



# OAS AGRO FORESTRY RESEARCH PROJECT

WWW.OAS.ORG

## Newsletter

In cooperation with Mayan Reserve Foundation,  
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### Our cause

Ten of the hottest years on record were in the past 14 years, including 2005, the hottest year ever recorded, according to NASA. If global temperatures continue to rise, the impact on all life will be devastating.

Deforestation is a big part of the problem. Plants recycle carbon dioxide into oxygen for animals to breathe, but rapid clearing of forests is causing an unnaturally high ratio of carbon dioxide in the atmosphere. Higher carbon dioxide means higher temperatures. Furthermore, many of the forests being depleted are of the most plant-rich tropical regions of Asia, Africa, South America, and right here in Central America.

Millions of people around the world depend on resources from forests to survive. Many people make a living off agriculture, and some of them resort to effective, yet unsustainable slash-and-burn clearing of the forests to make way for growing crops or raising livestock. Agriculture is important — all six billion people on Earth rely on it for food. But forests are even more critical — they create oxygen and regulate climate for the survival of all life on Earth.

Agro-forestry — integrating agriculture with the forest — may be the best solution to the environmental crisis of deforestation, and it can slow the effects of global warming. It is a sustainable method of farming, easing the need to clear forest. Promoting agro-forestry is the mission of this project.



## FIELD REPORT:

A shrub called *Jatropa Curcas* (JC) may prove to be the perfect plant.

Acting on reports that the plant could grow on and improve degraded land, the OAS Agro-Forestry Research Project decided to put JC to the test. In 2003, the project developed demonstration plots of *Jatropa* on a patch of formerly cleared land just north of the Mountain Pine Ridge area in the Cayo District.

The experiment proved that JC is not only valuable as soil enrichment, but also as a companion shade-crop for habanero pepper plants. Additionally, what could prove JC to be a perfect plant is its potential to produce biodiesel, a cheaper, cleaner-burning alternative to regular diesel fuel.

***Jatropa Curcas* plants at the OAS demonstration plots were pruned in January. Pruning will encourage the development of more branches, which will increase the harvest of nuts.**

**Top: Before pruning**

**Middle: During pruning**

**Bottom: Four weeks after Pruning**

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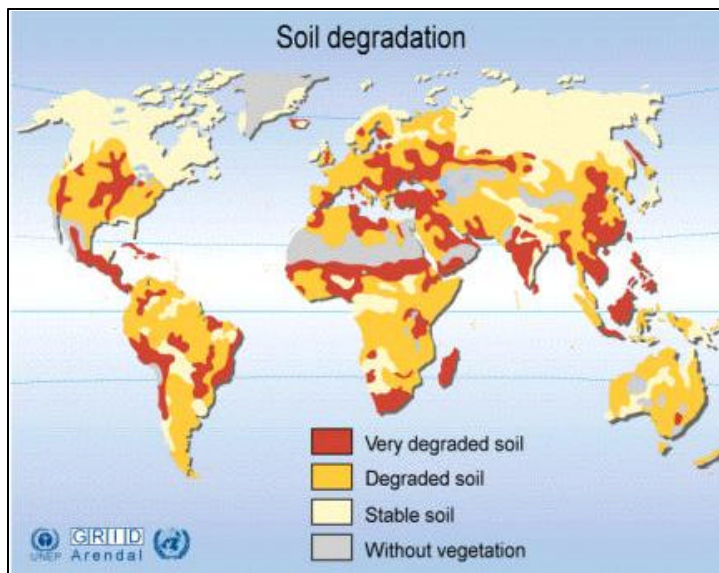
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## EL SALVADOR ASSESSED AS WORST DEFORESTATION IN CENTRAL AMERICA

Most Central American land has been degraded through unsustainable agriculture and logging, according to a recent estimate by the Global Assessment of Human Induced Soil Degradation (GLASOD)

Only about 2 percent of the Central American countryside retains its natural forest cover. El Salvador was determined to be the most deforested nation in Central America and second worst case in all of Latin America after Haiti.

Almost 85 percent of Salvadorian forest cover has disappeared since the 1960s and the country had



one of the highest deforestation rates (4.6 percent annually) in the world dur-

ing the 1990s.

El Salvador is one of the Western Hemisphere's

poorest countries, and its rural residents depend largely on natural resources for their survival. Thus, much of El Salvador's deforestation results from subsistence agriculture and timber cutting for fuel wood. Deforestation-induced erosion and soil degradation has left much of the country unsuitable for agriculture and has put many people at risk during the tropical storms that regularly batter the region.

(The GLASOD estimate of global land degradation includes all forms of soil degradation, not just erosion.)

## LAND DEGRADATION EVIDENT IN BELIZE

Belize retains much of its primary forest in relation to its Central American neighbors. Belize, however, shares similar threats to its livelihood through land degradation in the forms of unsustainable logging practices, chemical herbicides, and slash-and-burn clearing.

These forms of degradation kill animal and plant life in the soil and lead to soil compaction or erosion. Furthermore, mass deforestation releases dangerous levels of carbon dioxide into the atmosphere.

Deforestation accounts for around 25 percent of man-made emissions of carbon dioxide — roughly the same amount of carbon dioxide produced by the United States, the world's

largest polluter, according to the United Nations Food and Agriculture Organization (FAO). The FAO also reports that the world's forests store 283 gigatonnes of carbon in their biomass alone, while the total carbon stored in forest biomass, deadwood, litter and soil together is about one trillion tonnes — 50 percent more than the amount of carbon found in the atmosphere. The destruction of world forests releases about two billion tonnes of carbon per year, most the loses coming in the tropical forests of Asia, South America, and Africa.

### What can be done?

Preventing this stored carbon from escaping is important for maintaining the global carbon balance



and vital to conserving the environment. Agro-forestry is a sustainable method of farming that slows the need to clear ever increasing areas of forest to grow food and collect fuel wood. The OAS Agro-Forestry Research Project is providing different information materials, data and first results

how usefully agro-forestry is working.

For more information regarding soil degradation and rehabilitation, or more specifics regarding cover crops such as *Arachis pintoy* or *Jatropha curcas* please contact:

Sylvia\_baumgart@gmx.net

## TREE PLANTING CAN HELP

Now it is time to take action. If nothing is done to slow deforestation, about 650 million hectares of tropical forests could be destroyed in the 60 years between 1990 and 2050. (One hectare is about the size of a football field.) But, if only modest actions were implemented during that time, about 138 million hectares might be spared by 2050, but not much action has taken place so far, and we are losing more forest every day.

Tree planting could greatly affect Earth's greenhouse gases — those



gases in the atmosphere that warm the planet — according to NASA scientists who presented their findings during the American Geophysical Union's fall meeting in San Francisco.

“Planting trees on marginal agri-

cultural lands could 'sequester' carbon and offset at least one-fifth of the annual fossil fuel emission of carbon in the United States,” said Christopher Potter, a scientist at NASA Ames Research Center in California's Silicon Valley.

NASA scientists report a satellite-driven computer model that predicts forest re-growth conservatively projects that 0.3 billion metric tonnes of carbon could be “stored” each year in trees growing on relatively low-production crop or rangeland areas in the United States. Source: [www.nasa.gov/vision/earth/environment/climate\\_bugs.html](http://www.nasa.gov/vision/earth/environment/climate_bugs.html)

## OPEN DAY AT CENTRAL FARM

Agriculture is the Belize's most important economic activity. In January 2006, the government's main agricultural research facility held an open day. Central Farm is the main station where the Ministry of Agriculture is doing research regarding development of agriculture technologies for the farming community. Central Farm is developing different technologies for livestock and crops. Trial plots of alternative, foreign crops are also being planted to determine product yields, disease resistance, and tolerance to adverse conditions.

**RIGHT: Neville McAndrew, Agronomist/Seed Technologist; Eugene Waight, Chief Agricultural Officer, Min. of Agriculture and Fisheries (MAF); Sylvia Baumgart Laasner, Coordinator OAS Agro-Forestry Research Project; Manuel Trujillo, Dir. of R&D, MAF.**



## PRESENTATION AT GALEN UNIVERSITY

In its continuing efforts to spread the positive message of agro-forestry and sustainable development, the OAS Agro-Forestry Research Project gave a presentation at Galen University, Belize in January 2006. Galen University is committed to providing an exciting and stimulating learning environment, innovative and supportive teaching, scholarship, and active service to the community — with a focus on sustainable development.

### A WORD OF THANKS:

The OAS Agro-Forestry Research Project received a donation from the private Belizean company AgriCentro Ltd of needed materials to extend the

water irrigation system at the demonstration plots. The project coordinator extends thanks to the company. Because of the donation we could save funds which we can now spend for the development of the OAS Agro-

Forestry Web page. The Web site will greatly improve and increase communication, especially for our regional partners to download PowerPoint presentations, newsletters and fact sheets.

## INTERNATIONAL AGRO-FORESTRY ORGANIZATIONS:

**Center for International Forestry Research (CIFOR):** an international research and global knowledge institution committed to conserving forests and improving the livelihoods of people in the tropics. CIFOR's high im-



pact research helps local communities and small farmers gain their rightful share of forest resources, while increasing the production and value of forest products. [cifor.cgiar.org](http://cifor.cgiar.org)

**World Agroforestry Centre, Nairobi, Kenya:** The vision is an agro-forestry transformation in the developing world resulting in a massive increase in the use of working trees on working landscapes by smallholder rural households that helps ensure security in food, nutrition, income, health, shelter and energy and a regenerated environment. An agro-forestry transformation involves a future in which millions of poor farming households



have access to portfolios of adapted and productive tree enterprises that improve their livelihoods in a holistic way. Underpinning this transformation is the imperative of accelerated scientific research to ensure that the stream of necessary technical, policy and institutional innovations is forthcoming. [worldagroforestry.org](http://worldagroforestry.org)



## UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

Belize acceded to the United Nations Convention to Combat Desertification (UNCCD) when the pertinent documents were signed on 23rd July 1998. The conditions of the Convention entered into force for Belize ninety days later on the 21st October 1998. Belize developed his first national report on the implementation

of the United Nation Convention to combat desertification in 2000. In the meantime Belize conducted the Belize National Capacity Self Assessment Report to meet its obligations under the Rio Convention. The preparation of a National Action Program to combat land degradation is under preparation.

## FREE MATERIALS AVAILABLE!

The third set of agro-forestry course materials for students are available in Belize. The third set includes an introduction into soils, pest management and cultural practice in agro-forestry.

If you are interested in receiving a free copy, please call: Sylvia Laasner-Baumgart at 822-1076.



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