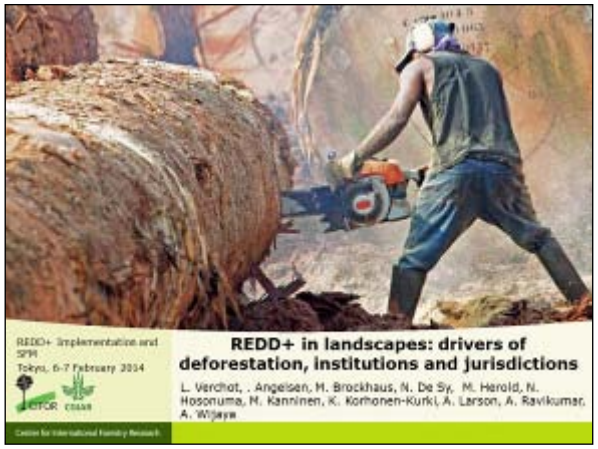
REDD+ in Landscapes: Drivers of Deforestation, Institutions and Jurisdictions

Dr. Louis V. Verchot (CIFOR)

The American writer Mark Twain once remarked that you should never put off till tomorrow what you can do the day after tomorrow. I think we feel like that sometimes countries in the climate change convention have taken this to heart. Do we not? We all feel a real sense of urgency about the problem, but we see the world moving very slowly towards solutions. Sometimes we even wonder if we are moving towards solutions. I think one of the bright spots has been what is happening in REDD+. The push within the REDD+ mechanism is actually leading the way and we are perhaps further down the line toward reducing emissions in REDD+ than we are in other sectors, particularly in fossil fuels. It is maybe an opportunity for forests to be leading the way and for landscape approaches to be showing how solutions can be brought about to complex problems so that solutions to even more difficult problems can begin moving forward.

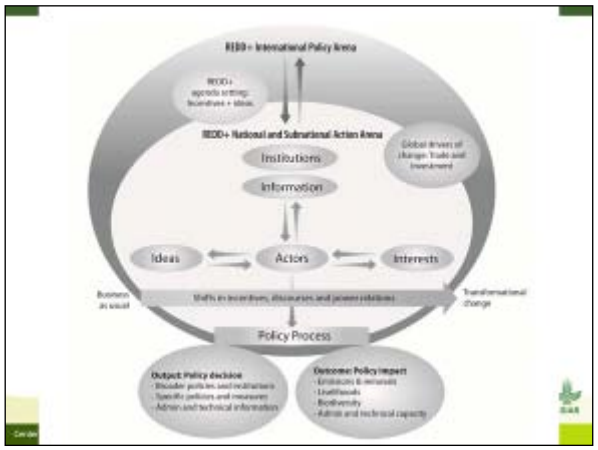
About five years ago, CIFOR embarked on what we call the Global Comparative Study on REDD+. It is a multidisciplinary project. We are working on analyzing national policies as these policies emerge to try and learn lessons from first-generation actions so that we can inform second-generation activities, and we can make the first-generation activities perhaps more effective, more cost-effective, more efficient, and certainly more equitable. We are doing a lot of work looking on demonstration activities; projects or sub-national initiatives to try and understand what the impact on people is who depend upon forest resources for their livelihoods.

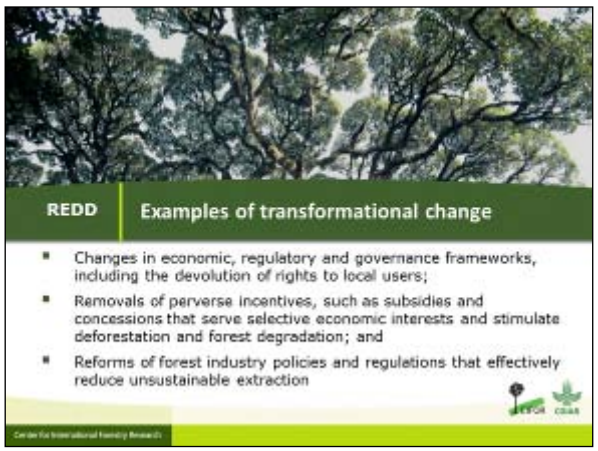
We are looking at the technical issues associated with measuring, monitoring, setting reference emissions levels, determining the emissions reductions that have been achieved, and attributing those emissions reductions. We are looking at benefit-sharing schemes, and trying to clarify the discourses over equity as to who should get which part of the benefits.



We are tackling these issues, and have been for the past five years. This picture here is the cover of our most recent book on analyzing REDD+, which is the first CIFOR book that is based on specific CIFOR research focused on REDD+. It was published about a year and a half ago and released at RIO+ 20.

I would like to talk a bit about some of the dimensions that we have been working on in this project and share some lessons learned that speak to this issue about landscape-scale approaches.





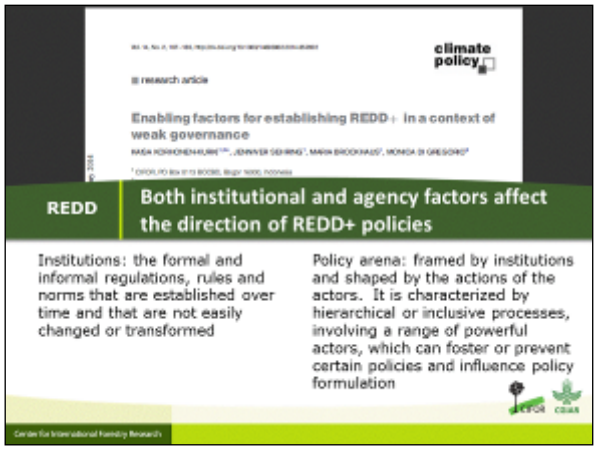
What we are trying to do in REDD+ is go from business as usual, and through a program shift incentives, shift discourses, shift power relationships to bring about transformational changes. Some of the ways we refer to transformational change are in economic, regulatory and governance frameworks. This could include devolution of rights to local users; removals of perverse incentives, such as subsidies; changing the way concessions are allocated so you do not serve selective economic interests that stimulate deforestation and unsustainable forest management practices; and reforms the forest industry policies and regulations that effectively reduce unsustainable extraction.

A key to this and central in this diagram is this term we call 'actors'. What we need to do is get actors to behave differently to achieve these transformational changes. Actors are influenced by ideas, and these ideas include beliefs. They are influenced by interests, whether economic interest, whether personal interest, whether livelihood interests. They have information, and they are governed by institutions. When we talk about institutions, we are talking about both formal and informal ways that society does business. These institutions actually help frame the policy landscape. I will use the term 'landscape' very liberally here. They frame the policy landscape in the way the policy discussion has to happen inside a country. These are also influenced by the international policy arena, both by REDD+, but by other things that are happening in WTO[1] and in other sorts of multilateral and bilateral negotiations that are happening.

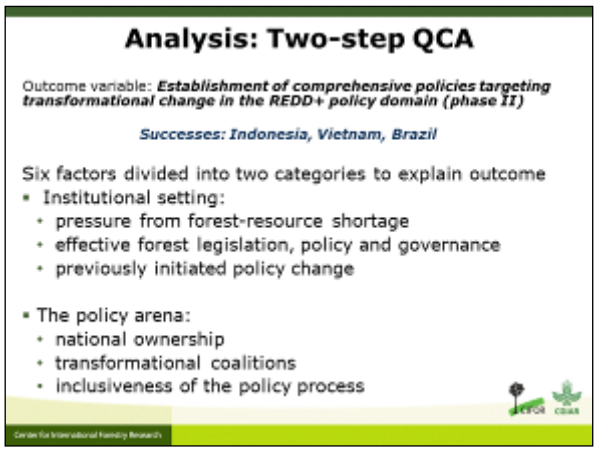
What we are trying to do is help promote a policy process that achieves decisions that result in

[1] World Trade Organization: http://www.wto.org/

emissions reductions, that also have positive impacts on people's livelihoods (we recognize the status quo in most developing countries is not acceptable; these countries do need to develop); that helps support biodiversity that has been enshrined in the safeguards; and that raises administrative and technical capacity in these countries.



Within that context, I would like to talk a little bit about a new paper that Kaisa Korhonen-Kurki just published[2] on the enabling factors for establishing REDD+ in context of weak governance. What she and her team have found is that both institutional and agency factors affect the direction of REDD+ policies. Institutions are the formal and informal regulations, rules, and norms that are established overtime. They are not changed easily; they are difficult to transform. These institutions set the context for the policy arena that shapes the actions of the actors. It is characterized by hierarchical or inclusive processes, involving a range of powerful actors that can foster or prevent certain policies, and can influence policy formulation.

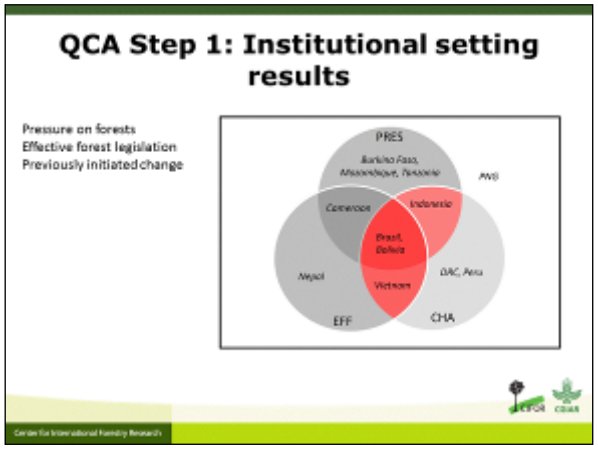


What Dr. Kaisa and her team did was a two-step qualitative comparative analysis of 12 countries, looking at their REDD+ outcomes. The outcome she was looking at was countries that were successful in establishing comprehensive policies targeting transformational changes in the REDD+ policy domain, so countries that were on the verge of moving into phase two of REDD+ implementation. Of the 12 countries that they looked at, they found three success stories. These were Indonesia, Vietnam, and Brazil. All these

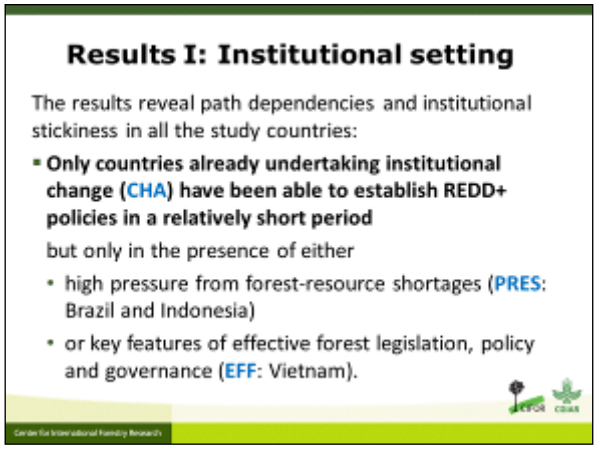
[2] http://www.tandfonline.com/doi/pdf/10.1080/14693062.2014.852022

countries are moving past the readiness phase and into the implementation phase.

They looked at six factors that were divided into two categories to explain the outcomes. First, the institutional setting: they looked at factors associated with pressure on forest resources; on presence of effective forest legislation, policy and governance in the country; and factors associated with countries that have been able to achieve policy change or have begun a policy change process prior to REDD+. Then they looked within the policy arena: at factors associated with national ownership of the REDD+ process; on the presence of transformational coalitions in the countries; and the inclusiveness of the policy processes that was playing out in the countries.



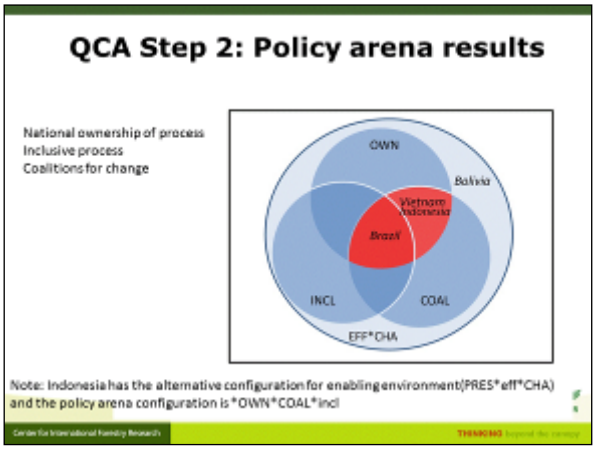
This is how the results of the analysis tend to fall out. The PRES is the pressure on forests; the EFF is the effectiveness of forest legislation; and CHA is the countries that have initiated change. As I said, Indonesia, Brazil, and Vietnam were the countries that were emerging from readiness and on their way to phase two. Bolivia also fell within this, and there is another reason why Bolivia actually has not moved into phase two, and I will get to that in a second.



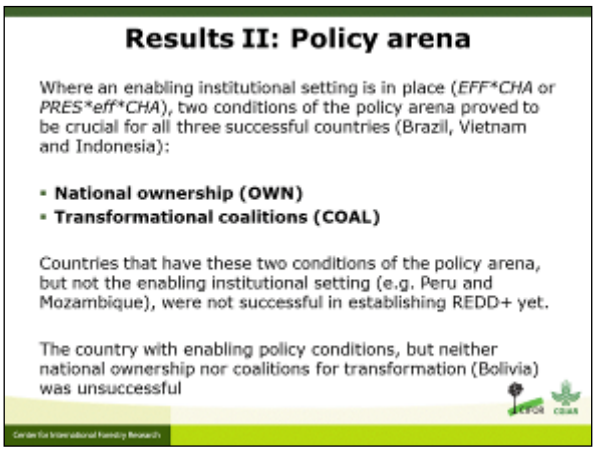
What the successful countries share is that all three of them have made progress in effective change in policies already. Countries that were early actors in the policy change process were countries that tended to be successful, only if they had either pressure on their forests, or they had effective forest governance.

The results actually reveal path dependencies, but also what is called 'institutional stickiness' or institutional resistance to change in the study countries. Only countries that had already undertaken

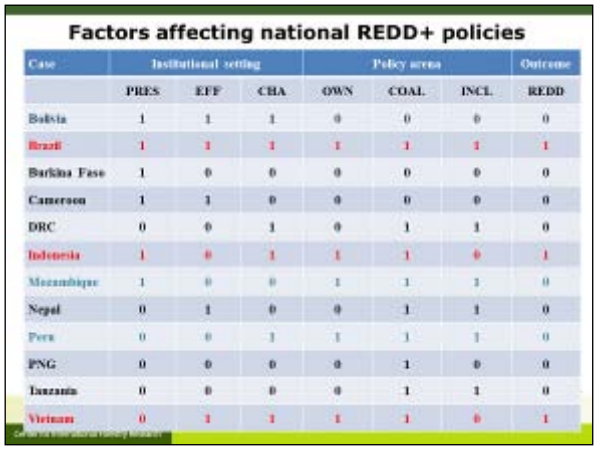
institutional change have been able to establish REDD+ policies in a relatively short period, and only if they have high pressure on forests or if they have effective forest governance.



Looking at the policy arena, the second step in the qualitative comparative analysis: looking at ownership, inclusiveness, and coalitions for change. The countries that have been successful have the coalitions for change and either have national ownership, or have inclusive policy processes that actually regenerate ownership by different coalitions within the country. Bolivia, as you see, falls outside of this on the process. This is the reason that explains why they are not yet moving into phase two in REDD+ implementation.



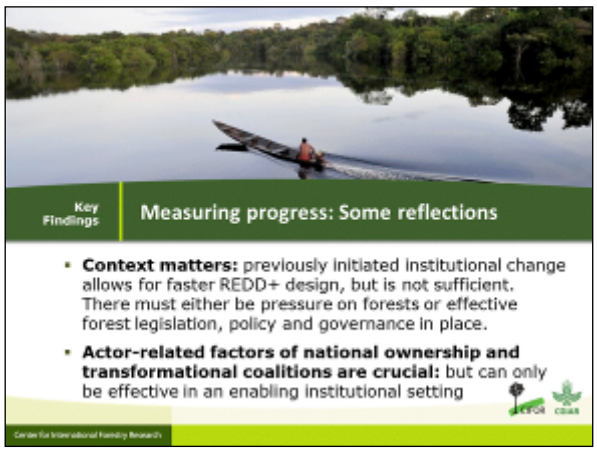
Where enabling institutional settings are in place, the two conditions of the policy arena proved to be crucial for these successful countries; either national ownership or transformational coalitions that were in place in the countries. Countries that have these two conditions for the policy arena, but not the enabling institutional settings, have not been successful in moving rapidly through phase one and into phase two. The country that had the enabling policy conditions, but neither national ownership nor coalitions for transformation, for example Bolivia, has not yet been successful. I stress that this is early analysis as we are seven years into this, and perhaps even fewer years into it for countries actually getting serious about moving through these phases.



Factors affecting national REDD+ policies

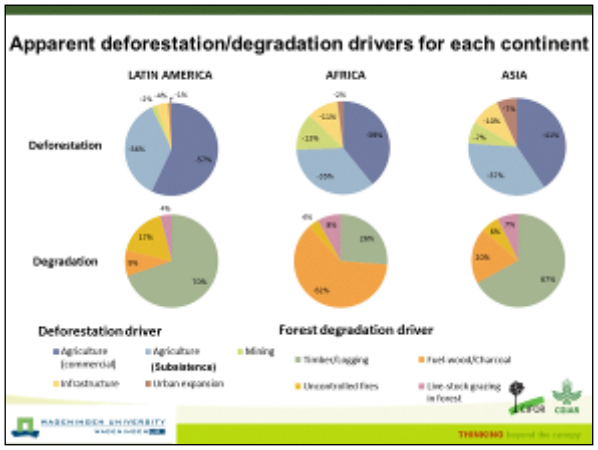
Case	Institutional setting			Policy areas			Outcome
	PRES	EFF	CBA	OWN	COAL	INCL	REDD
Bolivia	1	1	1	0	0	0	0
Brazil	1	1	1	1	1	1	1
Burkina Faso	1	0	0	0	0	0	0
Cameroon	1	1	0	0	0	0	0
DRC	0	0	1	0	1	1	0
Indonesia	1	0	1	1	1	0	1
Mozambique	1	0	0	1	1	1	0
Nepal	0	1	0	0	1	1	0
Peru	0	0	1	1	1	1	0
PNG	0	0	0	0	1	0	0
Tanzania	0	0	0	0	1	1	0
Vietnam	0	1	1	1	1	0	1

This is how all of the countries that they looked at sorted out. You can look this up and find more detail, the more nuanced explanations of just what the whole comparative study shows, and what can we learn from the different cases in the paper. There is a link on the PowerPoint presentation at the end to this.



Just to offer a few reflections on measuring progress, context matters: previously initiated institutional change allows faster REDD+ design, but is not sufficient. We have to have strong forest governance. The actor-related factors for national ownership and transformational coalitions are crucial, but can only be effective if they are in an enabling institutional setting.

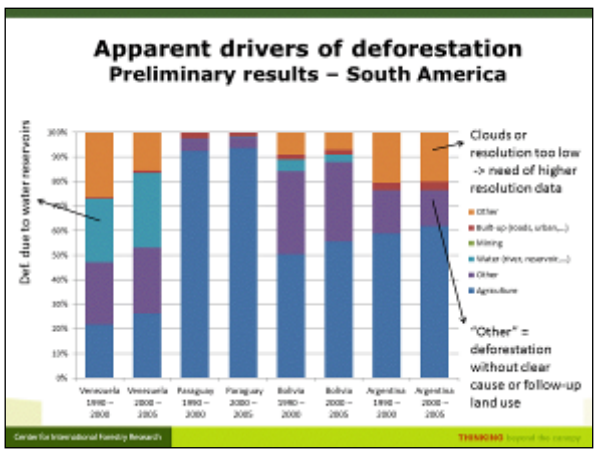
How do we translate this to realities on the ground? Part of this is to understand drivers for deforestation and forest degradation and part of this is land-use planning. I would like to talk a little bit at the end about multiple jurisdictions at landscape scales.



As we look at the apparent drivers of deforestation and forest degradation, we find that agriculture is by and large the major driver of deforestation. I would like to ask, how many people in this room would consider themselves associated with the agricultural sector? Raise your hands. I see a few. It is interesting that a major international meeting on REDD+ does not have a stronger representation of the major driver of deforestation present. This is one of the ideas that we are trying to push through this idea of landscape scale approaches. If REDD+ is treated as only a forestry program, we are going to have some real problems getting it implemented. We are going to miss the boat here. REDD+ really has to be about drivers of deforestation and forest degradation and how the drivers relate to each other in real landscapes, where real people make their livelihoods.

We have some broad generalization here. In Latin America, commercial agriculture is much relatively more important than in other regions. In Asia and Africa, commercial agriculture is also important, but not as important as in Latin America. Interestingly, subsistence agriculture is consistent; around 35 to 37% across all continents that we analyzed.

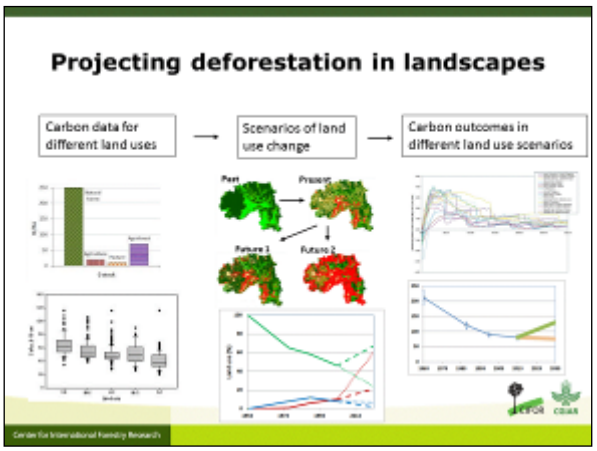
These are the drivers of forest degradation. As you might expect, fuel wood and charcoal is much more important in Africa. Timber production and logging is more important in Asia and Latin America.



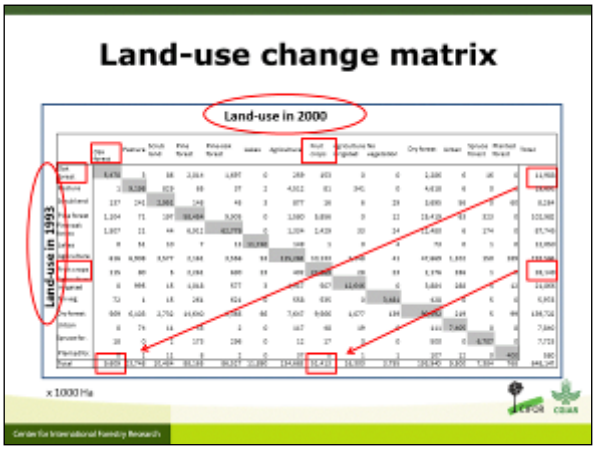
We have done analysis now to look in individual countries about how these different drivers vary in different countries. One interesting thing is that, in several countries in Latin America, Venezuela in particular, water reservoirs is a major cause of deforestation. We see other deforestation without clear causes being important in places like Argentina. We call these 'apparent drivers of deforestation', because this is

actually just looking from the satellite; this is not to understand deforestation pathways. This is to understand what the new land-use is that has replaced forests; it says nothing about pathways for this change.

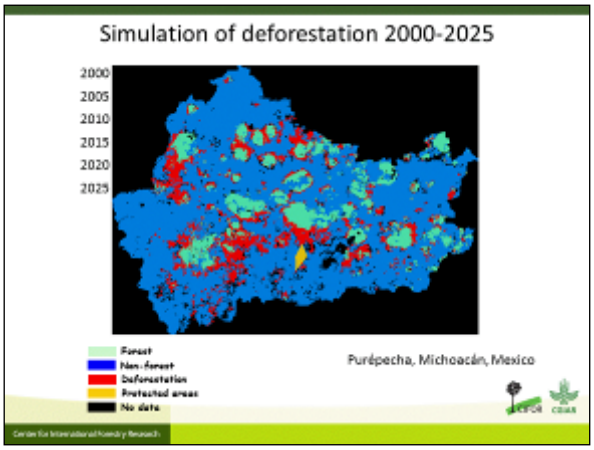
Most drivers of deforestation and forest degradation are not related to forests. We have to actually get into the landscape and talk to other sectors if we are going to address the drivers of deforestation. This creates challenges with multiple established institutions and policies. This is where the source of the resistance to change is very likely to come from. We have to move beyond the apparent drivers of deforestation and degradation and understand a little more about the political economy of the status quo; what is actually keeping the status quo and creating institutional stickiness to change.



Moving on now a little bit more to the biophysical domain, I will go through this fairly quickly, because I think Dr. Robledo talked about this probably more eloquently than I will today. We do have ways of looking at carbon in landscapes. We can put these models that are informed by political economy and make projections about drivers of deforestation, and how deforestation frontiers are likely to expand. There are numbers of economic models on this. We can then attach carbon numbers to this in landscapes. In modeling scenarios, we often do this quite a lot. We run different scenarios and look at different carbon outcomes.

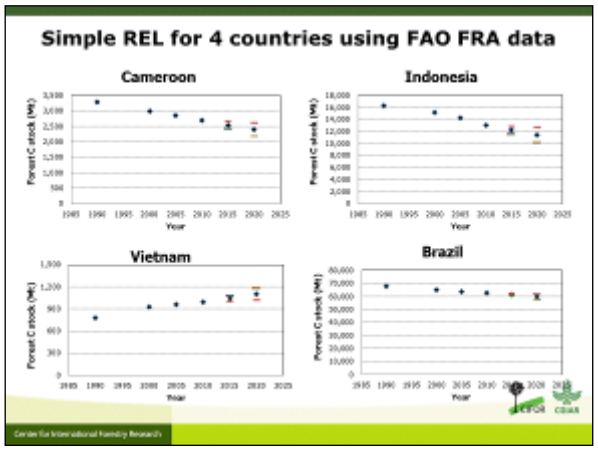


We use land-use change matrices to help us inform what has been the past tendency in land-use change and how can we project those into the future.

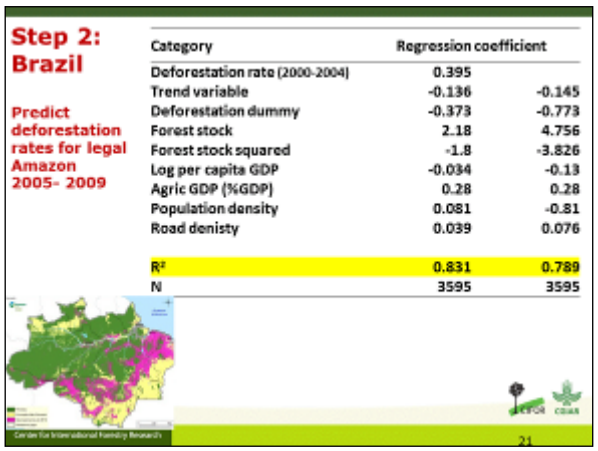


We spatialize this. This is a simulation of deforestation in Mexico. We make the spatialization project into the future. We can attribute the carbon outcomes to this in some *ex-ante* types of analyses.

The thing about these deforestation drivers is they play out in real places across landscapes. If we do not understand how they are laid out in landscapes, we are not going to put in place effective policies and effective measures to change the status quo and reduce deforestation, and go from unsustainable land-use and unsustainable land-use change, to sustainable and planned land-use and land-use change.

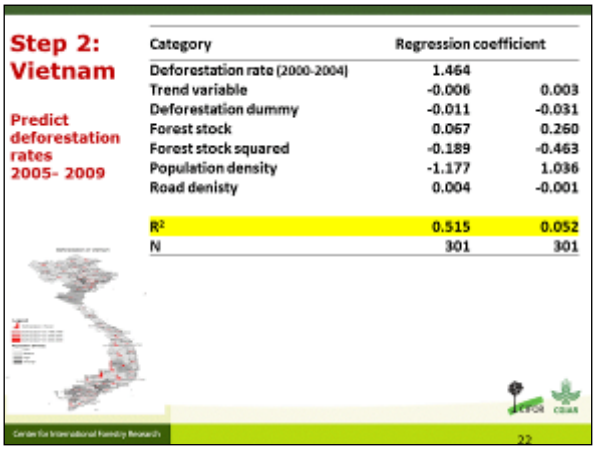


Some of the approaches that we have looked at in projecting forward are stepwise approaches to reference emissions levels. This is a very simple approach to reference emissions level using data that is available to all countries, FAO FRA[3] data. We used data from 1990 to 2010 FRA, then project it forward, and applied a corridor approach to estimating uncertainties. The further we got beyond the data, the wider the corridor becomes.



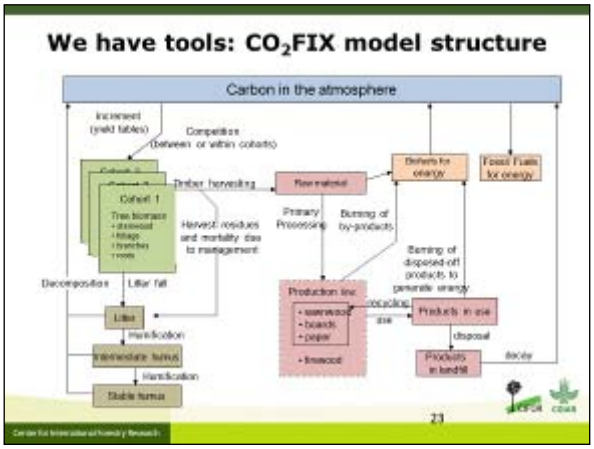
We then moved into Step 2 type of a reference emissions level where we are trying to integrate more social and economic factors. I do not want to go into this model so much, but what I do want to point out is the highlighted line here, which is the R^2 value for that regression. In Brazil, in the first model we used the historic deforestation rate and a whole host of socioeconomic factors, and we get a pretty good prediction. We got R^2 of 0.83. If we take the deforestation rate out, the R^2 falls very slightly, so that leads us to believe that we are actually able to capture some of the reasonable proxies for the socioeconomic drivers of deforestation in this landscape.

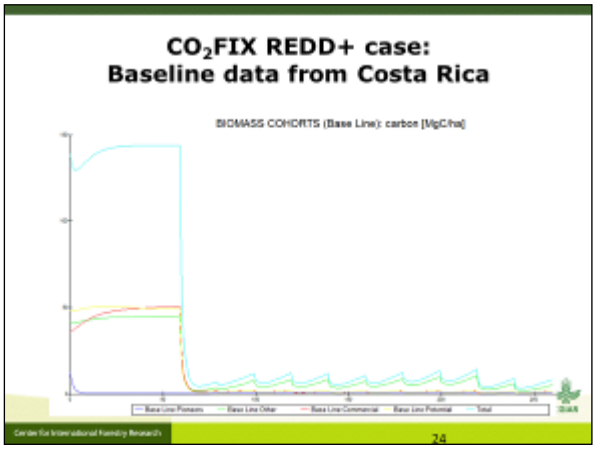
[3] Forest Resources Assessment

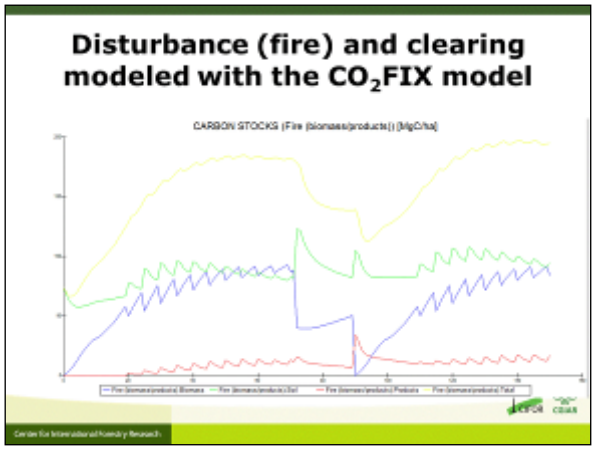


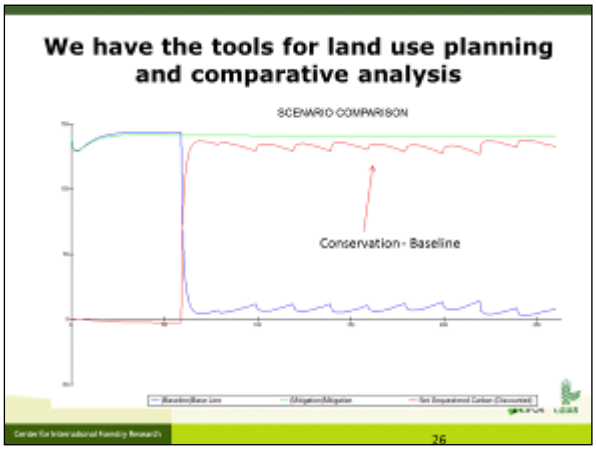
We did not do so well in Vietnam. In Vietnam, which has very different characteristics than Brazil, it is a centrally planned economy, and is actually on the increasing forest cover side of the forest transition curve. We were not very good at predicting deforestation. Once we took historical deforestation rates out, the model completely fell apart. In this country, this set of variables does not really capture the drivers. We do have some new work coming on line. We have been improving our models. We have better models that are coming out now to capture just what is really happening there.

The point is that there are reasonable proxies that can be applied to short-term datasets to predict short-term deforestation rates. We just do not really do a very great job prediction inflection points. Frankly, if I could predict inflection points, I would not be in forestry, I would be in stock market. Nobody predicts inflection points very well. As long as the past is a reasonable projection or reasonable estimation of the future, we can predict small variation between years, and spatially, reasonably well.

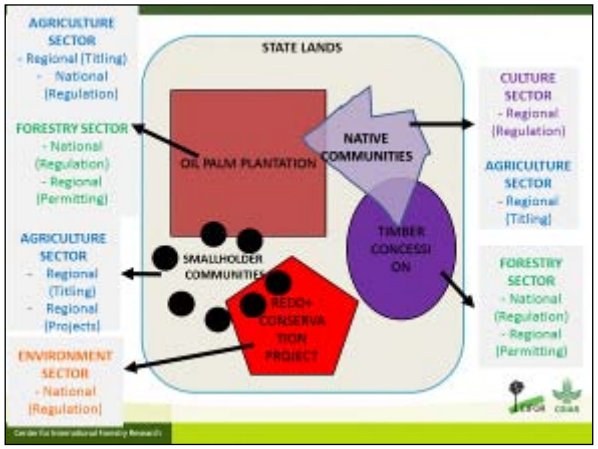




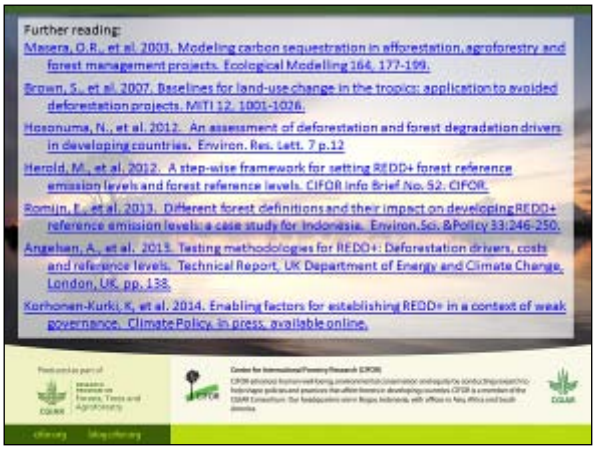




We also have tools like CO_2FIX[4]. I will skip through this because I think Dr. Robledo did a very good job on this yesterday. The idea is basically that these tools that are available that allow us to model reference emissions level and baselines. They allow us to model different types of land uses, and they allow us to aggregate this together into landscape scale analyses where we can make comparisons between baselines and scenarios for how land-use is likely to play out across the landscape. This hopefully will be helping inform policymakers about land-use decisions and what those land-use decisions mean with respect to livelihood outcomes of people who live in these landscapes as well as to the carbon outcomes in these landscapes.



[4] http://www.efi.int/projects/casfor/models.htm



The final point that I want to talk about is this multilevel governance idea and multijurisdictional nature of landscapes. We heard from Ms. Swickard about the advantages of jurisdictional approaches to monitoring carbon and emissions reductions. I think we need to understand that in real landscapes there are multiple jurisdictions. Sometimes the jurisdiction of forest ministry does not correspond to provinces and departments. Indonesia is a good case. Sometimes decisions are made at the province level, but the regulations are formulated at the national level. The national level administration has to verify that the way things are being implemented at the provincial level or at the department level corresponds to national norms.

There are multiple levels of governance that are at play in landscapes. As we move into implementation, if we are going to be doing jurisdictional REDD+ as a means of achieving emissions reductions, we have to understand that we are dealing with multiple levels of governance; we are dealing with multiple agencies with multiple objectives, levels of responsibility, and authority in these landscapes. If we do not take these into account, we are going to run into some problems.

For example, indigenous communities are often the responsibility of cultural ministries; timber concessions the responsibility of forestry ministries; agriculture, which is a driver of deforestation, is in the agricultural ministry. Concessions for oil-palm could be given out at the provincial level, but the national Forest Ministry may have something to say about how that concession needs to be run.

These are some of the ideas to take into account when we talk about landscape scale approaches to REDD+ and jurisdictional approaches to REDD+. It is important to understand that it does get complex on the ground. We cannot be paralyzed by this complexity, but if we do not understand this complexity, we are going to run into problems with REDD+ being effective.

Thank you.