

Fire

Fire, which threatens our efforts in the MGL, has allowed the COL program to establish a set of strategies that supports and responds to planned and/or unplanned fires in our communities. Our fire management approach integrates Ya'axché's community stewardship efforts to ensure that both conservation and sustainable livelihoods initiatives are not negatively impacted by escape fires at the landscape level.

Reinforcing these strategic actions and forming key partnerships ensures that the conservation and protection of our forest and its resources are harmonized towards a sustainable use of land for food and water security both locally and nationally.



The goal is to mainstream guided practices to build community capacities on how to manage the use of fire. This strengthens Ya'axché's fire management collaborative efforts spearheaded by MGL farmers and other stakeholders. Increasing awareness and promoting community fire management is key to preventing environmental degradation from escaped fires, which are a threat to forests, farm lands and households.

Community Agroforestry Concession

The Maya Mountain North Forest Reserve's (MMNFR) cacao agroforestry community concession is Belize's first of its kind, allowing local residents to access a forest reserve to cultivate crops and become stewards of resources they depend on.



The concession occupies 936 acres in the south-eastern corner of the 36,130-acre MMNFR in Toledo District, Belize, near the village of Trio.

Through the work of Ya'axché, the Belize Forest Department, and Trio Farmers Cacao Growers (TFCG), this concession became a reality in 2015 and is serving as a model in protected areas management in Belize.

The agroforestry concession works to bring sustainable economic development to buffer communities in MMNFR and to reduce current threats to biodiversity and habitat loss due to illegal and unsustainable agricultural developments within the reserve.



Ya'axché Conservation Trust

Harmony between nature and human development for the benefit of both

Ya'axché is a Belizean organization aiming to maintain a healthy environment with empowered communities through sustainable livelihoods, protected area management, biodiversity conservation and environmental education utilizing innovative approaches within the Maya Golden Landscape.

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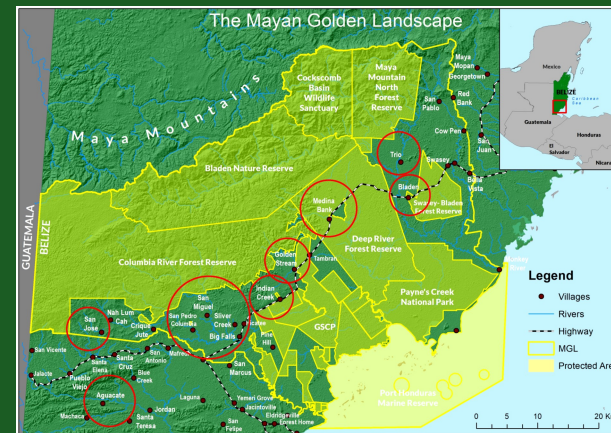
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All images have been captured by Ya'axché staff and field cameras deployed in wild places managed by Ya'axché in the Maya Golden Landscape.



Community Outreach & Livelihoods Program



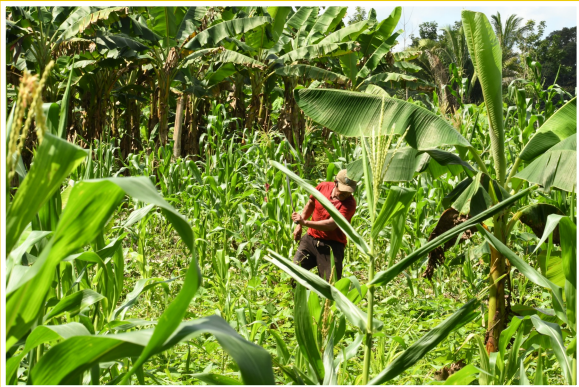
Photo of pumpkin harvest in the Maya Golden Landscape.

Community Outreach & Livelihoods (COL) Program

As part of the COL program, Ya'axché works with communities that are dependent on the natural resources of the Maya Golden Landscape for food, resources for shelter, traditional medicine, ecosystem services and farmland. As population expands (at rates of up to 10% p.a. in some villages, Census 2010), there is increasing land clearance and deforestation, predominantly for agricultural purposes.

Farmers within the MGL are already experiencing the effects of climate change especially as it relates to planting seasons and crop yields. As crops and the livelihoods of small-scale farmers are being negatively affected there is greater need to prepare communities to improve their economic, ecological and social resilience to these impacts.

Ya'axché promotes the implementation of climate-smart sustainable agricultural techniques as a part of an Integrated Farming System (IFS) inclusive of cacao-based agroforestry, Inga alley cropping and beekeeping, which improves livelihoods and climate change resilience in target communities. Another element of the COL programme is fire management.



Agroforestry



Agroforestry is practiced all over the world and can reduce the effects of climate change by stabilizing soils, preventing erosion, improving water and soil quality and maintaining or increasing agricultural yields (as compared to the traditional slash and burn system).

Specifically, the agroforestry and Inga alley cropping systems (cover crops) contribute to climate change mitigation efforts, by keeping areas exposed to conditions of extreme heat cooler than other deforested areas.

Agroforestry contributes to the mitigation of extreme climatic events like droughts and flooding. In addition, having a variety of crops—such as timber trees, cacao trees, fruits, medicinal plants and spices—in the agroforestry systems will increase disease resilience, thus improving a farmer's food and income security. Additionally, cacao produced within the agroforestry system serves as a source of income for local farmers and their families.

The climate-smart agroforestry system benefits are numerous and Ya'axché fosters farmers' interest in these practices to improve community livelihoods. The adoption of these practices not only increases community resilience to climate change, but also of the environment, maintaining essential ecosystem services at the landscape level.

Ya'axché has been implementing projects to address the impacts of climate change and land degradation and to build the resilience of the MGL communities.

Inga Alley Cropping

The *Inga edulis*, or bri-bri, is planted in rows about 10 feet apart (on slopes) or 15 feet (on flat land). The roots of the Inga trees fix Nitrogen from the air, converting this gas into soil nutrients which plants can use. This makes the soil richer, improving crop yields and food production without the need to use agrochemicals.

Inga alley cropping can be used to help recover poor soils such as grassy areas and even abandoned cattle pastures. It is recommended to be used on slopes and hilly areas as it contributes to soil erosion prevention, creating a thick mulch on the ground. The shade, branches and the thick leaves on the



ground prevents the growth of grass and other weeds. When the farmer is ready to plant his crop within this system coppicing of the Inga at about 5 feet above ground level is done. The desired annual crop is then planted between the Inga rows.

Another practice that helps in soil erosion prevention and water retention is contour planting. This depends on the slope of the farm lands.



Beekeeping

Beekeeping contributes to the agroforestry system promoted by Ya'axché by contributing towards environmental protection, pollination of crops and food security. This represents an important industry and small-scale business opportunities to strengthen the diversification of local income.



Beekeeping, also referred to as Apiculture, has the potential to be a source of local and/or foreign exchange through the production and marketing of honey and other hive by-products, such as: beeswax, propolis, pollen, bees and manufactured products (e.g., soaps, creams and shampoos).

