From Promise to Practice: Assessing Global Carbon Markets

Digital Development Dialogue (3D)

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Global carbon markets hold the promise of mitigating climate change by establishing a financing mechanism to reduce, remove, and avoid emissions. A key characteristic of global carbon markets is, however, their heavy reliance on avoided-deforestation projects within the REDD+ framework. Despite their prominence, these projects continue to face widespread criticism. In particular, in the past two years, there has been a renewed wave of strong criticism from both NGOs and the scientific community related to effectiveness, fairness, and sustainability of REDD+ projects. In this seminar, **Prof. Dr. Jan Börner** (University of Bonn) and **Dr. Raymond Achu Samndong** (Tenure Facility) examined the gap between the theoretical benefits and the practical realities of global carbon markets. Their discussion covered methodological issues in estimating avoided emissions, the adverse local economic effects due to weak benefit-sharing mechanisms, and the lack of community consent in many projects. The session further explored potential regulatory fixes to ensure more equitable and effective implementation of REDD+ projects.

Jan Börner started off by emphasizing that the voluntary carbon markets (VCM) remain the only truly global mechanism, while other markets are primarily regional. He referenced Stern's (2006) argument that carbon markets provide a more efficient alternative to centralized taxation. However, Börner also highlighted critiques, particularly Dan Welch's comparison of carbon credits to "abolition letters" for the fossil fuel industry and his claim that many represent mere "hot air" rather than real deforestation reductions. **Börner showed the results of a recent study indicating that the VCMs often overstate avoided deforestation due to inflated reference scenarios.**[1] The counterfactual-based assessment tools used in these types of studies, such as synthetic control methods, show that many REDD+ projects have minimal actual impact on deforestation. This overestimation led to a credibility crisis, causing prices in the VCM to drop. Despite these issues, Börner highlighted the potential benefits of REDD+ projects and pointed to evidence from meta-analysis, suggesting that most REDD+ initiatives have successfully reduced deforestation, albeit with modest but generally positive welfare effects. A key takeaway from his analysis was that early critics of REDD+ correctly anticipated many of its challenges, particularly the risks of moral hazard stemming from asymmetric information in the measurement, reporting and verification (MRV) system. Nonetheless, he argued that these problems do not invalidate the concept of carbon markets but rather necessitate improved regulation and methods such as independent verification mechanisms and adaptive baseline methods.

Raymond Achu Samndong shifted the discussion to the local dimensions of REDD+ projects, focusing on the involvement of indigenous communities. Using the example of REDD+ projects in Mai-Ndombe, Democratic Republic of the Congo (DRC), he illustrated both the potential benefits and deep-seated challenges of such initiatives. While these projects have set ambitious goals, including emissions reduction, biodiversity conservation, and sustainable land management, their benefits to local communities remain limited. Samndong acknowledged some successes, such as community consultations, agricultural improvements, and direct payments for environmental services. However, he underlined that compared to the scale of the projects - ranging between 300,000 ha to 9 million ha - and the size of the affected population, the benefits are negligible. He also emphasized critical shortcomings, including the failure to formalize land rights, weak benefit-sharing mechanisms, and poor community engagement. Transparency issues, land use conflicts, and ineffective grievance mechanisms further weaken the credibility and legitimacy of these projects. Samndong underscored that for REDD+ to achieve its intended social benefits, it must move beyond viewing communities as passive beneficiaries and instead engage them as active partners in project design. He called for clearer land tenure rights, stronger benefit-sharing frameworks, and more transparent governance structures. Reforms should include Free, Prior, and Informed Consent (FPIC) protocols, localized translations of technical materials, and the incorporation of traditional knowledge into conservation strategies, as part of a more community-centered approach.

During the Q&A session, participants raised concerns about the future of carbon markets and potential regulatory improvements. One question focused on new mechanisms to address the structural challenges within VCMs. Börner noted that while some countries have allocated significant funds to REDD+ projects, broader international investment remains unlikely. He highlighted ongoing innovations in measurement techniques, including dynamic baselines that adjust after project initiation. Samndong added that baseline scenarios using national-level estimates can sometimes obscure regional variations, particularly in large countries like Brazil.

[1] West, T. A., Wunder, S., Sills, E. O., Börner, J., Rifai, S. W., Neidermeier, A. N., ... & Kontoleon, A. (2023). Action needed to make carbon offsets from forest conservation work for climate change mitigation. *Science*, *381*(6660), 873-877.

Another discussion centered on methodological concerns regarding spillover effects in synthetic control studies. Börner acknowledged criticisms that some studies selected comparison areas too far from project sites and argued that selecting appropriate counterfactual regions remains a more pressing challenge. Another question explored the impact of global political trends on community participation in carbon markets. Samndong pointed out that historically, international aid—such as funding from USAID—has played a crucial role in financing REDD+ initiatives. With anticipated reductions in aid, alternative funding mechanisms such as markets could become more relevant. However, they also noted that commodity prices for agricultural goods significantly exceed those in the VCM, making international funding crucial to supporting REDD+ projects as an alternative to other agricultural land uses.

The session also touched on other methodological challenges and alternatives. Börner emphasized that REDD+ and conservation projects are often placed in areas without significant future deforestation, leading to inefficiencies. He suggested that such projects should be implemented in regions with higher opportunity costs to reflect the true price of avoiding deforestation. Meanwhile, Samndong mentioned discussions from COP28 about alternative market mechanisms, including the proposed Tropical Forest Forever Facility.

To conclude, the seminar underscored the complexities of global carbon markets, particularly in the context of avoided deforestation. While REDD+ remains a valuable tool, its current implementation suffers from credibility challenges, inadequate benefit-sharing, and weak governance. Both speakers agreed that improvements in measurement methodologies, greater community participation, and enhanced regulatory oversight are crucial to realizing the full potential of carbon markets. The discussion highlighted the need for multi-stakeholder collaboration to ensure that market-based solutions contribute meaningfully to both climate mitigation and local development.

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