



Sunset at Bladen River, Bladen Nature Reserve
Photograph by Ya'axché

Ya'axché Conservation Trust

About Us

Our vision:

Harmony between nature and human development for the benefit of both .

Ya'axché Conservation Trust is an award winning Belizean organisation which aims to maintain a healthy environment with empowered communities by fostering sustainable livelihoods, protected area management, biodiversity conservation and environmental education within the Maya Golden Landscape.

Ya'axché works in a 770,000-acre area, the Maya Golden Landscape (MGL). The MGL is hailed as a site of significant global biodiversity importance, providing protection to a myriad of rare and endangered species, such as the harpy eagle, Baird's tapir, and all five cat species endemic to the region. This includes the Bladen Nature Reserve – the most biodiverse protected area in Belize – Maya Mountain North Forest Reserve – a multiple use site for protected area innovation – and the Golden Stream Corridor Preserve – a critical link in the Mesoamerican Biological Corridor. The MGL plays a vital role in maintaining clean breathing air, medicinal plants, food, and water quality for communities in Toledo and for the World Heritage Belize Barrier Reef.

This unique environment is under grave threat. The main causes are deforestation and unsustainable agriculture. The future does not have to be so bleak. Ya'axché works with nine communities to protect 100,000 acres of pristine rainforest and 51,441 acres of secondary forest, assist local farmers to adopt environmentally friendly farming practices and implement an innovative education program that gives young people an understanding of the connections between their communities and the environment.

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Local women’s group provide basket making lessons to visitors of EcoTourism Belize
Photograph Maximiliano Caal

History

Ya’axché was founded in 1997 by a consortium of individuals. The community-oriented organisation safeguarded a natural corridor connecting the Maya Mountains forests with the lowland forests in the Caribbean coastal plains. The organization signed a 12-year institutional Memorandum of Understanding with Fauna & Flora International, the world’s oldest conservation organization based out of Cambridge, UK and received its first one-year grant from IUCN to become fully established. Ya’axché Conservation Trust (Ya’axché) changed its name in an effort to achieve greater resonance with the local Maya communities, and so as not to bind the growing organization to working solely with the management of protected areas. Ya’axché quickly grew from a small grassroots organization to a nationally renowned leader in conservation and development.

Approach

Ya’axché applies integrated landscape management, bringing together local indigenous Maya communities, private landowners, the government bodies and local NGOs to plan land-use at the landscape level to generate positive outcomes for conservation and development. This is achieved through two programmatic areas known as Protected Areas Management and Community Outreach & Livelihoods.

Ya’axché’s Historical Highlights

1997	Founded as Golden Stream Corridor Preserve (GSCP) NGO
1998	12 year MOU signed with Fauna & Flora International (FFI)
1999	1 st portion of GSCP land purchased & placed under protection
1999	1 st grant: IUCN institutional building
2000	1 st comprehensive biodiversity assessment of GSCP
2002	Name changed to Ya’axché Conservation Trust (Ya’axché)
2005	2 nd portion of land purchased resulting in a 15,441-acre GSCP
2008	Received co-management rights over the 100,000-acre Bladen Nature Reserve
2012	Received prestigious Whitley Award
2014	Established a business arm, YICE, including EcoTourism Belize
2014	927-acre agroforestry concession in the Maya Mountain North Forest Reserve
2015	Received co-management of the 36,000-acre Maya Mountain North Forest Reserve



A young Ya’axché tree

The symbol of our organisation is the Ceiba tree (*Ceiba pentandra*). The tree is also commonly known as Ya’axché (pronounced as YASH-che) in Mopan Maya. It was believed by the ancient Maya to connect the heavens and the underworld. It represents the interconnectedness of all living things.



The 770,000-acre Maya Golden Landscape

PROTECTED AREAS MANAGEMENT PROGRAM

The Protected Areas Management (PAM) program is focused on the enforcement of the protected areas management and the conservation of ecosystems, biodiversity and animal and plant species in and outside the reserves.

Ya'axché rangers (known to be one of the well-trained in Belize), assisted by the Spatial Monitoring and Reporting Tool (SMART), monitor and deter illegal activities within the three protected areas on a daily basis. Illegal perpetrators are made aware of the laws, escorted out off the area, and any illegal incursions are instantly recorded and reported quarterly.

The PAM team (researchers and specialized parabiologist rangers) collect biodiversity information from three protected areas in a systematic long-term monitoring scheme. Rangers routinely conduct transect counts of birds and mammals, monitor vegetation plots, record bat frequencies using acoustic bat detectors, assist in annual camera trap surveys and conduct freshwater invertebrate monitoring. Ya'axché now has over seven years of biodiversity information that has been analyzed yearly and produced in an annual biodiversity synthesis report.

Monitoring has revealed that the area is extremely rich in wildlife, providing protection for hundreds of species of birds (including the harpy eagle), 93 mammals, including five species of cats, and 81 reptile and amphibian species. Additionally, Bladen Nature Reserve has one of the highest tree species diversity in all of Central America.

The PAM program also monitors forest cover change (forest loss, agricultural areas, communities, fire) within the MGL. All this information informs the organisation's management decisions.

The continuation of the PAM program is essential to help maintain the ecological integrity and the current levels of biodiversity found within the MGL. Consistent collection of physical, chemical and biological data is critical in order to ensure that Ya'axché makes decisions based on sound scientific research.

Significant impacts occur from illegal hunting, fishing, plant poaching, and wildfire. Local people often have no other option (due to poverty) but to exploit the forest's resources in order to make a living. This heavy demand for land and resources places considerable urgency on Ya'axché's PAM program.



Photograph by Erik Hammar



Photograph by © Tony Rath (2013)

ABOVE:
Harpy Eagle (top) requires large tract of intact forest to thrive. Bladen River, Bladen Nature Reserve (bottom) provides clean water to communities and the world largest barrier reef system in the western hemisphere.

BELOW: A major part of protected areas management is the education of communities that live near it of its importance.



Ya'axché rangers Anignazio Makin and Octavio Cal testing stream quality.
Photograph by Ya'axché



Photograph by Erik Hammar

COMMUNITY OUTREACH & LIVELIHOODS PROGRAM

The Community Outreach and Livelihoods (COL) program focus on improving the current agricultural practices and economic situation of communities and the way they use land .

Its aim is to incorporate integrated farming, cacao and coffee-based agroforestry, apiculture, alley-cropping into the communities’ set of standard practices. Farmers are provided with materials, equipment, trainings and technical support to shift to environmentally friendly farming techniques. COL also work alongside women’s groups and honey farmers to build their capacity to run small entrepreneurial ventures.

Alley-cropping utilizes leguminous trees such as *Inga edulis* to improve the soil, and has been tested on several farms in the area. Cacao-based agroforestry implies the use of fruit and timber trees to serve as shade trees below which cacao is grown (for the production of chocolate). The apiculture is an alternative source of income because honey is always in demand furthermore the bees provide pollination for crops and other fruit trees in the agroforestry system. Ya’axché’s newly improved nursery houses over 50,000 seedlings, mostly cacao seedlings that are provided to farmers to establish or expand their cacao farms.

Meetings, trainings, workshops are regularly held with farmers and women to foster efficient and honest leadership skills.

Education is a major component of COL and has assisted communities in establishing solar power systems for primary education enhancement and underprivileged students to pursue secondary education. Summer camps, school visits and student field trips serve to instill environmental ethic in children at an early age so that they can have a sense of ownership over their natural heritage and feel proud about conserving it.

Annual events held by Ya’axché help to dialogue with community members and increase the, recognizes the farmers’ talent. The Ya’axché Successful Expo practicing sustainable farming techniques within the MGL and raises awareness about wildfires and the safe use of fire in slash-and-burn agriculture. This yearly event attracts people far beyond the Maya Golden Landscape.

Accomplishments

300	Farmers assisted
3	Solar systems installed at 3 schools
135	High school students have been assisted
6	Corn thrashers & grain storage bins in 6 communities
150 acres	Land converted to cacao-based agroforestry farms
17	Farmers adopted alley-cropping system
8	Organic garden equipped with irrigation systems
18	Farmers have been supported through beekeeping
Over 250	Training sessions and exchanges visits held in bookkeeping, cooking, business management, cacao farming, bee-keeping, gardening, alley cropping, community planning, leadership, climate change, fire management, protected area management
Over 300	School visits done at 9 primary & 2 secondary schools
Over 700	Students educated through summer camps and field trips

BELOW: Cacao-based agroforestry reduces the impacts on the surrounding forests and can improve wildlife connections between fragmented forests, which helps to protect the last remaining corridor connecting the coastal forests with the Maya Mountains.



One of 3 solar systems installed at primary schools to enhance learning experience.
Photograph by Maximiliano Caal



Inga Alley Cropping model farmer
between his rows of 20 month-old
Inga edulis trees.

Photograph by Maximiliano Caal

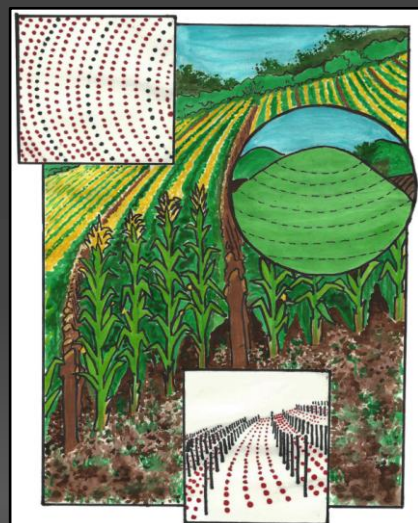


Soil Conservation for Food Security, Forest Conservation and Climate Adaptation: an Integrated Approach through Inga Alley Cropping at a Landscape level

In tropical regions all around the world, slash and burn practices and its associated shifting agricultural cycle are failing to provide sustained food production and income generation for millions of small holder farmers in rapidly growing communities. Central America is not an exception, and throughout the region, millions of acres of forest have been lost to agricultural fires. In addition, the use of agrochemicals has contributed to exhausting and degrading the fragile thin tropical soils, which struggle to regenerate and recover nutrient levels after increasingly frequent agricultural use. This has reduced yields and as such the food security of small farming communities driving the agricultural frontier further into forests in search for productive soils. When combined with large scale cattle ranching and large scale mono-crops, we find that traditional subsistence farming is contributing to an increase of erosion risk, a decrease of forest cover, decreased potable water and increased environmental degradation to downstream communities and Belize's World Heritage, the Barrier Reef System.

In a context of Climate Change, which will bring hotter and dryer weather conditions as well as more irregular rains, there is a critical need to adopt agricultural practices that allow communities to keep their soil fertile, moist, and productive. In doing so, farmers will not face the same pressure to expand their farms into forests that are providing key ecosystem services such as water provision and flood risk reduction. This will enhance the landscapes resilience to Climate Change.

While the use of nitrogen fixing plants is widely acknowledged as a method to bring nutrients back into degraded soils, the Inga Alley Cropping technique goes a step further. Using leguminous trees of the Inga genus (*I. edulis* and *I. oestadiana*) to conserve and regenerate agricultural soils, existing and new nutrients are recycled into the productive system. Inga alley cropping also provides mechanical benefits such as avoiding erosion on farmed slopes, and generating a physical layer of mulch that helps prevent the desiccation of the soil in dry conditions. Inga trees are planted in rows (on flat) or contour lines (on slopes) and pruned every year to allow for the planting of the target crop (may include corn, pineapples, banana, coco yam, etc), allowing the Inga trees to re-grow after the harvest of the crop. In every pruning, the Inga trees are generating mulch which contributes to soil protection, they are releasing nitrogen into the soil and producing sustainable fire wood for domestic use.



ABOVE: INGA ALLEY CROPPING
On slopes, Inga are planted along contours and in between rows the desired crop is planted

Illustration by Jill Burges



Soil Conservation for Food Security, Forest Conservation and Climate Adaptation: an Integrated Approach through Inga Alley Cropping at a Landscape level

The Inga alley cropping plot increases in fertility year by year, allowing the farmer to use the same plot every planting season without having to clear forest in the search of new soils.

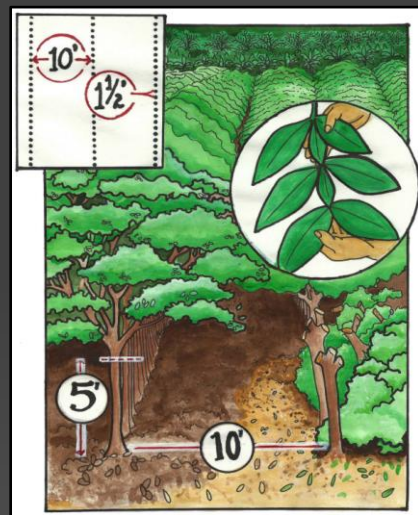
By up-scaling this technique at a landscape level in the Toledo District of Southern Belize, we are aiming to increase resilience to Climate Change in small farming communities across 20% of Belize's land area. In order to do so, there is the need:

- To establish demonstration plots so that farmers can see the results of this technique
- Train agricultural extension officers to assist farmers with technical knowledge
- And establish Inga nurseries to provide communities with the necessary amount of trees

By doing so, we will be contributing to the creation of resilient and empowered communities within a healthy and productive environment.



ABOVE:
Participants of a field visit to Honduras
Photograph by Ya'axché



ABOVE:
Inga alley cropping technique
Illustration by Jill Burges

Students on an educational field trip to
Bladen Nature Reserve
Photograph by Erik Hammar



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Harmony between nature and human development
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Our Mission

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