

Helping Cayo's smallholder farmers grow native plants for livelihood and biodiversity benefits

Zoë Goodwin, Rudy Aguilar, Duncan
Macqueen, Duncan Moss, & Neil Stuart.

**ROYAL
BOTANIC
GARDEN
EDINBURGH**



DARNV020 Upscaling innovative 'planting-baskets' to restore landscape diversity, enhancing climate-resilient livelihoods

Helping Cayo's smallholder farmers grow native plants for livelihood and biodiversity benefits

Zoë Goodwin, Royal Botanic Garden Edinburgh

Rudy Aguilar, Belize Botanical Gardens

Duncan Macqueen, International Institute for Environment & Development

Duncan Moss OBE and Neil Stuart, University of Edinburgh

**ROYAL
BOTANIC
GARDEN
EDINBURGH**



- 01 Motivation
- 02 Knowledge
- 03 Community
- 04 Demonstration
- 05 Challenges and Lessons Learned



01 Motivation



Judy Duplooy



Rudy Aguilar, Belize Botanical Gardens

Duncan Macqueen, International Institute for
Environment & Development

Duncan Moss OBE and Neil Stuart, University of
Edinburgh



02 Knowledge



Training



Training



Training



Propagation Trials



Bayleaf
Sabal mauritiiiformis



Mahogany
Swietenia macrophylla



Ramon
Brosimum alicastrum

Case Studies

Chib

Chamaedorea tepejilote

Liebm.



Bayleaf

Sabal mauritiiformis

(H.Karst.) Griseb. & H.Wendl.



Chaya

Cnidoscolus aconitifolius

(Mill.) I.M.Johnst.



Case Studies

Fiddlewood / Yaxnik
Vitex gaumeri Greenm.



Soapseed
Sapindus saponaria L.



Firespike
Odontonema hondurense
(Lindau) D.N.Gibson



03 Community

Gardens to Go

Smallholder Plots



Gardens to Go



Gardens to Go

Participant 1 – supports 4 individuals



Gardens to Go

Participant 4 – supports 5 individuals



Gardens to Go

Participant 5 – supports 4+ individuals



Gardens to Go

Participant 11 – supports 7 individuals



Smallholder Plots



Smallholder Plots

Participant 1 – supports 9 individuals



Smallholder Plots

Participant 2 – supports 12 individuals



Smallholder Plots

Participant 3 – supports 5 individuals



Smallholder Plots

Participant 10 – supports 5 individuals



Participant 11 – supports 6 individuals



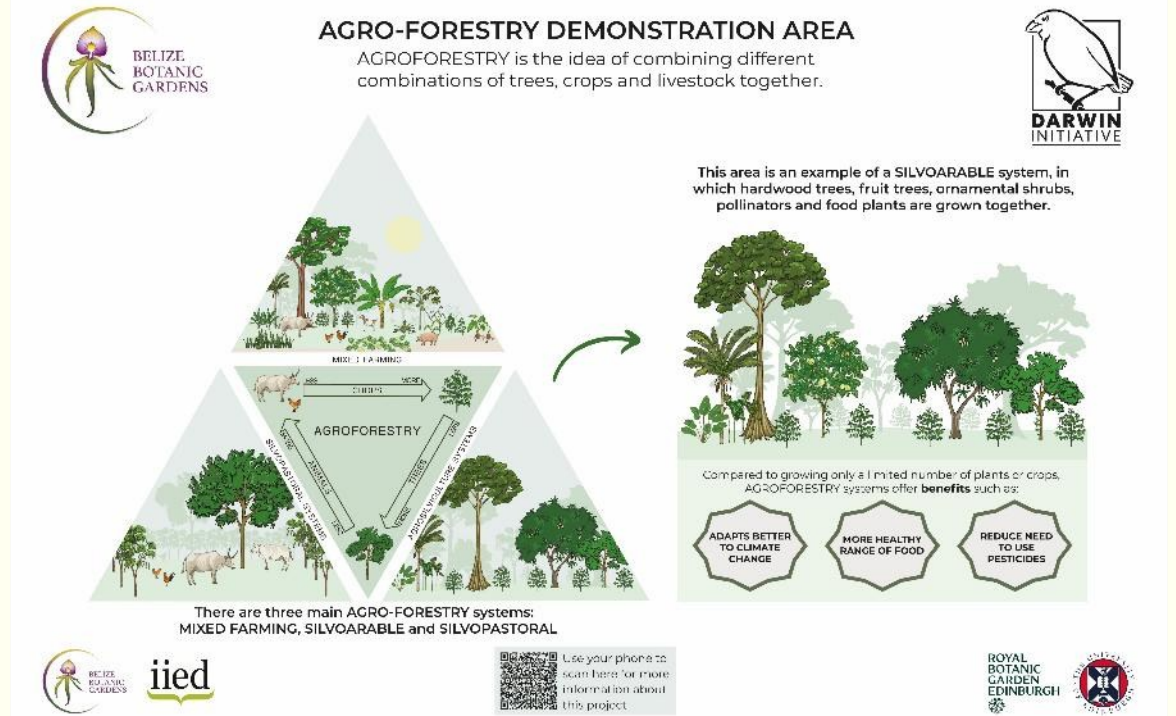
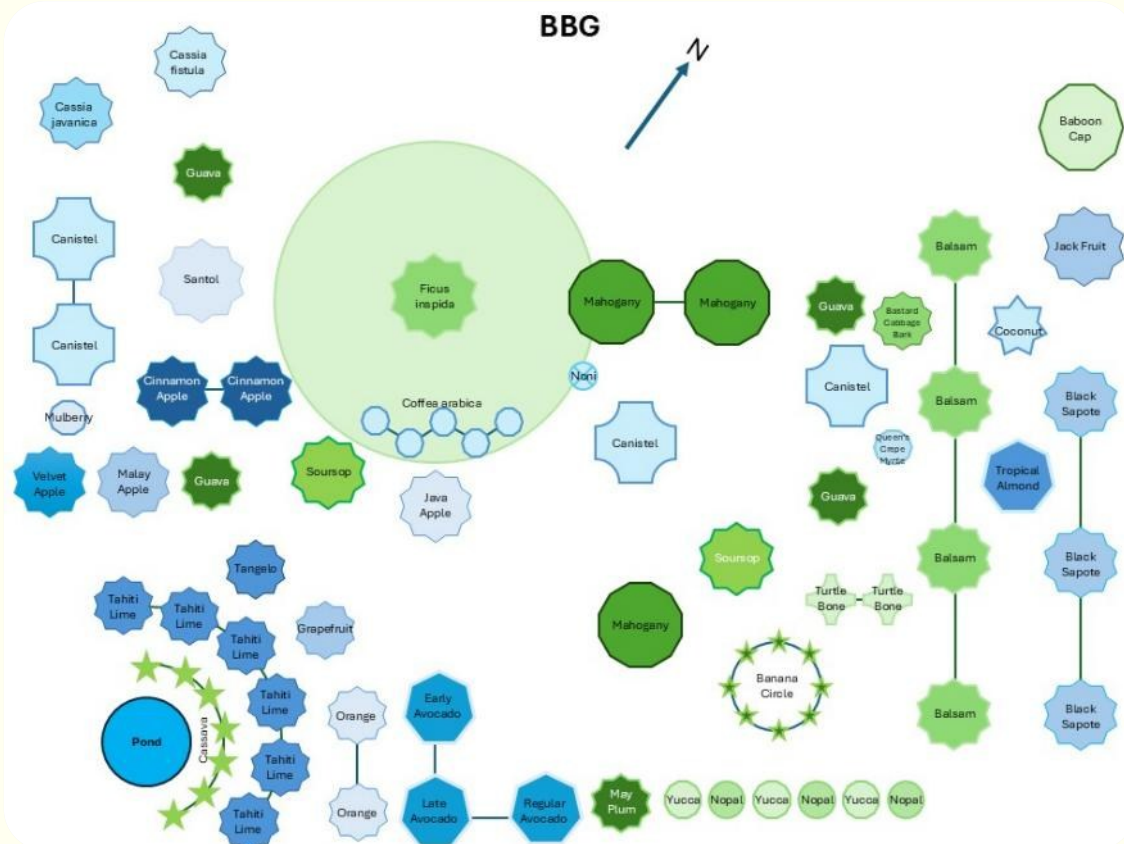
04 Demonstration



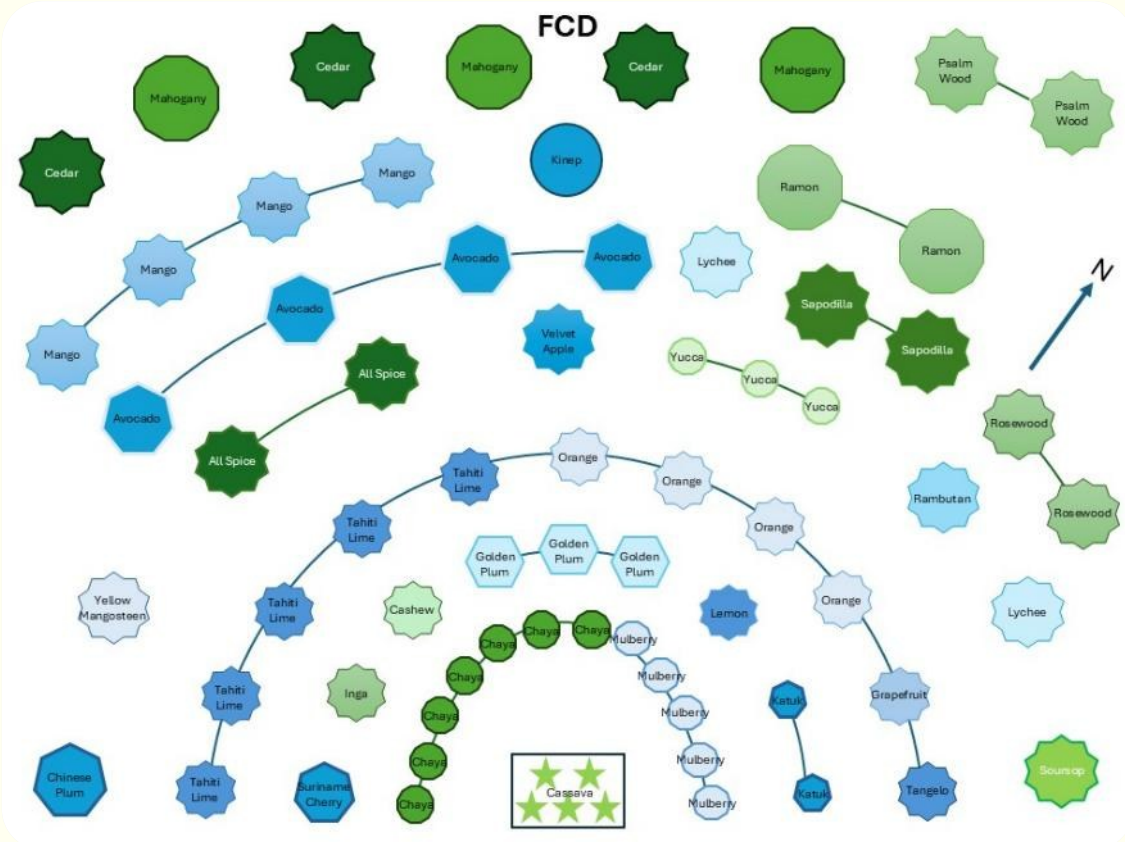
Demonstration Plots



Belize Botanic Gardens



Friends for Conservation and Development





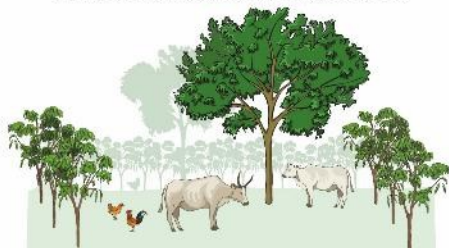
FCD
Friends for Conservation and Development

AGRO-FORESTRY DEMONSTRATION AREA

AGROFORESTRY is the idea of combining different combinations of trees, crops and livestock together.

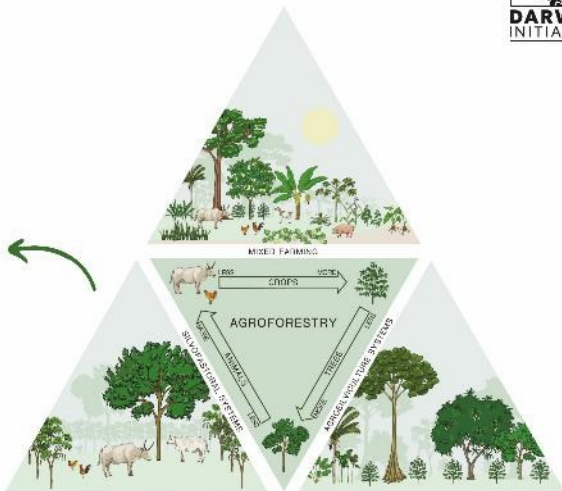


This area is an example of a **SILVO-PASTORAL** system, where trees, shrubs, and fodder plants are grown together to support both animals and a healthy ecosystem.



Compared to growing only a limited number of plants or crops, AGROFORESTRY systems offer **benefits** such as:





There are three main AGRO-FORESTRY systems:
MIXED FARMING, SILVOARABLE and SILVOPASTORAL



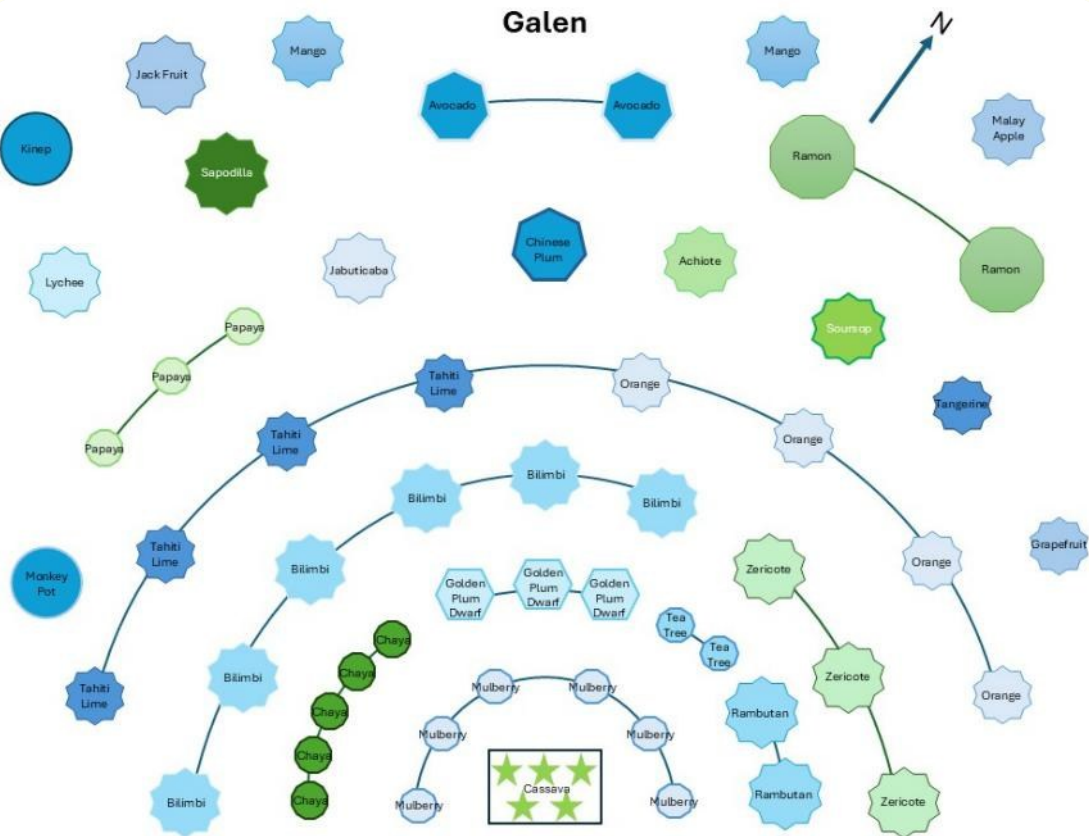


Use your phone to scan here for more information about this project



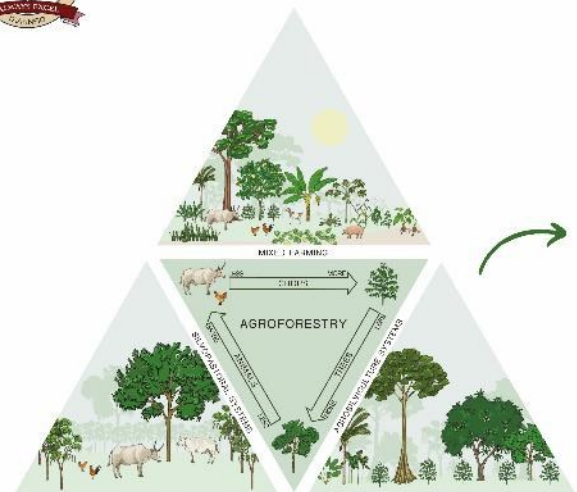






AGRO-FORESTRY DEMONSTRATION AREA

AGROFORESTRY is the idea of combining different combinations of trees, crops and livestock together.



This area is an example of a **SILVOARABLE** system, in which hardwood trees, fruit trees, ornamental shrubs, pollinators and food plants are grown together.



Compared to growing only a limited number of plants or crops, AGROFORESTRY systems offer **benefits** such as:

- ADAPTS BETTER TO CLIMATE CHANGE
- MORE HEALTHY RANGE OF FOOD
- REDUCE NEED TO USE PESTICIDES

There are three main AGRO-FORESTRY systems: MIXED FARMING, SILVOARABLE and SILVOPASTORAL



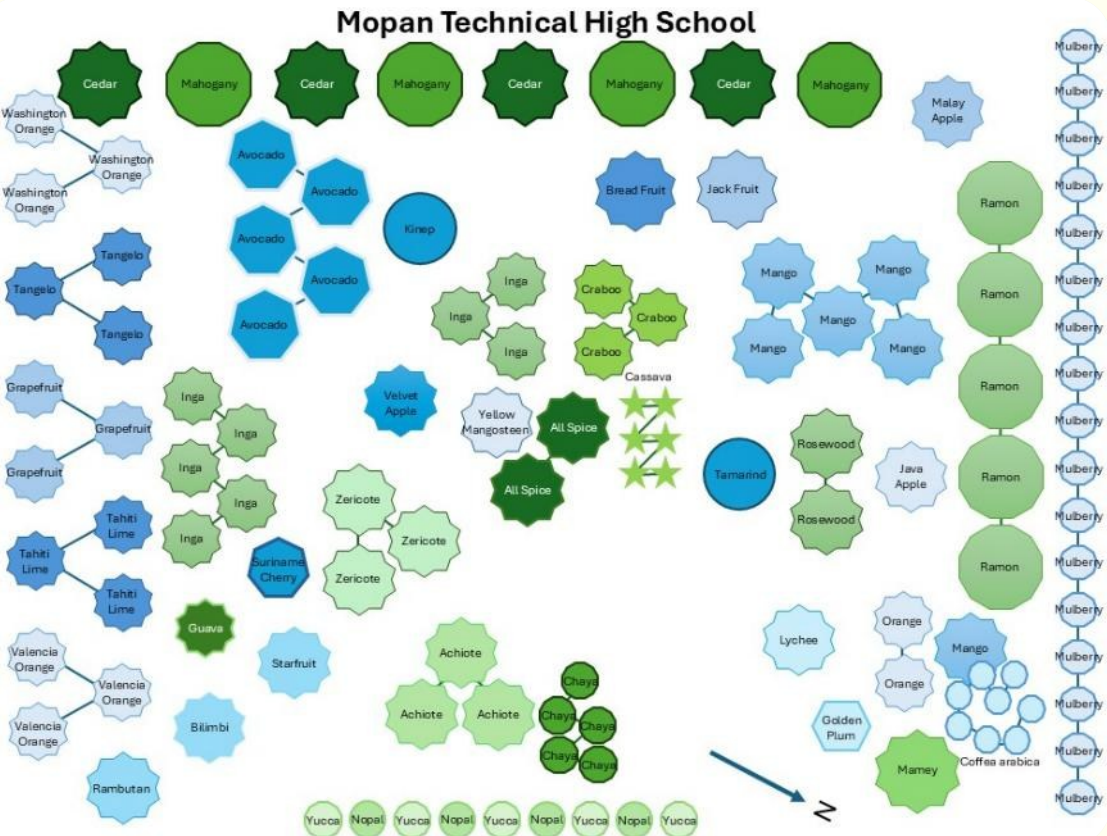
iied



Use your phone to scan here for more information about this project



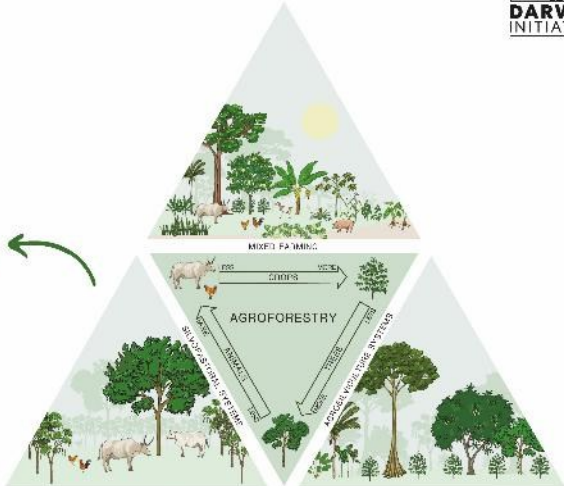
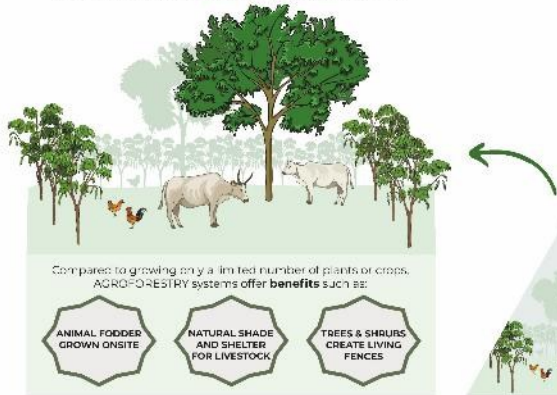
Mopan Technical High School



AGRO-FORESTRY DEMONSTRATION AREA
AGROFORESTRY is the idea of combining different combinations of trees, crops and livestock together.



This area is an example of a SILVO-PASTORAL system, where trees, shrubs, and fodder plants are grown together to support both animals and a healthy ecosystem.



There are three main AGRO-FORESTRY systems: MIXED FARMING, SILVOARABLE and SILVO-PASTORAL



British High Commission



05 Challenges and Lessons Learned



05 Challenges and Lessons Learned

Challenges of seed collections

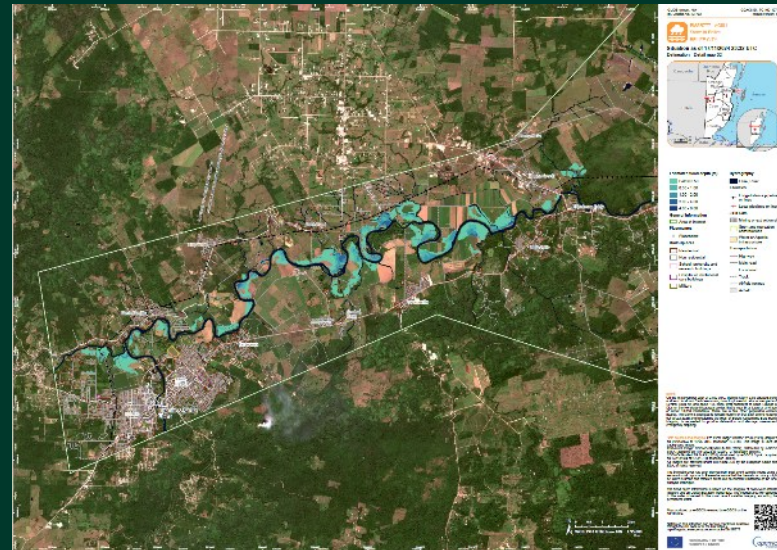
Prior assumptions about plant knowledge

Cultural reluctance to transfer knowledge during a short-term project



05 Challenges and Lessons Learned

Climate Crisis



05 Challenges and Lessons Learned

Staff turnover and events at key organisation



BRH update

Mercedes Chanek

Female Mayan collector

Contemporary with Percy Gentle

Bartlett, then Lundell

1933, (1931 or earlier?)

Collected around San Ignacio and along the Belize River



Thank you

We acknowledge Ria Mishaal for her additional graphics developed for signage and reporting from the original planting designs by Rudy Aguilar, with additional funding provided by IIED

**ROYAL
BOTANIC
GARDEN
EDINBURGH**

