CONSUMPTION-DRIVEN EXTERNALIZATION OF LAND DEMAND AND OUTSOURCING LAND DEGREDATION

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The increasing complexities in interlinkages between land use and consumption especially at the global level and their contribution to environmental change have become is a big challenge. Changes in land use especially the expansion of cropland into natural vegetative and forest areas, have led to environmental and land resource degradation (Lambin & Meyfroidt, 2011). During the 1980–2000 period, many intact forests were converted into agricultural land across the tropics, raising concerns about environmental services and biodiversity loss. Much pressure has been put on terrestrial ecosystems by income growth, economic globalization, and rapid urbanization. Unprecedented land-use changes continue to occur due to the constant development of economies and expansion of global markets resulting in resource depletion and ecosystem degradation (UNEP 2007).

The process of globalization has increased the interconnectedness of places and people worldwide, whereby goods and services consumed in one country are often produced in other countries and then exchanged through international trade. Thus, local consumption is met through global supply chains, which often involve large geographical distances (Jorgenson, 2016). Liberalization of the global trade of goods and services has increased significantly. At the same time, its environmental and socio-economic impacts remain complex and controversial, for instance, the high energy consumption and emission of pollutants resulting from increased transportation. Long-term impacts of trade, such as land use patterns, deforestation, and natural resource degradation, have also increased (Wu, Koellner, & Binder, 2006).

There has been significant changes in diet structure and consumption patterns in the last few decades due to economic growth and urbanization with increasing demand for protein-based diets. The growing demand for feed, fuel, and fiber also places intense pressure on land resources. More importantly, the intensification of agriculture and land use has triggered changes in trade patterns affecting land use in other countries. Studies show that tropical deforestation is positively correlated with urban population growth and exports of agricultural products. Urban and wealthy nation inhabitants, due to their high income, consume more resources than inhabitants in regions where a large percentage of the population still reside in rural areas and where livelihoods are highly dependent on ecosystem goods and services and agriculture. Food waste in developed countries also remains high which increases the level of production stresses for exporting countries (Lambin & Meyfroidt, 2011).

Due to globalization, the growing demand for goods and services in many countries is increasingly met through international trade. Globalization has resulted in an increase in worldwide interconnectedness and the emergence of socio-political institutions. Accordingly, international trade in food commodities has increased drastically in the last century due to trade liberalization, advancement in transport, and the evolution of information and technology. This has resulted in environmental impacts such as deforestation and other forms of land conversions. International

trade imposes pressure on domestic land and other ecosystem resources in exporting countries. Products derived from land use are often consumed at different places leading to connections between distant places in the global land system through biomass trade (Global Land Project, 2010). Peters et al. (2011) found that from 1990 to 2018, international trade has led to an increase in net emission from 0.4 Gt CO2 to 1.6 Gt CO2.

"THE QUESTION OF WHETHER DEVELOPMENT ULTIMATELY REDUCES IMPACTS OR SIMPLY SHIFTS THEM ELSEWHERE ARISES"

These forms of international and transnational processes are a part of the globalization project with export-oriented production and foreign direct investment attraction as the two ways in which least-developed nations attempt to stimulate development and establish themselves in the increasingly integrated world economy. In turn, through increased imports of manufactured, agricultural, and extracted materials, wealthier nations exacerbate environmental degradation within developing nations (Aruga, 2019). Decisions on local land use are largely influenced by economic globalization, which increases the influence of large agribusiness enterprises and international financial flows at the local level. In some cases, this weakens national policies intended to promote a public good.

owever, trade has the potential to increase global land-use efficiency by enabling regional specialization in land use and productivity (Lambin & Meyfroidt 2011).

According to Bruvoll & Medi (2003) and Bo (2011), economic growth via a treadmill of production continuously intensifies environmental degradation as it involves the consumption of natural resources and energy production. Economic development is said to worsen environmental problems as the increase in resource use and waste generation intensifies. Although new innovations are likely to improve the economic efficiency of production by decreasing the amount of energy and raw materials consumed per unit of production, technological innovation also leads to more units produced within a fixed amount of time. This may generate overall growth in raw materials, energy consumed, and the amount of waste generated.

In the initial stages of industrialization, job creation and income growth are more important than clean air and water. Hence priority is given to an increase in material output. As a result, pollution grows. The fast growth inevitably results in greater use of natural resources and emission of pollutants, putting more pressure on the environment. Society is too poor to pay for abatement and disregard the environmental consequences of growth. As income rises, people are more likely to put more value on the environment in later stages of industrialization, and regulatory institutions become effective. At this stage, pollution levels decline as there is a structural change in the economy at higher economic development levels coupled with increased environmental

awareness, enforcement of environmental regulations, and better technology (Halkos, 2011). Thus as economic output increases, the structure of the economy tends to shift from agricultural activity to an industrial economy, which is pollution-intensive, and then to a service economy, which is less damaging to the environment.

The Kuznets curve hypothesis is said to work only at national levels, as this results in displacement whereby the pollution-intensive industries are shifted to countries that are at their development stage and whose regulations on environmental pollution are still not very effective. The question of whether development ultimately reduces impacts or simply shifts them elsewhere arises. In this case, wealthy nations have the power to distance themselves from the impacts they generate. It is, therefore, misleading to focus only on the impacts a society generates within its national borders instead of focusing on total impacts, those generated within and beyond national borders, is essential to a theoretical understanding of threats to sustainability.

Environmental impacts will continually increase with economic growth but will not occur totally inside the nations generating the economic growth (York, Rosa, & Dietz, 2007). This is because the emergence of structural change in production is linked to international trade. Equivalent changes in consumption structure do not accompany the changes in the structure of production in developed economies. Therefore, the pollution-intensive industries migrate to countries with weaker regulations. However, international trade composition reflects the energy consumption of a country, and countries that export more manufactured goods tend to have a higher energy consumption. Developing countries are likely to be net exporters of land, and labour intensive and rich countries to be net importers of these goods leading to land degradation in places where these goods are produced (Dinda, 2004).

International trade conceals the link between income and the environment in a given country by delinking consumption from production within the country. Ekins (1997) argues that when shifts in consumption patterns do not match production patterns, environmental effects are being displaced from one country to another. Increasing evidence also illustrates that open economies tend to be cleaner than closed economies. In addition, a growing body of ecological economics literature has shown that, while the production patterns of developed countries may have grown cleaner over time, their consumption patterns continue to be environmentally burdensome (Panayotou, 2003).

CONCLUSION

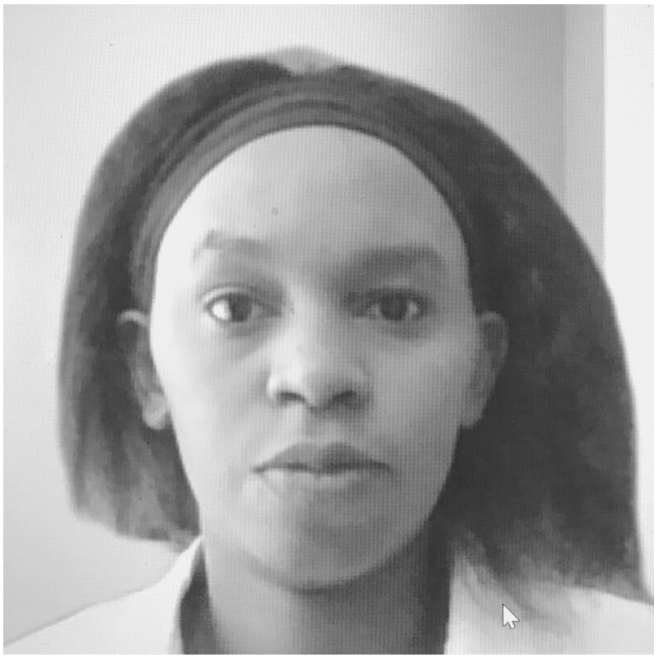
To meet the increasing and changing demand for food in the future, countries will be forced to consume a large amount of foreign cropland. These changes are driven by urbanization, population growth, lifestyle changes, and income growth. As GDP per capita increases, countries are likely to extend their consumption levels beyond borders. They do this through imports and foreign direct investments (FDI). As countries aspire for cleaner environments, they are likely to outsource the land and pollution-intensive industries. To date, the global

environmental policy regime has focused mainly on land degradation and emissions that occur at the country level.

However, through imports and FDI outflows, high-income countries can evade full responsibility especially for their emissions.

The last few decades have seen industrialized countries report substantial reductions in CO2 emissions and reduced land degradation combined with economic growth. This has been interpreted as successful decoupling of economic growth from CO2 emissions. Most reduction of territorial emissions is primarily due to displacement rather than absolute decoupling (Jiborn et al, 2018). For countries to achieve the required amount of CO2 emission cuts, high-income countries need to address aggregate CO2 emission from consumption. In meeting the Paris Agreement of keeping global temperature increase below 1.5 degrees and cutting down on CO2 emissions, it is essential to make sure that countries do not meet their CO2 targets by displacing their emissions to other countries. This calls for accounting for both territorial and emissions embodied in trade. According to Knight & Schor (2014), in 1995, consumption OECD based (i.e., trade-adjusted) carbon emissions were estimated to be 5% higher than territorial emissions, and in 2001, 21.5% of global CO2 emissions were embodied in international trade, with middle income countries being the net exporters of pollution-intensive goods. The potential for developed countries to offshore their carbon emissions presents a potential through which high income countries can avoid full responsibility for their emissions. It remains vital for the global community to develop verifiable consumption-based emissions and consider them in future discussions.

Action on managing the global commons remains firmly in the hands of states, reliable methods are needed to ensure that impacts on land and emissions reductions on a national level are not offset through leakage. New indicators are needed to help policymakers set and monitor trade development in an ethical way for the carbon balance of their foreign trade. There is a need for further research, laws and regulation and emphasis on issues requiring collective decision making on such externalities that affect the global commons.



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