Forests, Trees and Agroforestry
Sentinel Landscapes Theme

RESEARCH PROGRAM ON Forests, Trees and Agroforestry
CGIAR

Biophysical Baseline Surveys in the Nicaragua-Honduras Sentinel Landscape
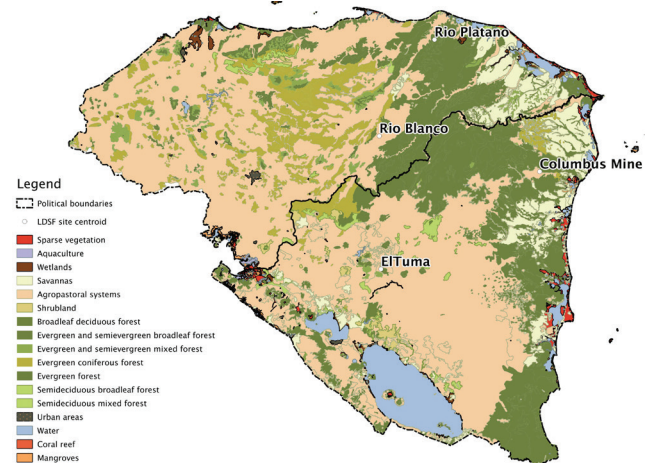### by Leigh Winowiecki (CIAT) and Tor-Gunnar Vågen (ICRAF)

June - July 2013

Four LDSF sites to sample in the Nicaraguan-Honduran Sentinel Landscape

Four 100 km² LDSF sites were selected by local partners within the Nicaragua-Honduras sentinel landscape, based on an initial set of 13 sites representing areas with varying land cover trend trajectories (see map on the right). The sites were selected to represent forested and forest-transition landscapes and currently include protected forest reserves, indigenous reserves, forest-pasture mosaics and forest-agroforestry mosaics. This is the first sentinel landscape to implement activities on the ground.

Formal presentations on the CRP6 Sentinel Landscape Theme and the LDSF were given at the National Agricultural University (UNA) in Honduras and to CATIE and CIAT staff in Nicaragua.

Legend
- Political boundaries
- LDSF site centroid
- Sparse vegetation
- Aquaculture
- Wetlands
- Savannas
- Agropastoral systems
- Shrubland
- Broadleaf deciduous forest
- Evergreen and semievergreen broadleaf forest
- Evergreen and semievergreen mixed forest
- Evergreen coniferous forest
- Evergreen forest
- Semideciduous broadleaf forest
- Semideciduous mixed forest
- Urban areas
- Water
- Coral reef
- Mangroves

Working with Local Partners - CATIE, National Agricultural University (UNA) in Catacamas, Foundation of Madera Verde (FMV) in La Ceiba, Institute of Forest Conservation (ICF) in Tegulcigalpa

The Nicaragua team, led by Dr. Norvin Sepulveda and Dra. Jenny Ordonez of CATIE, will sample both LDSF sites in Nicaragua. The Honduran teams are led by Dr. Juan Carlos Flores of CATIE working together with Dr. Kenny Najera of UNA and Jaime Enrique Peralta of FMV. The UNA team will sample the Rio Blanco site near Catacamas and the FMV team will sample the remote Rio Platano site in the north. Field training was extended to students, local farmers, NGOs, CGIAR centres and others. Participants were trained in navigation with the GPS units to locate the randomly generated LDSF plots (160 per site); all aspects of the LDSF, including soil sample collection, tree and shrub measurements, erosion observations, among other variables; and electronic data entry. Preliminary data analysis was conducted on the newly collected data, including infiltration capacity curves and tree density estimates. Students from UNA will use the LDSF data for undergraduate theses.

Nicaragua team in a coffee and cacao AF plot in cluster 12 of the El Tuma landscape, about 30 km from Matagalpa.

Honduran team in the Brachiaria-dominated Rio Blanco landscape. UNA students were also included in the training!

Assessing Landscape Variability

The Honduran Rio Blanco landscape was forested until the 1980s when the landscape underwent a massive conversion to livestock production. Pockets of remnant forest exist along waterways. The landscape is nestled between several protected areas (e.g. Patuca, Sierra de Agalta and Tawahka National Parks). The Rio Platano landscape in northeastern Honduras is within the Rio Platano Biosphere Reserve, which is also home to several indigenous groups. This is landscape is dominated by broadleaf evergreen forests, bordered by agropastoral systems.

The El Tuma landscape in Nicaragua has diverse land uses including coffee and cacao agroforestry systems, basic grain production and cattle ranching. Farm sizes vary from smallholders with ~5 ha to large-scale farms with 300 to 3000 ha. The Columbus Mine site in northern Nicaragua falls within an indigenous reserve and still has remaining forest.

The Rio Blanco landscape in Honduras.

Tor Vagen training a participant on soil augering at the El Tuma landscape in Nicaragua.