I am hoping that the earlier talks in this session have built up some knowledge around scaling. I am going to talk a little bit about the role of the sub-national and local actors in creating a REL\(^1\) and MRV, and specifically in terms of what kind of technical input they can provide.

I work for an organization called Winrock International. Our unit within Winrock is led by Dr. Sandra Brown. We provide a lot of technical assistance to both governments and to carbon projects on climate change mitigation. We have been very involved with writing a lot of the methodologies for the CDM, VCS and other standards, and also provide technical assistance to carbon projects in the voluntary market.

I want to alert you to a couple of projects that are specifically maybe important for this audience. One is called LEAF\(^2\), and this is a large USAID\(^3\) project that targets six countries in Southeast Asia. It is a capacity building effort to assist with REDD policy strategy development, REL and MRV

\(^{1}\) Reference Emission Level

\(^{2}\) Lowering Emission in Asia’s Forest.

\(^{3}\) The U.S. Agency for International Development.
technical support, and REDD strategy piloting at the local level.

Two examples of the types of things this project will engage in are assisting at the national scale by providing some technical support tools and trainings; and then at the local scale, on how the national province and the district level can interact in REL and MRV creation. Also, provide some capacity development to local level governments on REDD, and assistance on piloting of activities for REDD strategy implementation.

An example of some of the technical assistance tools that are being developed include Winrock’s Ecosystem Services Carbon Toolkit. This is a series of standard operating procedure manuals and spreadsheet tools that have been developed over many years, including procedures on carbon stock measurements, logging emission measurements, allometric equations creation, and GIS\(^4\) techniques. We are currently in the process of going through a peer review process for these tools. If you are interested in being involved in that peer review process, please let me know. We also plan to develop additional guidance documents. If there are specific guidance documents that you think would be very helpful in Southeast Asia, please also let us know and we will talk through whether or not those can be added.

Another project that might be helpful is a decision support tool for developing a RL/REL at the

\(^4\) Global Information System.
national scale. This was funded by the World Bank, Forest Carbon Partnership Facility. This provides guidance on some of the technical decisions that countries are recommended to make when developing their RL/REL, such as what activities need to be included, what the definition of a forest is, how they can use an existing forest inventory data to feed into REDD+, potential RL adjustments based on national circumstances, and spatial analysis needs in RL and MRV development.

We all are very familiar with this kind of graph. We talk about RELs and MRVs, and let us talk a little bit about the components of how those numbers get created.

I think we are all familiar with this idea that emissions are a combination of activity data and emission factor creation. Activity Data refers to What happened? Where? How much? While Emissions Factors refer to What are the emissions per unit activity data?

We can talk about some of the technical issues with developing those two components. One thing that I think is very important to remember in the development of RELs and MRVs is that the rules and methods that are used need to be consistent. Therefore, for example, if you are measuring certain pools in the REL, those same pools must be measured in the MRV. The same with that the
types of activities that are included and the emission factor types used. I mentioned this specifically because I think this has a very important thing to consider when deciding what the accuracy and precision requirement will be of the different activities that will be included. One decision that will need to be made is how to compare historic and actual estimates that have different precision levels. Another important decision is going to be how to harmonize different data from different years.

Let us talk about the role of sub-national projects. As we have talked about, there are many pilot activities going on at different levels and under different timelines. Many of these pilot actions are very interested in integrating into any national system that gets developed, and so they are looking for guidance.

We recommend that the national system develop some systems and approaches for data harmonization. There are many components where rules can be set on how to harmonize. This includes such things as what are the methods for disaggregating from the national to sub-national level and whether different activities can be included at the sub-national level then at the national level. Some important issues where guidance could be provided include expected or potential historic period, land cover classes, carbon stock stratification, carbon pools, and therefore expected activity data classes and emission factors.
Again, we recommend some guidance be developed by the national government, at least some interim guidance to assist sub-national projects, to help them ensure that any projects they develop will be able to be allowed to be integrated in some fashion at the national level, including these components.

There is also a bunch of methodological issues that really need to have some interim guidance provided as well. This is especially true in the technical side. What methods will be allowed to be used, for example, to collect carbon stock data? If different sub-national projects are using different methods to collect data, who is going to do that harmonization if that data wants to be used at the national level? Whose responsibility is it going to be to demonstrate that that data can be integrated into the national level? What rules are there going to be to demonstrate? How to harmonize these datasets? Are there going to be national level accuracy and precision requirements for different activity data and emission factors?

What kind of spatial and temporal projections or methods are going to be allowed? Do you have to do a spatial projection of the location of deforestation in the future, if you are doing a sub-national project or can you use a different tool? Then also, what database and documentation requirements are there going to be if the sub-national project would like to input that data to a national system?

I think I have talked about this. This is just an example of the fact that there are a lot of questions that need to be asked. Thinking about not just what the projects are allowed to do, but what kind of
assistance these sub-national projects are going to be able to provide to the national level. A lot of it has to do with what kind of disaggregation and harmonization is going to take place. For example, if a project uses different field methods and different land cover classes than the national or the sub-national level, is that allowed? What if different projects in different places disaggregate these in different ways? Is that going to be allowed or do they all have to harmonize?

As we know, pilot projects can provide many benefits to the government in developing its national REDD strategies, this would include providing data for REL and MRV creation, piloting benefit distribution systems, and piloting the use of local actors in data creation.

Much work has been devoted to the role of local actors in both RL/REL development and for monitoring. One benefit of using local actors to develop data is that it removes some of the ‘magic’ around carbon. A lot of local communities do not understand what this ‘carbon thing’ is. But if you involve them in the data collection, they can have a better understanding of what carbon credits are, and they do not think that it is some substance that is hanging out in the forest somewhere secretly. There are many examples to demonstrate that involving local actors allows such individuals to gain an understanding of how the activities they are doing impact emissions and removals along with other co-benefits such as biodiversity.

They are also going to be very integral to developing appropriate monitoring indicators. If we are
developing a monitoring system, what types of data can be collected and quantified? This is an area that is going to be really crucial to involve the local actors with because there will be certain questions that can be asked that will result in certain information, but if they are asked in another way maybe do not result in the information that you are hoping to seek. Prior to developing any system, I recommend conducting a cost-benefit analysis to decide when it is cost effective to involve a local actor and when it is not.

Here are just some other examples of some places local actors can play a significant role. This can include the collection of non-spatial historical activity data such as timber extraction rates, firewood-charcoal production rates, and fertilizer use.

One of the other great places to involve local actors is actually collecting field data measurements. Many field measurement methods have been designed specifically to include the use of local actors. For example, Winrock’s standard operating procedures have been developed specifically so that a range of formal education and literacy levels can be incorporated into any field data collection. Different actors within a field measurement team have different requirements of literacy and educational background. This allows only for limited training requirements to be conducted before very meaningful contribution to data collection can be achieved. Over the many years of collecting this data, we have also developed methods that really reduce the subjectivity of the data that is being collected so that the requirements for training can be minimized.
Winrock has also created data calculation tools that allow data to be analyzed by only a small number of people, where data can be collected by a large number of people. And data can be inputted into a data collection system by people who only have very limited computer skills.

I also want to talk about the role of participatory monitoring. Worldwide there has previously been much research conducted on the use of participatory monitoring in many sectors including natural resource management, improved forest management techniques, reducing bush meat hunting, biodiversity improvements, and watershed management improvements. Those tools are currently being adapted for the REDD market. In addition, the role of new technologies in participatory monitoring is also being tested through efforts such as the WWF’s Moabi Project in which local communities participate in monitoring of REDD activities using smart phones.

Participatory monitoring can include monitoring and alerts on the initiation of activities. For example an alert can be sent that a fire has started and appropriate actors can go out to attempt to stop the fire. Or an alert can be sent that an illegal logging camp has been set up, thus triggering others to attempt to cease that activity. Participatory monitoring can also include the implementation of REDD strategies such as monitoring the use of cook stoves, fertilizer in farming techniques, number of trees planted, number of trees logged.

5 World Wildlife Fund: http://www.wwfindia.org/
A very good example of this is the Plan Vivo Project which uses local actors to do conduct monitoring and to conduct field measurements of carbon stocks. This is a voluntary carbon standard that has been in existence since the 1990’s.

I just wanted to note that under the LEAF Project, we will also be instituting a pilot participatory monitoring program. Starting in Laos and Vietnam, but it might be expanded to other countries where we will also be looking at how local communities can be used in developing REDD strategies and also in monitoring, including what kinds of benefit distribution systems are appropriate at the local scale.