

African forests threatened by global demand for commodity crops

April 4 2017, by Simon Davies

International demand for commodity crops like cocoa is putting increasing pressure on tropical forests in sub-Saharan Africa, according to new research.

The study – the first comprehensive empirical assessment of land-use change impacts of commodity crop expansion in sub-Saharan Africa, and their effects on [tropical deforestation](#) – published today in the journal *Environmental Research Letters*.

Using a mixed methods approach, the researchers from Stanford University in California carried out analyses at the global, regional, and local scales. They found cocoa was the fastest expanding export-oriented crop in sub-Saharan Africa, accounting for 57 per cent of global cocoa expansion from 2000 to 2013, at a rate of 132,000 hectares a year.

Lead author Elsa Ordway said: "The expansion of export-oriented commodity [crops](#) has become the dominant driver of [deforestation](#) in the humid tropics, and is often associated with conversion to industrial-scale plantations growing a single crop. Sub-Saharan Africa is widely considered the next frontier for expansion, yet the influence of international markets on deforestation in the region has been largely unexplored.

"Our results suggest that cocoa expansion in sub-Saharan Africa may result in rapid deforestation and forest degradation, similar to the trends of forest conversion for soy production in South America, and [oil palm](#)

production in Southeast Asia. We found that Congo Basin countries are disproportionately affected, averaging the highest percentage forest cover (58 per cent) and among the lowest potentially available cropland outside forest areas, at just one per cent.

"This is significant, as African forests represent nearly 30 per cent of [tropical forests](#) globally, and 25 per cent of tropical forest carbon stocks, 90 per cent of which are stored in Congo Basin forests."

The expansion of commodity crop production – both for domestic consumption and export – was being driven not by large industrial plantations, but by small and medium-scale farmers.

Significantly, however, the researchers found a high concentration of foreign investment in large areas of land for oil palm production in heavily forested countries, and growth in the export of soy and oil palm products from the region, suggesting increasing influences of distant markets on land-use change throughout sub-Saharan Africa.

Mrs. Ordway said: "Efforts to reduce deforestation globally are mainly focused on South America and Southeast Asia. Yet, the relatively low current deforestation rates in sub-Saharan Africa offer an opportunity to implement preventive policies against a possible acceleration of [forest](#) conversion.

"Our findings are therefore highly relevant to current policy agendas. For example, insight from this research can inform strategies being developed to 1) implement zero-deforestation commitments by private companies; and 2) adhere to Intended Nationally Determined Contributions (INDCs) put forth by national governments under the U.N. Framework Convention on Climate Change (UNFCCC)."

More information: "Deforestation risk due to commodity crop

expansion in sub-Saharan Africa." Ordway E M et al 2017 *Environ. Res. Lett.* doi.org/10.1088/1748-9326/aa6509

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