers at GDA Sers, Tunisia - ICARDA Communication Team, September 18, 2022

Where in Tunisia?







Total flocks: 12

Total sheep: 500 units

Concept of the integrated package...



Control and prevention of diseases

- Biosecurity
 - Vaccination
 - Deworming/treatment against ectoparasites
 - Prevention of metabolic diseases

- Healthy animals for production
- > Viable animals

Efficient & lowcost nutrition

Immunity booster

Healthy grazing

Precision feeding

- Multilocational & contextualized forage mixtures
- Crops by-products
- Proper storage of feed

Fitness for production

- Milk production
- Growth rate
- Improvement of reproductive parameters







Input reduction

Biodiversity



· Animal health and

welfare

Precision feeding

www.cgiar.org

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Package implementation...



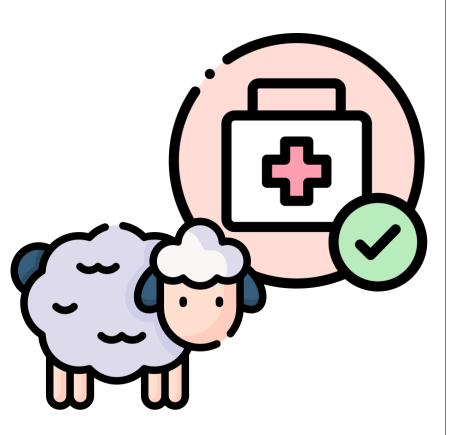




- Identification of herds
- Data entry on the "Dtreo" platform
- Training farmers and vets in agro-ecological practices
- Monitoring herd health and performance (reproduction, growth)

Expected Health outputs...





Improving veterinary practices:

- Promoting animal health surveillance
- · Recommending health practices that respect the environment

Improving public health:

- Reducing the risk of contagious and/or zoonotic diseases
- Reducing drug resistance (antibiotics, antiparasitics, etc.)
- Provision of healthier food

Reduction in health costs:

- Healthy diet
- Healthy environment

Conclusion...



- Agroecology & One Health integration
- Potential to improve veterinary practices, public health and ecosystem resilience
- Optimising environmental, animal and human health
- Guarantees the sustainability of food systems



THANK YOU!