### Supplementary material\_4\_List of reviewed articles and key characteristics

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| **Paper ID/ type of analysis** | **Causal statements in focus** | **Flows presented** | **Temporal dimension** | **Types of tools applied to justify causal statements** | **Type of interpretation** | **Level of telecoupling engagement** |
| **Alexander et al. 2017** | Climate scenarios influence land-use projections | None | ✓ | Land use model | Quantitative | Narrative |
| **Andriamihaja et al. 2019** | Distant actor interests influence and accelerate local land competition in Madagascar | Commodities; Financial exchange and investments |  | Field survey; Expert interviews; Focus group interviews; Snowballing approach; Social network analysis | Qualitative | Operationalized through existing concepts and tools |
| **Bicudo da Silva et al. 2017** | Sino-Brazilian soybean trade has an effect on Brazilian production systems and the risk of extreme climate | Commodities; Information and knowledge | ✓ | Statistical comparison; Literature and existing evidence; Snowballing approach; Individual interviews; Household questionnaire | Both qualitative and quantitative | Empirical application |
| **Carrasco et al. 2017** | International trade affects biodiversity conservation | Financial exchange and investments; Information and knowledge; Trade |  | Literature and existing evidence | Both qualitative and quantitative | Empirical application |
| **Carter et al. 2014** | Community and resident characteristics affect wildlife and vice versa | Commodities; Human migration; Information and knowledge; Tourism | ✓ | Conceptual construction of coupled systems | Both qualitative and quantitative | Narrative |
| **Chen et al. 2019** | Farmland restoration policy influences the quality and quantity of farmland | Policy; Environmental and biophysical; Financial exchange and investments | ✓ | Statistical comparison; Literature and existing evidence | Quantitative | Empirical application |
| **Creutzig et al. 2019** | Human pressure, domestic institutions, climate change impacts, and telecoupled land demand by international trade is driving global land use change | Trade | ✓ | Literature and existing evidence; Maps and satellite imagery; Statistical comparison | Quantitative | Narrative |
| **Dou et al. 2018** | Corporate deforestation commitments in the Amazon have led to spillover effects in the Cerrado biome | Commodities; Financial exchange and investments; Policy | ✓ | Literature and existing evidence; Panel regression; Statistical comparison; Time series | Quantitative | Empirical application |
| **Friis and Nielsen 2017** | Banana plantation expansion is influenced by economic, environmental, political and discursive interactions with distant systems | Environmental and biophysical; Financial exchange and investments; Policy; Trade |  | Focus group interviews; Household questionnaire; Individual interviews; Participant observation; Snowballing approach | Qualitative | Empirical application |
| **Fuller et al. 2018** | How US demand for Chinese furniture is positively correlated with Chinese wood imports from the Congo basin and thus with tree cover loss | Commodities; Trade | ✓ | Literature and existing evidence; Maps and satellite imagery; Linear regression model; Multivariate model; Statistical comparison | Quantitative | Narrative |
| **Galaz et al. 2018** | Financial giants influence climate stability through financing channels targeting particular ecosystems | Financial exchange and investments |  | Conceptual construction of coupled systems; Statistical comparison | Both qualitative and quantitative | Narrative |
| **Garrett et al. 2013** | Production of non-GMO soybeans increases competitive advantage and creates new conservation opportunities through environmental certification | Commodities; Trade | ✓ | Literature and existing evidence; Multivariate logistic model; Partial equilibrium model | Quantitative | Narrative |
| **Gasparri et al. 2015** | South African-South American telecoupling causes soy expansion in South Africa | Financial exchange and investments; Information and knowledge; Trade | ✓ | Statistical comparison | Quantitative | Empirical application |
| **Gasparri et al. 2015b** | Soybean and cattle production are coupled and self-reinforcing drivers of land-use change | Commodities; Financial exchange and investments; Trade |  | Conceptual construction of coupled systems; Literature and existing evidence | Both qualitative and quantitative | Empirical application |
| **Hauer and Nielsen 2020** | Rice fields and rice markets co-evolve | Commodities |  | Individual interviews; Participant observation | Both qualitative and quantitative | Operationalized through existing concepts and tools |
| **Hulina 2017** | Human land-use causes changes in bird distribution and migration | Diseases; Energy; Environmental and biophysical; Financial exchange and investments; Information and knowledge; Species dispersal or animal migration; Tourism | ✓ | Literature and existing evidence | Both qualitative and quantitative | Empirical application |
| **Kastner et al. 2015** | Land-use impacts are caused by socio-economic activities | Environmental and biophysical; Trade | ✓ | Statistical comparison; Time series | Quantitative | Narrative |
| **Keys and Wang Erlandsson 2018** | Terrestrial moisture recycling causes feedbacks, bottlenecks, and potential cascades | Environmental and biophysical; Social dynamics |  | Conceptual construction of coupled systems; Literature and existing evidence | Both qualitative and quantitative | Operationalized through existing concepts and tools |
| **Kozak and Szwagrzyk 2016** | Forest cover increases due to agricultural land abandonment | None | ✓ | Simulation model | Quantitative | Narrative |
| **Laroche et al. 2020** | USA diets have a different footprint and environmental impacts on, for example, freshwater ecosystems and pollinator loss | Commodity; Environmental and biophysical; Trade |  | Footprint and other impact calculations; Matrix algebra; Statistical comparison | Quantitative | Narrative |
| **Le Gall et al. 2019** | Locusts and locust control affect livestock grazing through competition, nutritional preferences, pesticide use, and nutrient cycling | Species dispersal or animal migration; Pests |  | Literature and existing evidence | Quantitative | Narrative |
| **Leisz et al. 2016** | Telecouplings of commodities, information, and finance drive land-use change | Commodities; Financial exchange and investments; Human migration; Information and knowledge; Policy |  | Field observations; Focus group interviews; Historical interviews; Individual interviews; Participatory methods; Maps and satellite imagery | Both qualitative and quantitative | Empirical application |
| **Llopis et al. 2020** | The influence of Protected Areas and cash crop price boom on local well-being in Madagascar | None |  | Focus group interviews; Individual interviews | Both qualitative and quantitative | Narrative |
| **Marola et al. 2020** | Industry ownership and geographical patterns can explain clustered wine certification uptake in Chile and Australia | Information and knowledge |  | Individual interviews; Snowballing approach; Maps and satellite imagery; Logistic regression model | Both qualitative and quantitative | Narrative |
| **McCord et al. 2018** | Change in land, productivity, carbon stock and habitat due to interactions between Brazil’s soy production and international demand | Commodity | ✓ | GeoApp; Multiple models integration | Quantitative | Operationalized through existing concepts and tools |
| **Millington et al. 2017** | How land-use decisions result from global food trade and policy | Trade |  | Multiple models integration | Quantitative | Operationalized through existing concepts and tools |
| **Montti et al. 2017** | Urbanization facilitates species invasion | Species dispersal or animal migration | ✓ | Field inventory and measurements; Literature and existing evidence; Maps and satellite imagery; Agent-based model; Multivariate logistic model; Presence-only modelling; SVM classification; Descriptive statistics; Landscape structure quantification; Statistical comparison | Quantitative | Narrative |
| **Norder et al. 2017** | Human-environment interactions have negatively affected current ecosystem services | Temporal | ✓ | Land use model | Quantitative | Narrative |
| **Oberlack et al. 2018** | Transnational investment increases inequality in affected communities | Financial exchange and investments; Discursive; Environmental and biophysical; Human migration; Information and knowledge | ✓ | Literature and existing evidence | Qualitative | Operationalized through existing concepts and tools |
| **Prell et al. 2016** | Poor countries' export to wealthier countries often lead to the poorer countries stressing their lands | Trade | ✓ | Maps and satellite imagery; IO model; Stochastic actor-oriented model; Time series | Quantitative | Narrative |
| **Rulli 2019** | Palm oil production increases due to renewable energy policies in the US and EU | Commodities; Trade | ✓ | Literature and existing evidence; Maps and satellite imagery; Footprint and other impact calculations | Quantitative | Narrative |
| **Schaffer-Smith et al. 2018** | Greater value of soybean exports is associated with greater deforestation in exporting countries | Trade | ✓ | Literature and existing evidence; Quantitative network analysis | Quantitative | Empirical application |
| **Schierhorn et al. 2016** | Change in Russian beef production and consumption leading to telecoupling relationship with Brazil and Russian CO2 import | Commodities; Trade | ✓ | Literature and existing evidence | Both qualitative and quantitative | Narrative |
| **Schierhorn et al. 2019** | GHG emissions change in the Soviet Union is linked to agricultural production, land-use change, trade, and consumption | Commodities: Environmental and biophysical; Trade | ✓ | Field inventory and measurements; Literature and existing evidence; Global Livestock Environmental Assessment Model GLEAM; Decomposition analysis; Footprint and other impact calculations; Matrix algebra | Quantitative | Narrative |
| **Seaquist et al. 2016** | n.a. (causality not in focus) | Trade |  | n.a. | Quantitative | Narrative |
| **Silva et al. 2020** | The exchange between natural vegetation and agriculture creates a shifting mosaic in mountain regions | None | ✓ | Maps and satellite imagery | Quantitative | Narrative |
| **Sun et al. 2017** | The international food trade affects agricultural land use | Commodities | ✓ | Maps and satellite imagery | Quantitative | Empirical application |
| **Tonini and Liu 2017** | There are links between panda loans, tourism and environmental effects | Financial exchange and investments; Species dispersal or animal migration; Tourism | ✓ | Conceptual construction of coupled systems; Footprint and other impact calculations | Quantitative | Empirical application |
| **Torres et al. 2017** | The telecoupling between Chinese soybean demand and Brazil's production changes land use in both countries | Commodities; Policy; Trade | ✓ | Literature and existing evidence | Qualitative | Empirical application |
| **Weng et al. 2020** | Regimes in Bolivia and Brazil contribute to the intensity of a mega-drought in Colombia | None |  | Literature and existing evidence | Both qualitative and quantitative | Narrative |
| **Yao et al. 2018** | Change in soybean trade is driven by macroeconomics, soybean productivity, other crop productivity, pasture and forestry changes, and policy | Commodities; Trade | ✓ | Literature and existing evidence; GTAP-BIO model; Decomposition analysis | Quantitative | Operationalized through existing concepts and tools |
| **Yawson et al. 2020** | UK climate change mitigation policies impact national and transnational food security | Trade | ✓ | Causal loop diagram; Climate model | Quantitative | Narrative |
| **Young et al. 2016** | Biophysical and socioeconomic telecouplings can explain treeline shifts and glacier recession which leads to new ecological zones | None | ✓ | Literature and existing evidence; Maps and satellite imagery | Quantitative | Narrative |
| **Zaehringer et al. 2018** | Increase in rubber plantations due to trade, prices, and increased seedling availability | None | ✓ | Literature and existing evidence | Both qualitative and quantitative | Narrative |
| **Zimmerer et al. 2018** | n.a. (causality not in focus) | Human migration; Commodity | ✓ | n.n. | Both qualitative and quantitative | Operationalized through existing concepts and tools |