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Connecting the policy dots: linking adaptation, mitigation and sustainable development for climate-resilient land use planning

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Aerial view of hamlet in Kapuas Hulu District, West Kalimantan. Photo by Nanang Sujana/CIFOR

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Connecting the policy dots: linking adaptation, mitigation and sustainable development for climate-resilient land use planning

SUMMARY

In the land use sector mitigation, adaptation and development policies are all closely linked and can impact each other in positive and negative ways. It is therefore essential that these relationships are taken into account in order to enhance synergies and avoid or reduce trade-offs. This can be achieved through a specific form of Climate Policy Integration (CPI), which integrates first mitigation and adaptation policy processes and subsequently mainstreams climate policies into development processes. We have explored these processes through case studies in the land use sectors of Brazil and Indonesia. CPI in the land use sector presents a number of challenges related to cross-sectoral and cross-level integration. Unless a governmental CPI authority mandates that sectoral ministries integrate their efforts, sectoral competition over control of decision-making processes may prevail, hampering CPI. Cross-level integration is weakened by differences in understanding, priorities and power across levels of governance.

Key Messages

- 1. With regards to land use, mitigation and adaptation plans need to be integrated first, before mainstreaming climate objectives into development policies.**
- 2. Potential trade-offs between mitigation and adaptation need to be addressed more explicitly in both policy formulation and implementation**
- 3. Effective Climate Policy Integration (CPI) requires a strong and committed governmental authority.**
- 4. The dominance of national level interests in mitigation marginalises adaptation concerns of local actors**

The links among adaptation, mitigation & sustainable development

We have two main strategies for fighting climate change – mitigation and adaptation – and land use systems are key to both. Systems such as agriculture and forestry are vulnerable to climate change, but they can also help people and ecosystems adapt to its negative impacts (adaptation). Furthermore, they can contribute to slowing down climate change by reducing greenhouse gas emissions or enhancing carbon sinks (mitigation).

The links between adaptation and mitigation, and between the two climate strategies and sustainable development are strong. These links are particularly evident in land use management. A land use strategy can produce co-benefits, even positive reinforcing outcomes for climate and

development, or it can result in negative spill-over effects for one or the other.

Agroforestry and soil conservation for example can build crop and ecosystem resilience and diversify income (adaptation and development). These strategies also sequester carbon (mitigation). Indirect positive outcomes at different scales can also occur by lessening the need to convert new land for agriculture, thus reducing land-use change emissions and conserving ecosystem services.

Some land use strategies and policies can have unintended negative consequences. Biofuel as a mitigation strategy can have benefits for rural development. But it can also lead to an increase in food prices, food insecurity for certain groups of people, and social and ecosystem vulnerability.

Organizations from different sectors and levels of governance, involved in land use or climate change policy, should consider these links in their decision-making processes.

It is certainly no easy task to account for the potential negative and positive outcomes for other sectors when planning policy. The links among adaptation, mitigation and sustainable development are region and system specific. To complicate matters further, adaptation and mitigation strategies tend to impact different groups of people at different timeframes.

These are some of the reasons why policy makers have treated adaptation and mitigation as two separate processes. In our research, we investigated the degree of policy integration of mitigation, adaptation and sustainable development in Brazil and Indonesia, and how it is affected by the climate change and land use governance systems of the two countries. We explored the opportunities and barriers to integration and propose future directions for policy.

Climate Policy Integration and why it is a useful framework for climate-resilient development

Climate Policy Integration (CPI) seeks to effectively coordinate climate change decision making processes - **policy integration** - and harmonize policy objectives - **policy coherence** - to effectively mainstream climate change into sectoral and development policies. The first dimension of policy integration

includes both **vertical integration** (integrating decision making processes within one sector) and **horizontal integration** (integrating decision making across different sectors).

With regard to the second dimension, we argue that policy coherence takes a dual feature in the land use policy domain. Due to the strong interactions between adaptation and mitigation in almost all land use systems, policy coherence might not be effective if adaptation and mitigation policy objectives are pursued separately. It is therefore essential that CPI efforts focus on incorporating and reconciling climate change mitigation aims with adaptation aims first, achieving **internal climate policy coherence**. This entails analysing positive and negative effects of one on the other, planning programmes and strategies with joint objectives where it makes sense etc. The second step is then to mainstream integrated climate objectives into sectoral and development policies, achieving **external climate policy coherence**. Table 1 shows the four actions that need to be pursued to fully achieve CPI.

While it is not always possible or efficient to incorporate joint adaptation-mitigation strategies into land use programmes, CPI is a good framework for considering the interactions among adaptation, mitigation and sustainable development. This way potential negative effects can be minimized, trade-offs can be better managed and positive outcomes can be enhanced.

Table 1. Climate Policy Integration

		Climate Change Policy Processes	
		Vertical CPI	Horizontal CPI
Climate Policy Coherence	Internal Coherence (Integrating)	Integrating mitigation with adaptation within one sector	Integrating mitigation with adaptation across multiple sectors
	External Coherence (Mainstreaming)	Mainstreaming mitigation or adaptation within one sector	Mainstreaming mitigation or adaptation across multiple sectors

In addition, climate change governance is also complex because it is spread across multiple levels of governance, from the global to the national, from the sub-national to the very local. This **multi-level governance nature of climate change is evident when we juxtapose the global issue of mitigation with the primarily local nature of climate change impacts and adaptation**. We researched how cross-sectoral and cross-level interactions play out in practice, how they depend on the differences in power relations across the different levels, and how they have influenced CPI efforts in Brazil and Indonesia.

To what extent is climate policy integrated in Brazil and Indonesia?

For both Brazil and Indonesia, land-use change has contributed significantly to economic development and improved standards of living. Brazil is the second largest producer of beef and soy globally and Indonesia the largest producer of palm oil. Agribusiness dominates the land use sector of both countries, turning it into the biggest driver of carbon emissions. At the same time, stakeholders are concerned with how climate change is already affecting land use and related livelihoods.

Our key informant interviews and analysis of climate change and land use related policies show that calls for integrated approaches to adaptation and mitigation exist. They remain, however, at the level of general aspiration with no precise plans and actions. We explore the possible reasons behind this situation.

In both Brazil and Indonesia there is a stronger focus on mitigation compared to adaptation, across all land uses. There is considerably more funding available for mitigation (including from international sources), while knowledge of adaptation needs and options is limited. This imbalance is a major obstacle to internal policy integration and shows a clear need for **investment in knowledge about locally specific climate change impacts, resilience, capacity and measures for adaptation**.

Second, while policy-makers recognize the trade-offs between mitigation and non-climate objectives, they hardly address the ones between mitigation and adaptation. This can undermine the success of projects and increase adverse impacts. Hence, **potential trade-offs between mitigation and adaptation need to be addressed more explicitly in both policy formulation and implementation**.

Our third point highlights the need for a major government entity that is able to supervise and lead CPI. In 2015 bureaucratic politics in Indonesia weakened governmental supervision on climate change, dismantling the leading cross-sectoral National Council on Climate Change, the REDD+ Agency and the President's Delivery Unit for Development, Monitoring and Oversight (UKP4). The desire of key ministries to maintain full control over their respective sectors also led to the fragmentation of climate change responsibilities and undermined the leadership of the government over these matters. In the absence of a climate change entity with overarching management authority, effective CPI largely depends on the extent to which ministries incorporate climate change and integrated decision-making and policy approaches within their mandates.

Conversely, government-led vertical integration as well as horizontal integration have been dominant features of the Brazilian climate change governance structure. The Ministry of Environment and the Ministry of Science, Technology and Innovation have important coordination roles. In addition, under Dilma Rousseff the Chief of Staff to the Presidency chaired the main climate multi-stakeholder forum and interministerial committee promoting hierarchical linkages channelling responsibility from government to ministries as well as coordination across sectors and with civil society actors.

We conclude that **effective CPI requires an overarching governance structure led by a governmental authority that can manage and monitor policy integration processes**. Until

recently Brazil's climate governance structure reflected these requirements better than the Indonesian one. But with the 2018 Brazilian elections bringing a climate sceptic to the Presidency, governmental authority on climate change is likely to considerably weaken. Governments should also support the monitoring of how mitigation and adaptation are mainstreamed into development. The absence of strong political will or of an organization that ensures priorities are balanced and climate policies are integrated into development strategies jeopardizes climate action. Finding such a balance is essential not only for achieving CPI, but also to ensure development policies are sustainable.

Pathways for multi-level governance

The term multi-level governance describes multi-actor binding decision-making processes situated at different levels of governance without exclusive policy competence at any of these levels. In Brazil and Indonesia, the national and sub-national climate and land use policy domains include government, non-government and international actors that operate at the respective jurisdictional level.

We looked at the interactions between these actors both within and across levels as related to integration in climate and land use policy processes. We found three major issues that hamper cross-level integration.

First, in both Brazil and Indonesia, local level actors are more engaged with adaptation than mitigation compared to national level actors. Indeed, mitigation tends to be perceived as a more global and adaptation a more local concern. **As local actors are less influential than national actors, local adaptation agendas receive insufficient attention by key policy makers.**

Local level actors are also more aware of the linkages between sectors and the need to address climate and development objectives together. But at the national level, the higher specialisation in mitigation versus adaptation hampers such integration. Given that national

level actors dominate policy decisions, this lack of attention could lead to trade-offs between mitigation and adaptation, as well as potential benefits from integration being ignored.

The second issue relates to the formal administrative systems of the two countries and the separation of state authority into different jurisdictional levels. In both Brazil and Indonesia, policy actors mostly interact within levels and there is evidence that cross-level interactions are hampered by the legal mechanism of jurisdictions. **While jurisdictional boundaries facilitate administration of the state they also reinforce the mismatch between governance systems and the multi-level nature of climate change policy problems.**

Finally, in both countries we found that dominant policy communities do not reach across levels of governance. In Brazil and Indonesia **the most powerful policy network communities are comprised of national-level actors who mostly interact with other actors at the same level, marginalizing sub-national actors from major climate policy decisions.** On the other hand, state and municipality level actors in Brazil, and province and district level actors in Indonesia, are much more closely connected and make more efforts to reach to the national level. Yet, they have less power in climate change policy-making.

To conclude, our research has illustrated the importance of linking adaptation, mitigation and sustainable development in the land use sector and the usefulness of the Climate Policy Integration framework. We have also analysed the complexities involved in achieving CPI through our country case studies in Brazil and Indonesia. To overcome the mismatches between governance structures and the broader scale of the climate change problem, innovative and inclusive arrangements or practices in climate governance are needed, able to coordinate interactions across levels and sectors and create a more equal level playing field reducing the dominance of central policy actors and providing increased access to climate policy processes for local policy actors.

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Further information and readings

This brief is based on research findings of the ESRC research project [Multi-Level Governance, REDD+ and Synergies between Climate Change Mitigation and Adaptation](#) (grant number ES/K00879X/1) and the following publications:

Di Gregorio, M., Fatorelli, L., Paavola, J., Locatelli, B., Pramova, E., Nurrochmat, D.R., May, P.H., Brockhaus, M., Sari, I.M. and Kusumadewi, S. 2019. Multi-level Governance and Power in Climate Change Policy Networks, *Global Environmental Change*, 54: 64-77.

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