

Journal of Environmental Indicators, 9:46-47, 2015
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Synergy Potential among Climate Change Mitigation, Adaptation, and Biodiversity and Ecosystem Conservation in the Forest Sector

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Governance for climate change mitigation and adaptation measures, as well as for biodiversity and ecosystem conservation (BEC) measures, is discussed under different conventions: mitigation and adaptation under the United Nations Framework Convention on Climate Change (UNFCCC) and BEC under the Convention on Biological Diversity (CBD). However, currently there are growing interests in integrating these climate change measures and BEC measures, with a view to increasing their benefits and reducing their negative impacts. Existing research shows the co-benefits of some fields by integrating mitigation and adaptation measures within the field of climate change, and it also explores the co-benefits by integrating mitigation and BEC, as well as adaptation and BEC. However, there is limited research on the synergy among mitigation, adaptation, and B/EC.

This research explores synergy potential among climate change mitigation, adaptation, and BEC in the forest sector by using the indicators developed based on the existing enabling conditions on synergy between climate change mitigation and adaptation (Duguma et al. 2014). We use the case of the forest sector because it is likely to have high synergy potential among mitigation, adaptation, and BEC. All mitigation, adaptation, and BEC in the forest sector require forest conservation activities.

In order to evaluate the national synergy potential among the three measures mentioned above, we apply indicators proposed by Duguma et al. (2014). Since they focus only on climate, we have added BEC to their indicators and focus on the forest sector. The study will examine the following questions (indicators).

1. Policies and strategies
 - 1.1 Does the country have a policy that addresses mitigation (M), adaptation (A), and BEC in the forest sector?
 - 1.2 Is there a common strategy/action plan for M, A, and BEC in the forest sector?
 - 1.3 Has the country submitted Nationally Appropriate Mitigation Actions (NAMA)/Reducing Emissions from Deforestation and Forest Degradation in Developing Countries etc. (REDD+), Readiness Preparation Proposal (R-PP), National Adaptation Programmes of Action (NAPA) to the UNFCCC, and National Biodiversity Strategies and Action Plans (NBSAP) to the CBD?
2. Institutional arrangements
 - 2.1 Is there a national-level committee addressing M, A, and BEC in the forest sector?
 - 2.2 Is there an implementing body (e.g., institution, agency, department, and/or unit) addressing M, A, and BEC in the forest sector?
3. Financing
 - 3.1 Is there a common fund for M, A, and BEC in the forest sector?
4. Programs and projects
 - 4.1 Is there a joint program addressing M, A, and BEC in the forest sector?
 - 4.2 Are there subnational projects addressing M, A, and BEC in the forest sector?

We applied the indicators above to the countries in the Asian region, where the forest is a key sector when considering climate and BEC issues. It is common among Asian countries for few laws to address M, A, and BEC in the forest sector simultaneously, while their existing strategies, programs, and projects

address M and BEC or A and BEC. Further, in addressing M, A, and BEC in the forest sector, since the ministry that addresses environmental problems and the ministry that addresses forest-related problems have different purposes and roles, even though both ministries' works are related to the M, A and BEC in the forest sector, more cooperation between the ministries is necessary.

The following study of Cambodia is an example of our case studies. The answers to the questions are "yes," "partially," or "no."

- 1-1: No (no law addresses all M, A, and BEC, and neither M and BE nor A and BE)
- 1-2: Yes (e.g., Cambodia Climate Change Strategic Plan 2014–2023 and National Forest Programme 2010–2030)
- 1-3: Partially (no NAMA is registered)
- 2-1: Partially (e.g., National Climate Change Committee addresses M and A, and REDD+ Taskforce addresses M and BEC)
- 2-2: Partially (e.g., Ministry of the Environment addresses M, A, and BEC; however, M in the forest sector is mainly addressed by Forestry Administration)
- 3-1: Partially (e.g., Cambodia Climate Change Alliance Trust Fund focuses on A and also addresses BEC)
- 4-1: Partially (e.g., UN-REDD program in Cambodia addresses M and BEC)
- 4-2: Partially (e.g., Wildlife Conservation Society Seima Project addresses M and BEC)

Our preliminary results suggest that although the forest sector has great potential to generate synergy among mitigation, adaptation, and BEC, there are institutional challenges to enhancing their synergies. For example, the lack of holistic policies that address all three measures in the forest sector. Further, it is likely that the synergy between mitigation and BEC, as well as between adaptation and BEC, is able to be promoted through the existing programs and projects, such as REDD+ and ecosystem-based adaptation, while synergy between mitigation and adaptation requires more institutional changes.

Future analytical tasks include exploring environmental indicators that evaluate the actual environmental benefits of synergies among the three measures; assigning weights to each indicator so that we can compare each country's synergy potential easily; and determining whether indicators are applicable to sectors other than the forest sector.

REFERENCES

Duguma LA, Wambugu SW, Minang PA, van Noordwijk, M. 2014. A systematic analysis of enabling conditions for synergy between climate change mitigation and adaptation measures in developing countries. *Environmental Science & Policy*, 42: 138–148.