**Proposed geographic targeting work in the Colombian savannas: DAPA**

**Introduction**

The Colombian government will be putting large investments in the Colombian savannas. CIAT has a project with the government, bringing our expertise in agricultural development. Where should our interventions take place? How can we prioritize our work? What are the geographic dimensions of agricultural development in the Llanos? And how can we share this information with the scientific community and the larger community for improved decision-making? The DAPA project proposes to work on these problems under the umbrella of CIAT's new agreement with the Colombian government.

We propose to develop information, assessments and tools to improve agricultural development in the Colombian savannas. We will develop an online information system for the four departments of the Llanos.

**Information**

Most of what is needed already exists. We have maps of at least 20 different crops, including the total pasture area, cassava area and rice (broken down by type). There is a wealth of information from the Colombian government on socioeconomic characteristics, including over 60 socioeconomic variables. These include population and poverty indicators as well as basic social indicators on things like basic needs unmet and infrastructure conditions. The biophysical base of the data set includes 90 m resolution Digital elevation data, a 1 to 500,000 scale map of soils of Colombia, the hydrographic network and the road network. All this is existing information and only needs to be cookie cut for the Colombian savannas region.

The greatest uncertainty with respect to needed data is on improved pastures. As far as we know this data does not exist within the Colombian government. More checking is needed. Some remote sensing work has been done in Meta department to distinguish between native pastures and improved pastures. In this concept note that we are writing now, we are assuming that we will either not have this data or we will not be able to get it. However, if we can get data on improved pastures, it would be very useful for work on carbon sequestration and pasture improvement.

We propose to manage data on the geographic dimensions of the trials that are planned as part of a multi-environment trial network. We have an existing tool that could be used for managing the data set and as a file repository. In addition, we have put together a data set of daily climate data for all the stations in the region.

**Assessments**

We propose to bring a range of tools for targeting agricultural technology to its environmental niche. These tools might include Homologue, Canasta, Ecocrop and several others. These tools would help us answer the question of where to target varieties and other agricultural technologies to the ecological niche where they would be expected to do well. One of the most important tasks is to estimate where improved pastures could replace native pastures. But we would also need to look at where other crops such as cassava, maize, rice, and many others would be expected to do well. An additional component of this work would be to run the same modeling procedures for future climates.

The results of the trials that CIAT is planning to carry out would be used with geographic analysis to target varieties/technologies to their ecological niche.

**Tools**

All of the information and assessments that are described above would be put into an online Mapserver. The idea behind this tool would be that as much of the information and analysis that we do in the project – we will make online and available to anybody that has an Internet browser. The idea would be that our partners and the broader community would be able to use this to without having to be an expert in GIS or information systems. We have several examples of doing this in the past.[[1]](#footnote-1) We would build on existing software and hardware resources that we have. Therefore, we only need to budget in the application development work.

The online Mapserver tool would include the following:

* a basic Atlas of map data for the Colombian savannas
* some analysis tools so that the work that we did in the assessments could be replicated by others (without having to know how to use GIS, etc.).
* We will build in some capabilities for anybody to upload photographs and information with their corresponding GPS point.
* The tool and data l will be fully documented and available for anybody to use in their own platform.

**Final remarks**

We propose to have one senior staff coordinator of the project. Three NRS would carry out respective components of the project. Trips to the region will be necessary to meet with universities, NGOs and others that are working in agricultural and rural development.

We think we could get two publications from this work – one on the information and the tools and another one on the analysis – in peer-reviewed journals.

1. see the following: <http://gismap.ciat.cgiar.org/IAViewer/>; <http://gismap.ciat.cgiar.org/Terra-i/>; <http://www.generationcp.org/SDI>; <http://gismap.ciat.cgiar.org/ASB/>;

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