



Federal Ministry
of Food
and Agriculture

GLOBAL
FORUM OF FOOD AND
AGRICULTURE

Sustainable Transformation of Global Agri-food Systems Based on Resource Recycling

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WORLD RESOURCES INSTITUTE (WRI) —FROM GOALS TO ACTION

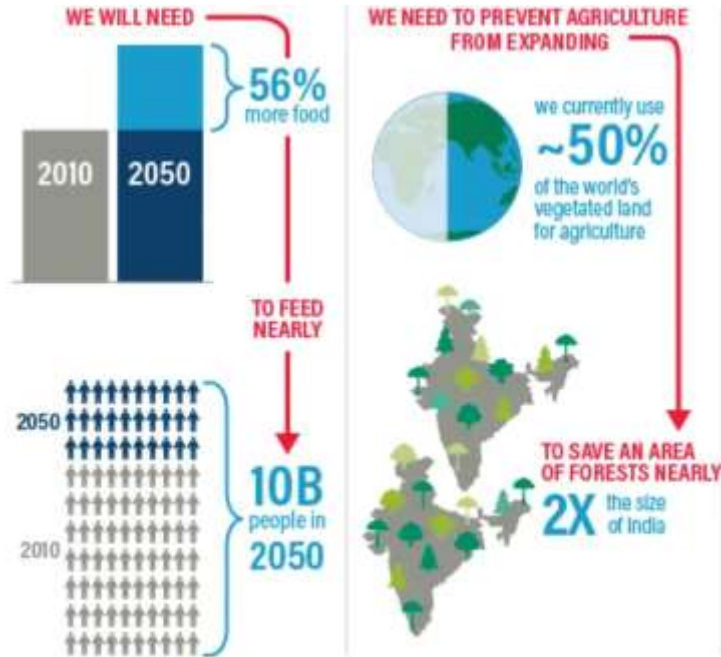


WRI GLOBAL 2023-2027 STRATEGY



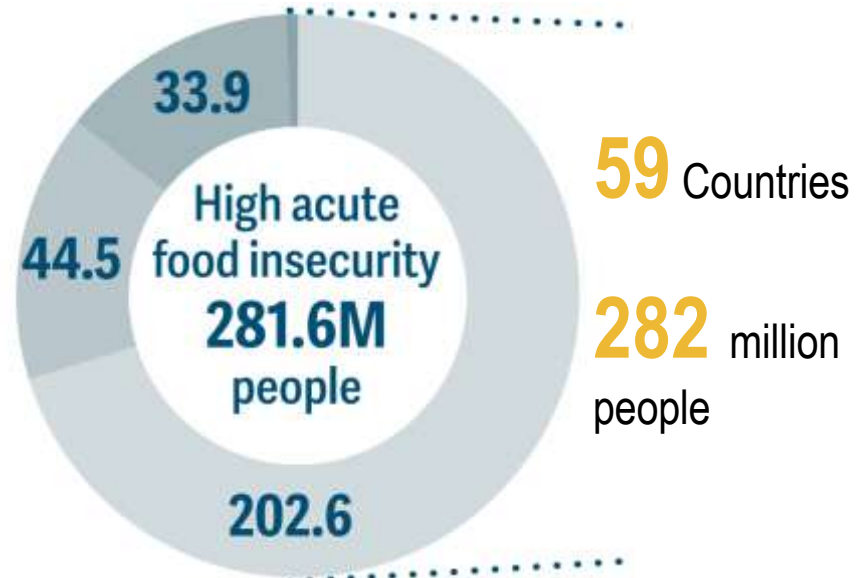
The financial, economic and governance systems

FOOD SECURITY IS ONE OF THE MOST CRITICAL ISSUES AFFECTING GLOBAL SUSTAINABLE DEVELOPMENT



Source: wri.org/sustfoodfuture

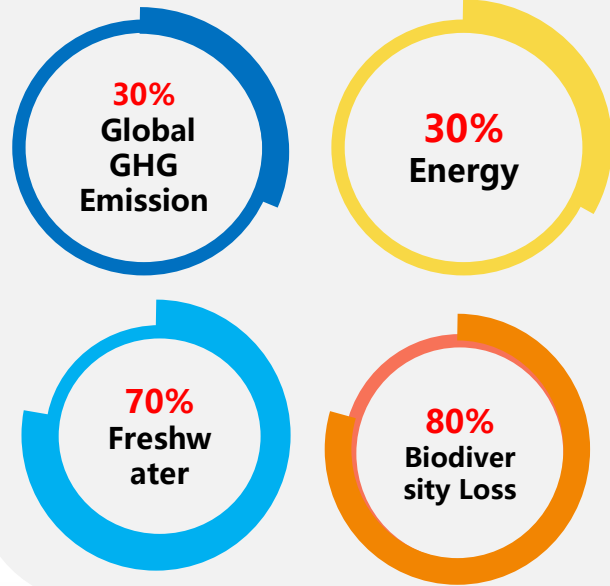
Population facing high levels of acute food insecurity in 2023 (millions)



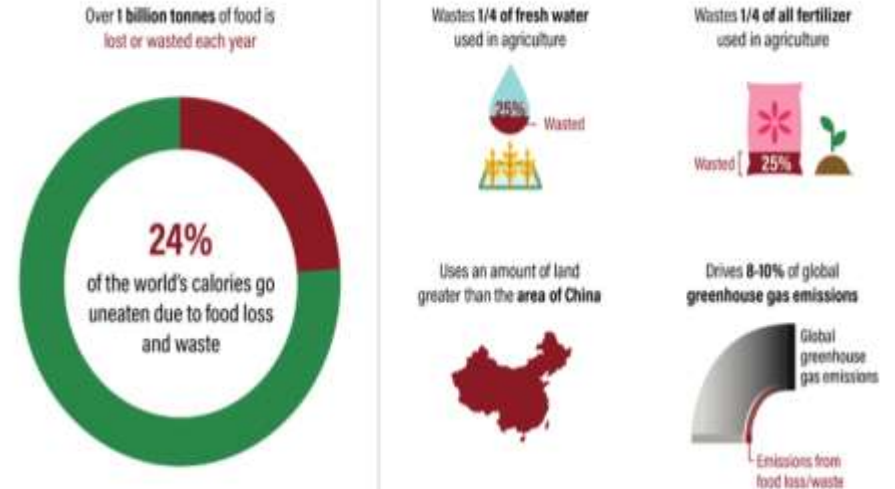
Source : <https://www.wri.org/insights/how-sustainably-feed-10-billion-people-2050-21-charts>
<https://www.fsinplatform.org/sites/default/files/resources/files/GRFC2024-full.pdf>

RESOURCE CONSUMPTION AND GHG EMISSIONS FROM AGRI-FOOD SYSTEM

Global Impact of Agri-food Systems



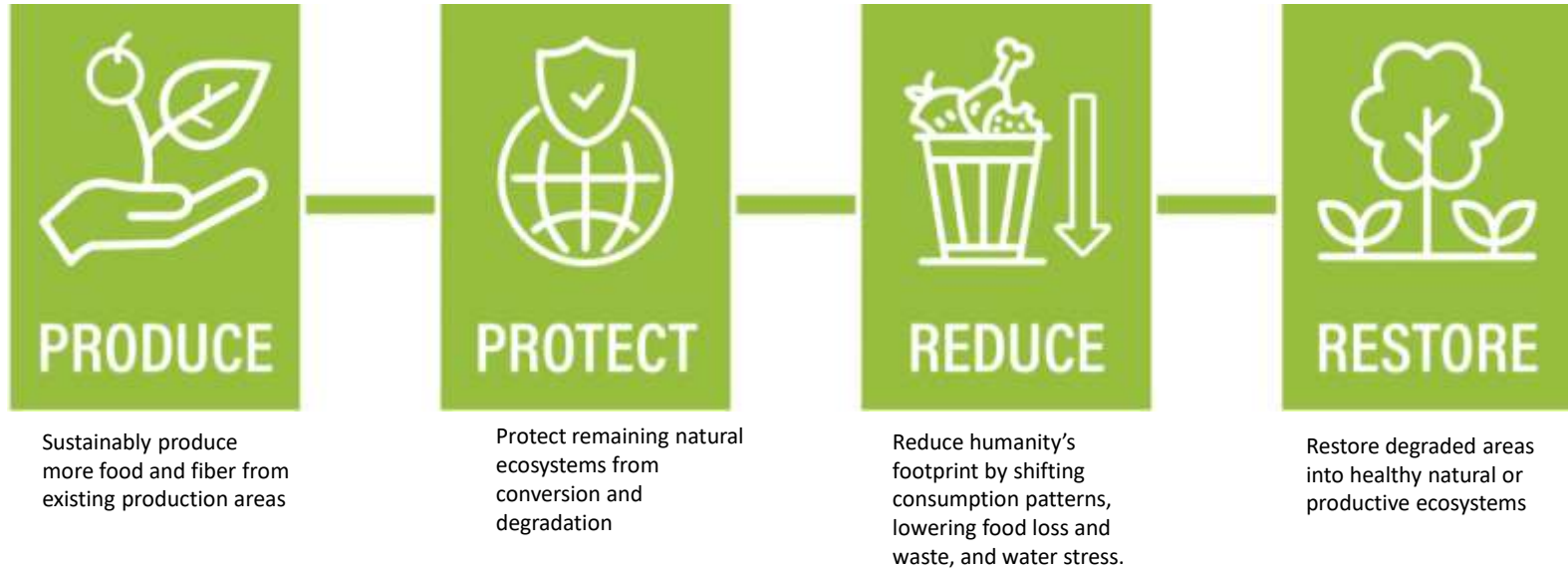
Global Impact of Food Loss and Waste



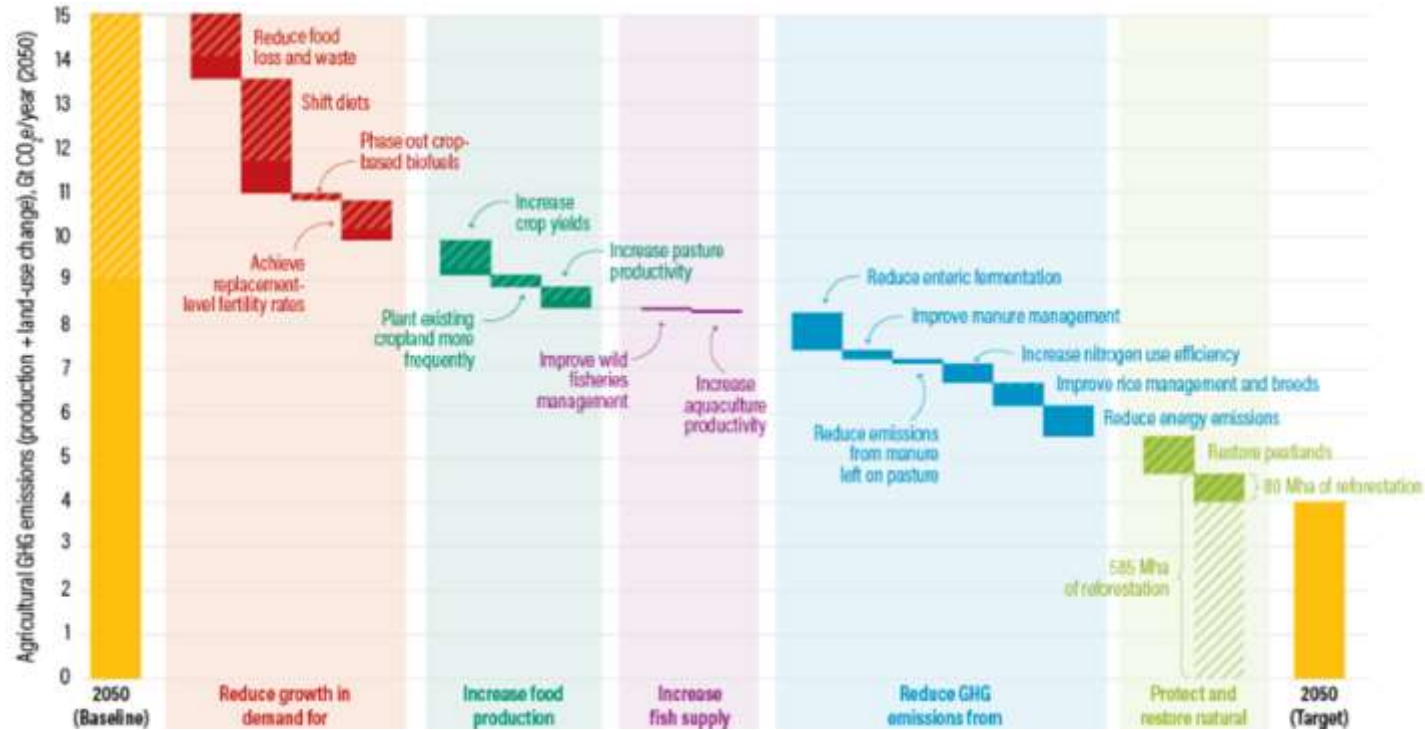
Source: WRI

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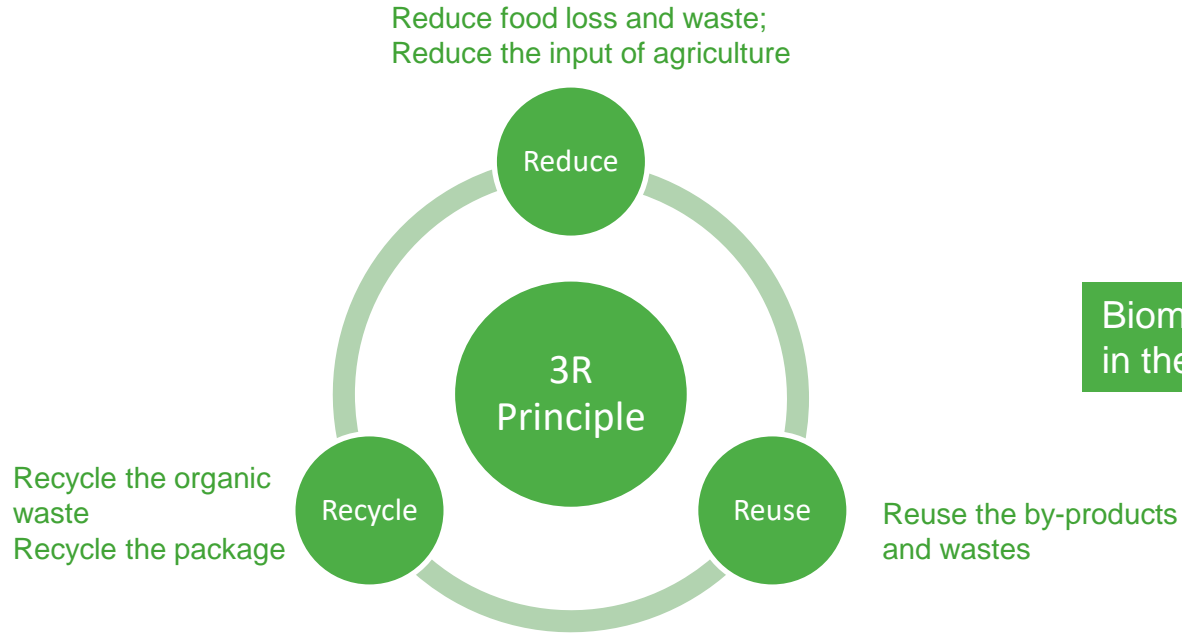
THE "PRODUCE-PROTECT-REDUCE-RESTORE" APPROACH CONTRIBUTES TO THE SUSTAINABLE TRANSFORMATION OF THE GLOBAL AGRI-FOOD SYSTEMS



SUSTAINABLE TRANSFORMATION OF AGRI-FOOD SYSTEMS CONTRIBUTES TO THE SYNERGIES BETWEEN THE FOOD SECURITY AND CLIMATE CHANGE AGENDAS



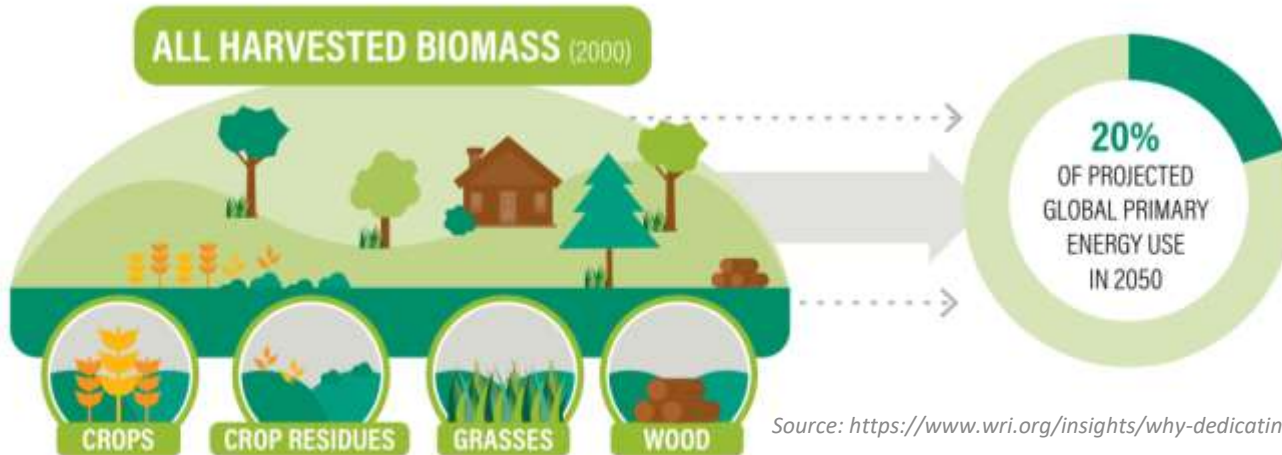
INTEGRATE CIRCULAR ECONOMY INTO THE PATHWAY OF AGRI-FOOD SYSTEMS TRANSITION



Biomass is a key component in the cycle of circulation

BIOMASS SOURCE: AVOIDING BIOENERGY COMPETITION FOR FOOD CROPS AND LAND

- Bioenergy can play a modest role using wastes and other niche fuel stocks, but recommends against dedicating land to produce bioenergy
- Using all of the world's harvested biomass for energy would provide 20 percent of the world's energy needs in 2050
- The competition for land is growing, even without more bioenergy, to meet likely demands for at least 70 percent more food, forage and wood.



Source: <https://www.wri.org/insights/why-dedicating-land-bioenergy-wont-curb-climate-change>

US: SUSTAINABLE SOURCING AND UTILIZATION OF BIOMASS

To build a net-zero economy in US by 2050, biomass needs to come from only those sources that are truly carbon-negative. As many industries, including carbon removal, turn to biomass to help fight climate change, sustainable sourcing will be critical.

Principles for sustainable sourcing of biomass

1

Prioritize wastes, residues,
and by-products



2

Forestry material should
come from ecologically
managed forests



3

Grown carbon removal crops
should be limited to native
species on marginal land



Source: WRI
2022

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Using Biomass Responsibly

- Take into account the ecosystem services provided by biomass
- Incorporate input from local and Indigenous communities
- Develop specific guidelines and policies for different types of biomass

RWANDA: CIRCULAR FOOD SYSTEMS



Background

- **Africa:** 20.4% of population face hunger;
- **Rwanda:** 70% of population work for agriculture and contributes 33% to GDP
- **Rwanda:** nearly 40% of its food production is lost or wasted annually

Project target

- To transform the country's food systems by promoting circularity and environmental sustainability through SME development and policy engagement.
- By equipping businesses with the tools to adopt circular principles, the project is fostering a food system that is resilient, inclusive, and sustainable.

Project Progress

- **Policy and Stakeholder Engagement** – Effective policy and stakeholder engagement to create a stronger enabling environment for food systems transformation in Rwanda.
- **20 SMEs** have been got the support to drive the changes toward a sustainable and circular food system.



RWANDA: CIRCULAR FOOD SYSTEMS



Policy Recommendations



- ✓ Integrate circular food systems into national capacity-building programs for SMEs.
- ✓ Address the standards gap for specific circular food products.
- ✓ Enhance capacity-building support for SMEs' circular food systems standards.
- ✓ Establish a certifiable circular economy management system.
- ✓ Establish a recognition program for SMEs' circular food innovations.
- ✓ Establish a mutual recognition and harmonization framework.
- ✓ Establish and implement a tiered conformity assessment system.

CHINA: CIRCULAR AGRICULTURE

DONGLIN ECOLOGICAL FARM

Scale

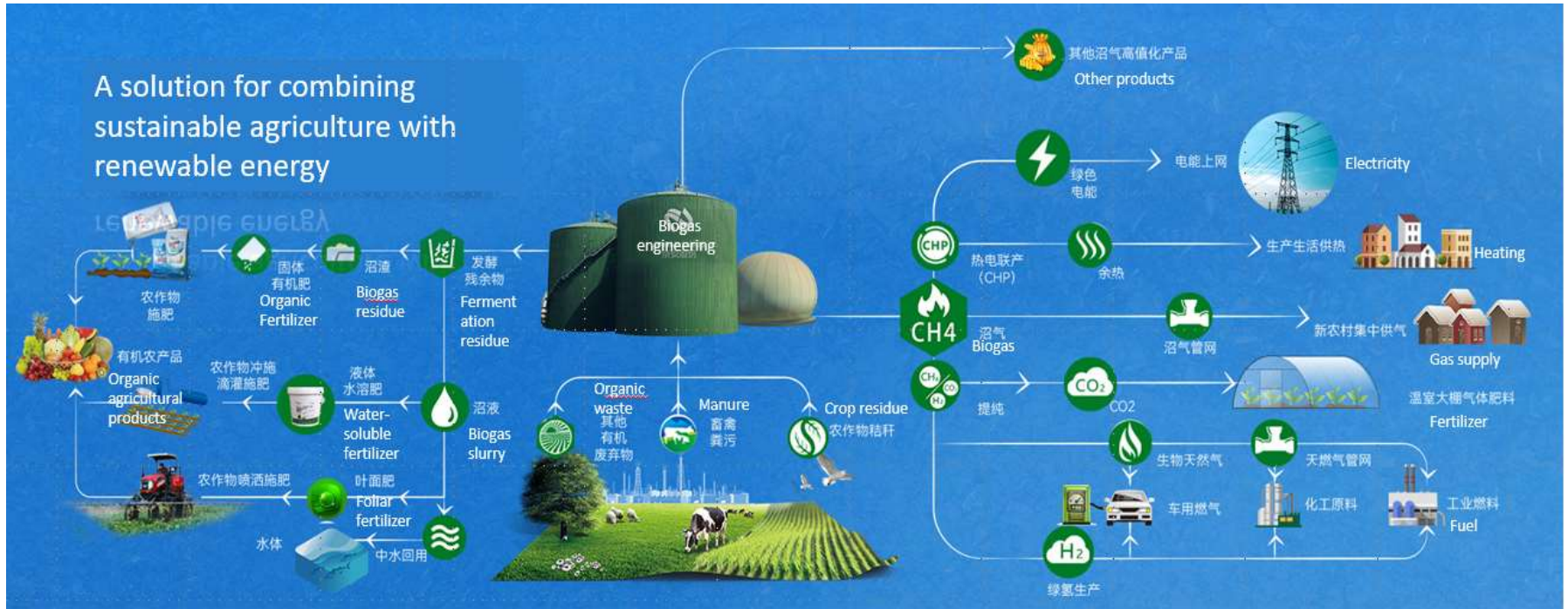
- Planting area: **2,200** mu
- Breeding area: **32,000** m², with 40,000 sheep
- Rice and wheat straw collection capacity: **30,000** mu per season
- Annual production of straw feed: **60,000** tons (8h shifts)
- Annual production capacity of organic fertilizer: **10,000** tons

Benefit

- Biomass is fully recycled and reused, achieving pollution and carbon reduction effects.
- The quality of the rice and mutton has improved
- Annual net income has increased by 7.1 million yuan compared to conventional models.



CHINA: INTEGRATED SUSTAINABLE AGRICULTURE WITH RENEWABLE ENERGY IN RURAL AREA



TACKLING CHALLENGES TO AGRI-FOOD SYSTEM TRANSITION



Multilateral cooperation



Data support and Tools



Financial support



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