

Globalization

Globalization drives oilseed trade expansion



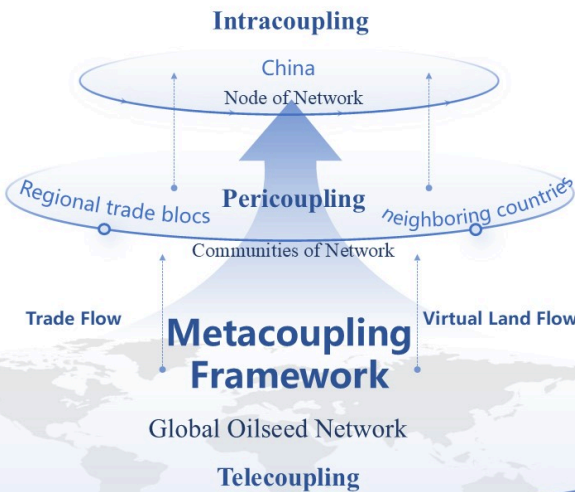
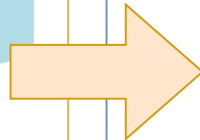
Oilseed Crops

China becomes core node

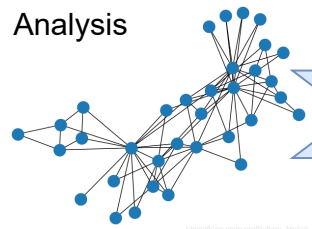


Metacoupling Framework

Triggers cross-scale virtual land flow



Complex Network Analysis

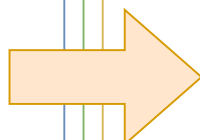
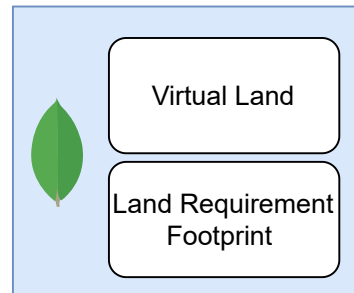


S1 network: All major oilseeds

S2 network: Major oilseeds exclude Soybean

Virtual Land

Land Requirement Footprint



Global Level

Growing Complexity

High Connectivity & Concentration

Cross-Regional Integration



Land Savings: 116.4→193.1 Mha



Risk: Single-Pole Dependency



China Level

Cultivated Land Pressure Index



0.13-16

Global Land Saving

Stabilized China's domestic Cultivated Land Pressure

Dual-track Land-Sparing: Quality+Quality

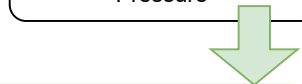
Regional Level

Regional Imports (2023)



22.6% Share

Optimizing Arid Zone Land Use

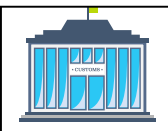


Synergistic Outcome

- ✓ National Food Security
- ✓ Ecological Restoration
- ✓ Global Resource Optimization



Policy Implications



Government

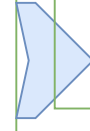


Enterprises



Consumers

Multi-stakeholder collaboration



Conclusion



Global "Land-Sparing" & Domestic Restoration

Shift from Efficiency to Resilience



Achieves of Food Security, Land Conservation & Global Sustainability