

The Role of Farmers: Restoring Ecosystems for a Resilient Future

Wednesday 18 June: 14:15 – 15:00

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With Speakers:



Catherine Bottrill
CEO,
Pilio



Sajjad Ali Khan
Head of Sustainable
Business Models,
SAMA^Verte



**Marcelo Duarte
Monteiro**
Director of International
Relations, Brazilian
Cotton Growers
Association (ABRAPA)

Moderator:



Heleen Bulckens
Senior Program
Manager – Materials,
Textiles &
Manufacturing,
IDH





SAMA[^]Verte

A Model for Meeting the Biodiversity Principles & Criteria: **A GIF Project**

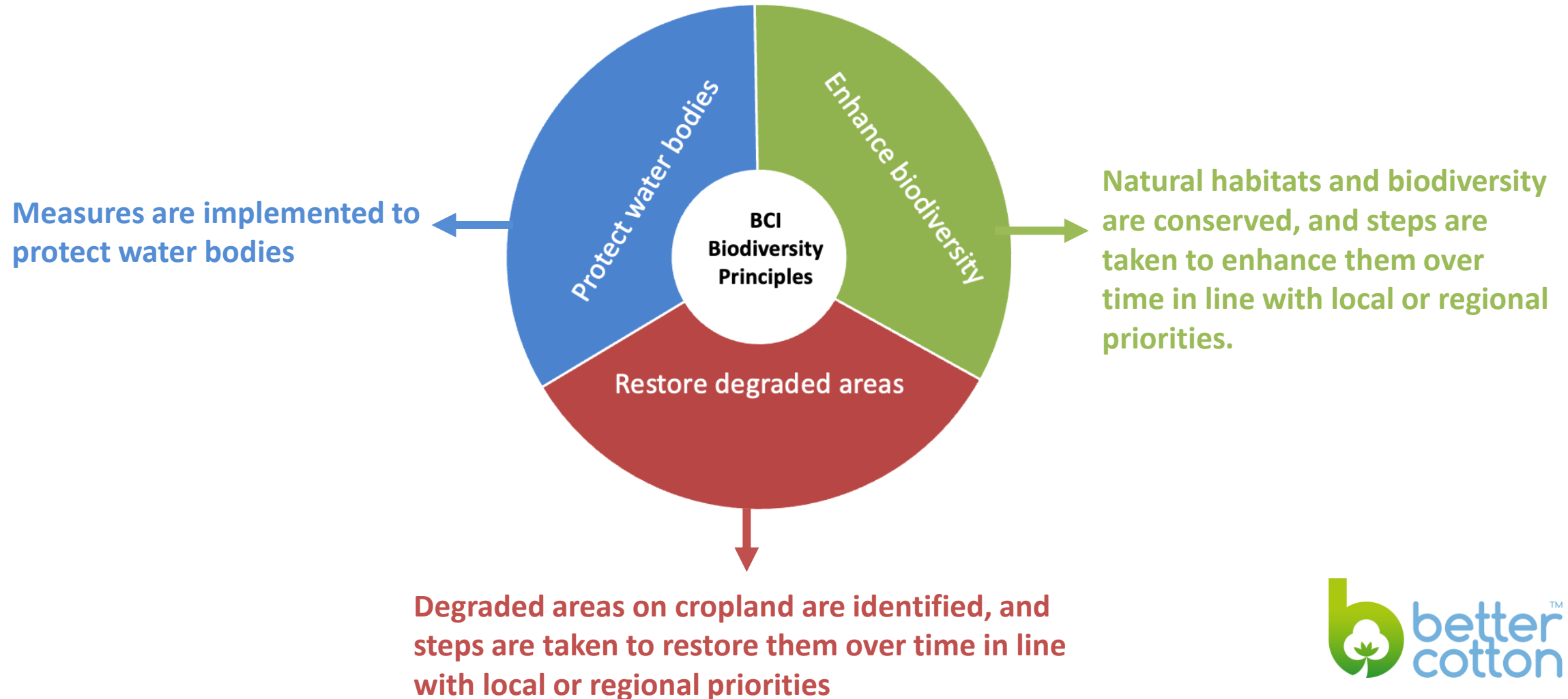
Breakout session – 18th June 2025

The Role of Farmers: Restoring Ecosystems for a Resilient Future

Better Cotton Conference 2025, Izmir, Türkiye

Natural Resources Principle

Criterion 2.3: Biodiversity and natural habitats are conserved & enhanced



Our GIF Project: Aim and Objectives

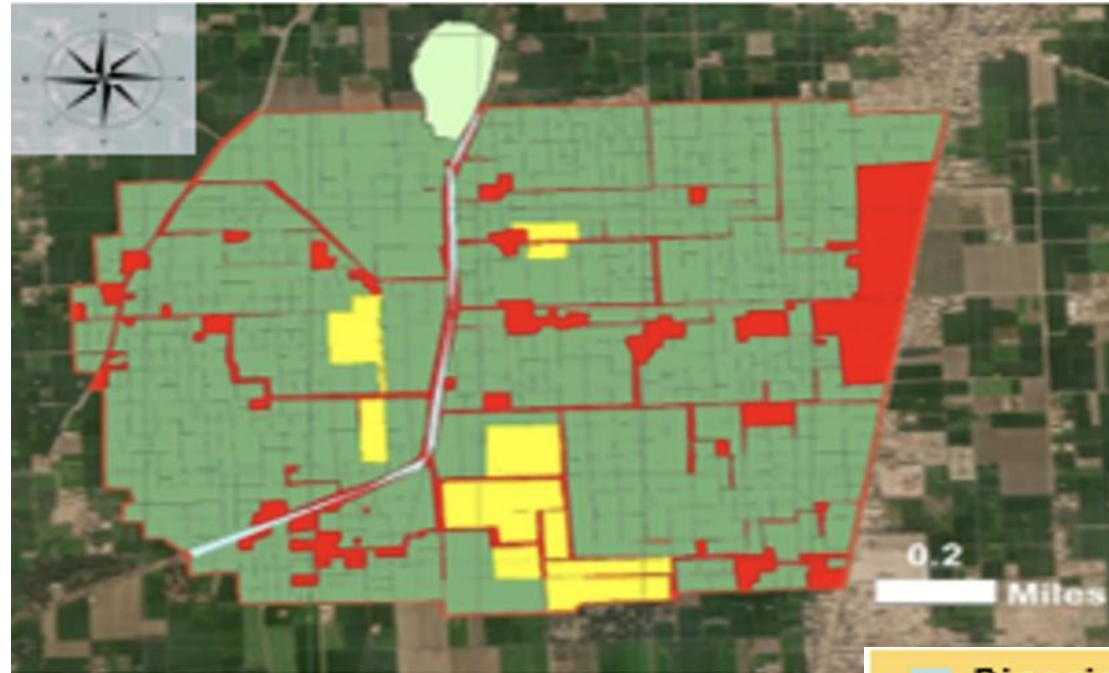
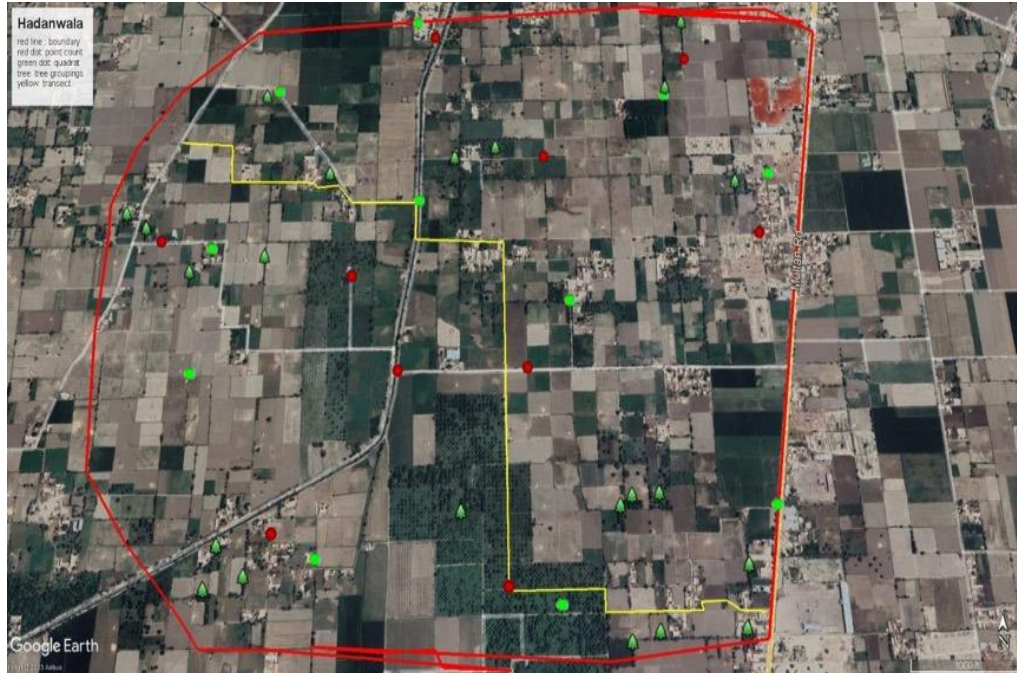
Pilio & SAMAN^Verte as Biodiversity Knowledge Partners are leading a GIF Project (2023-2026)

Aim: To design a model for achieving the biodiversity criteria.

Objectives:

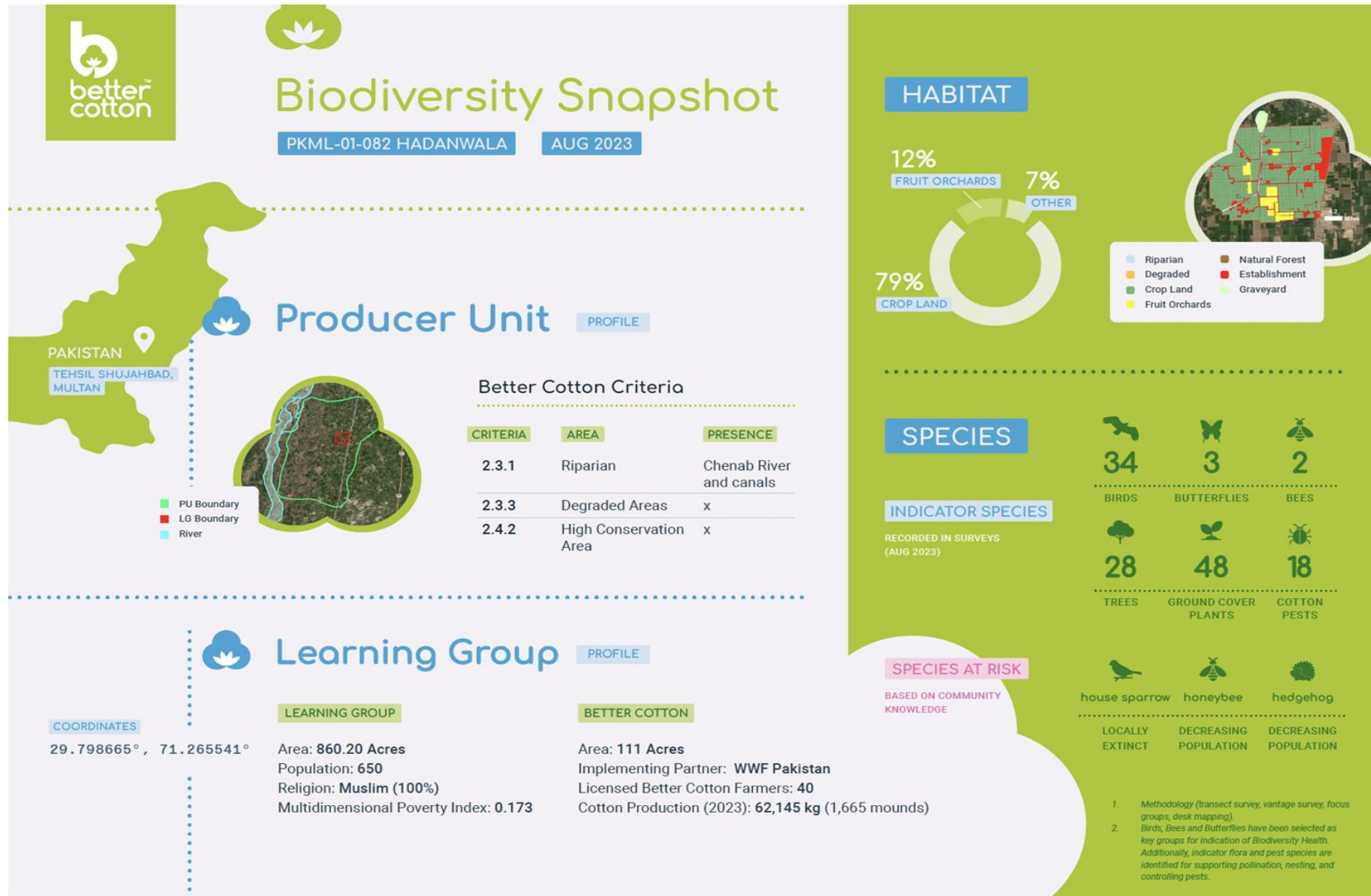
- 1) To develop a biodiversity baseline methodology
- 2) To create Community Biodiversity Enhancement Plans (CBEPs)
- 3) To test the implementation of the CBEPs
- 4) To train Implementing Partners in the approach
- 5) To support the development of the BC Biodiversity Strategy & Roadmap

Biodiversity Baseline: habitat mapping



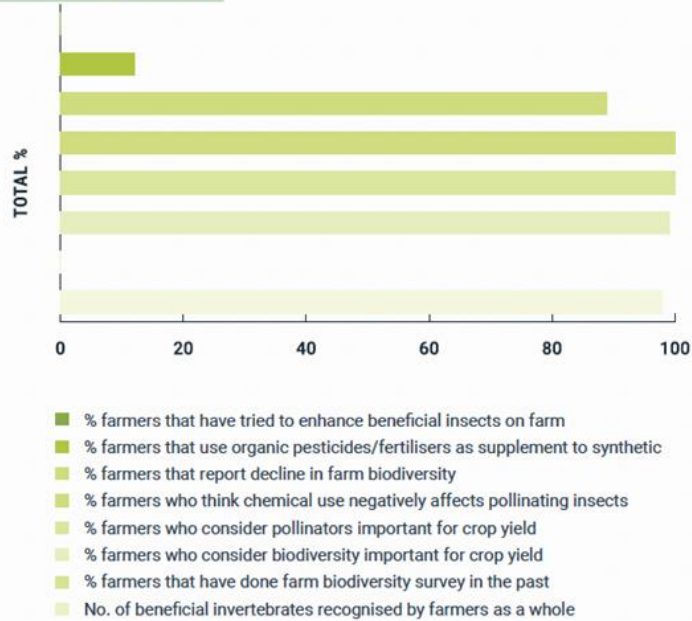
Learning Group

Learning Group: Biodiversity Profile



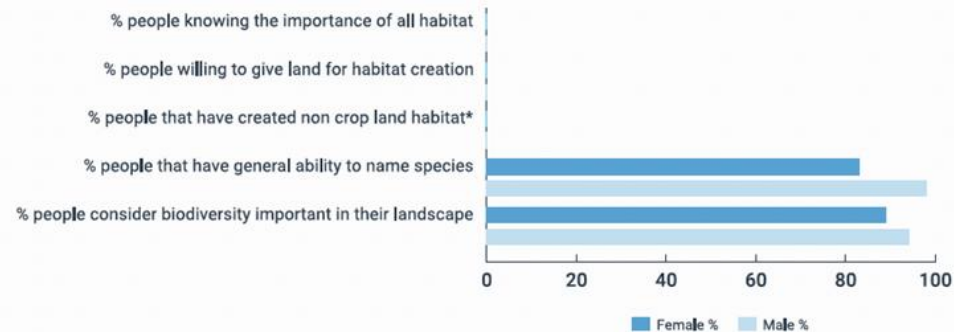
ON-FARM

KNOWLEDGE INDICATORS



OFF-FARM

KNOWLEDGE INDICATORS



*Non-commercial gardens, plantations or ponds, etc.

FARM PRACTICES

- Farmers plant nutrient giving trees to rest and replenish land.
- All Farmers use synthetic fertilisers to increase crop yield and use synthetic pesticides above recommended levels to counter pest attacks.
- Some Farmers have experimented with Bitter Apple organic pesticide but do not use generally because of higher frequency of application.
- Pesticides are reported to be the cause of Honeybee and House Sparrow population decrease.

COMMUNITY VALUES, BELIEFS & PRACTICES

Consumptive Values

- Dove and Rock Pigeon is hunted for eating.
- Medicinal Use of Herbs and tree leaves is common practice.

Productive Values

- Sarkanda grass is used to make brooms and also is used in constructing roofs in traditional manner.

Social Values

- Community exterminates hedgehog given its perception of digging graves for feeding on corpse.
- Owl is considered a bad omen.
- Albizia lebbek* is considered a bad omen.
- Acacia arabica* is considered a blessing.

Community Biodiversity Enhancement Plan

LG Code: PKML-01-082						Cost					Implementation and impact time				Responsible entity		
Sr. No.	Habitat	Enhancement Opportunity	Action	Target class of Biodiversity What benefit can you draw	Coordinates of Area	Unit Cost	Quantity: Give range of quantity?	Total Cost	Cost score	Season of Implementation	Implementation Time	Impact time	Impact Time score	Ideal time for implementation	IP	Famer	Community
1	Riparian (Canal)	Green Belt vegetation along canal is limited and can be enhanced	1. Groundcovers Planting ground covers 1. Kortuma(Bitter apple) 2. Aak-Calotropis procera -medicinal 3. Malla () - eatery 4. Aksin - medicinal 5. kareer - Caparis decidua	Plants and related pollinators , community wil use bitter apple for organic pesticides. Similarly other groundcovers also have values for community	n/a	Rs 134/ packet of 50g	20 packets	2680		March-April	Bitter apple= 2 days	3 months		March-May	Awareness , guidance and monitoring of interventions. Connect farmers to funding sources(if any) .	Plantation plus maintenance (Nearest Farmer)	Fund the interventions
			2. Trees Kikar- Acacia tree plantation: (100) sheesham Beri Phulayi-Acacia Modesta Kau-Olea caspedata Citrus Fruit Lagerstroemia Amaltas-Casia Fistula Arjun-Arjuna Terminalia Tree Sohanjana- Leguminous Species Bakkain Farash- Tamarix(must as an indigenous) Tamarix and Sacrum are ideal for the riparian zome	Birds, Bees and Butterflies + Trees Other benefits include shade and fruits , plus serve as habitat for many birds and insects	n/a	PKR 30 per sapling	143	4290		Feburary-April September-October	Plantation ~2 days	10 years		March-May	Awareness , guidance and monitoring of interventions. Connect farmers to funding sources(if any) .	Plantation plus maintenance (Nearest Farmer)	Fund the interventions
		Birds species are at risk and can be facilitated by enhancing habitat	1. Nests 2. Planting artificial nests that benefit birds	birds Birds wil prey on pests and help in pollinatio	Away from the baya weaver nests to reduce competition	Nests = 250 / Piece*	50	12500		Feburary-April September-October	1 day	1 year		Anytime of the year	Awareness , guidance and monitoring of interventions. Connect famers to funding sources(if any) .	Installation plus maintenance(Nearest farmer)	Fund the interventions

- Habitat
- Enhancement Opportunity
- Action
- Target benefit to biodiversity

- Cost
- Implementation timeline
- Impact timeline
- Responsibility

[illegible]

better cotton

SAMA^Verte pillor

REGENERATIVE FARMING PRACTICES

Biodiversity

Ecosystem services and stability

Naturally, each organism serves as food to another and also contributes towards survival of other species through its living e.g. Trees provide oxygen, bees and butterflies pollinate flowers and help in reproduction of trees and crops. Birds eat fruits on trees and help in transportation of seeds. Thus, through their living, species contribute towards stability of the environment.

All of animals and plants that are visible or invisible to naked eye

Agricultural productivity

Science shows that farms use less chemical fertilizers and pesticides have more biodiversity, specifically indicator species (birds, bees and butterflies) leading to consistently better yields and longlasting soil health.

Soil Health and Fertility

Soils with less fertilizer and pesticide also have more microorganisms that decompose organic matter and make soil more fertile.

Biodiversity Values for Humans:

Biodiversity provides different kind of values e.g. Many medicines are made out of plants and animals, many animals and plants are consumed as food and wood from many plants is used for construction. These values make biodiversity existence.

Biodiversity and its services can be safeguarded using Regenerative agriculture which includes

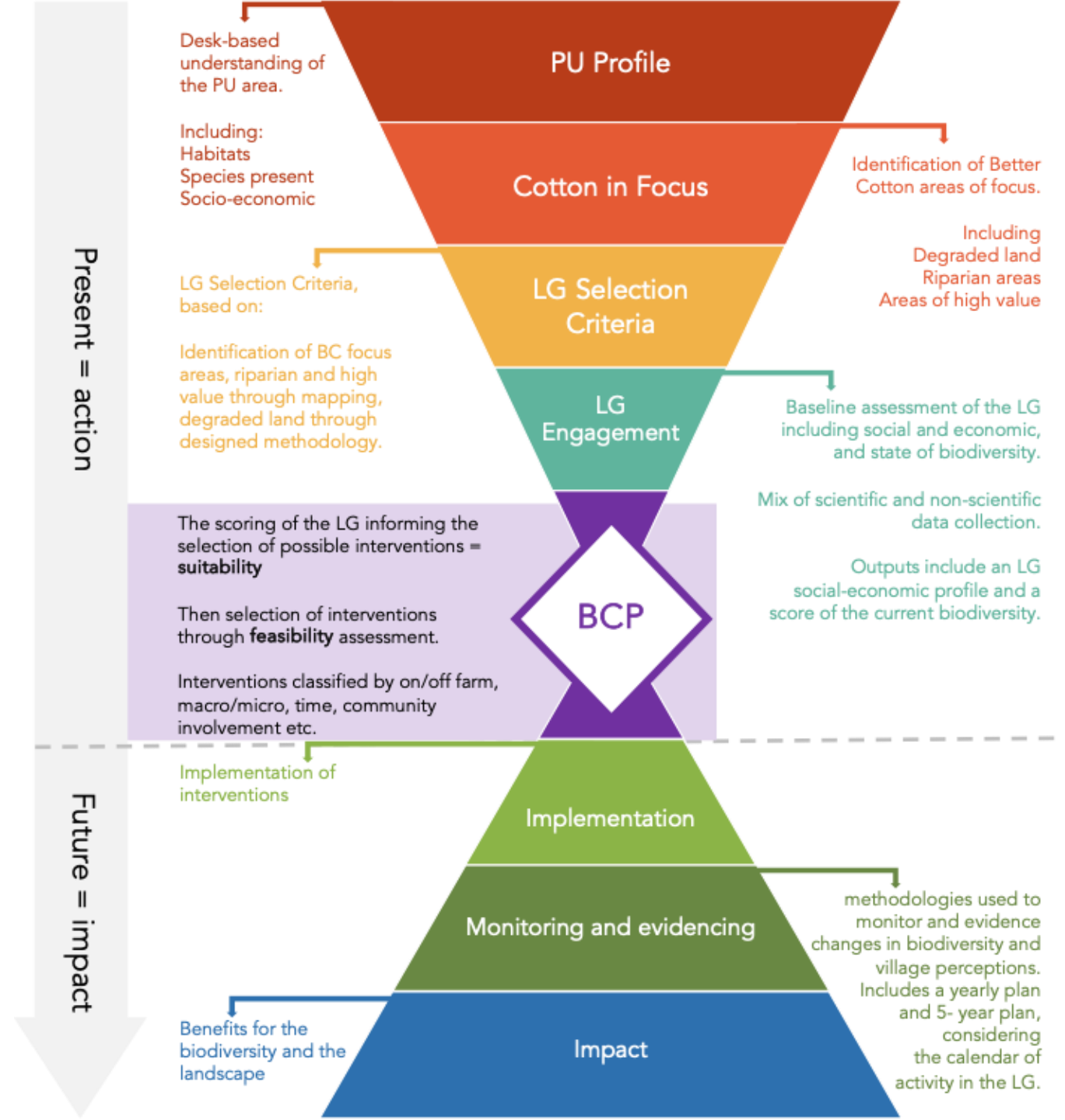
Minimize soil disturbance

Plants in the ground year-round

Diversity crops in time and space

Integrate livestock when possible

Achieving biodiversity impact at the Producer Unit level







The Role of Brazilian Farmers: Restoring Ecosystems for a Resilient Future

Marcelo Duarte Monteiro

Director of International Relations, Brazilian
Cotton Growers Association (ABRAPA)



History of Cotton Production in Brazil



1980's – 1990's

2024/25 Forecast



Area

4.1 M hectares

2.1 M hectares

↓ 49%



Yield

248 Kg
lint/hectare

1,842 Kg
lint/hectare

↑ 744%



Production

700,000
metric tons

3.9 million
metric tons

↑ 557%



Human Development
Index (HDI)

(Mato Grosso state average as % of
world average 1980 x 2022)

39%

101%

↑ 235%

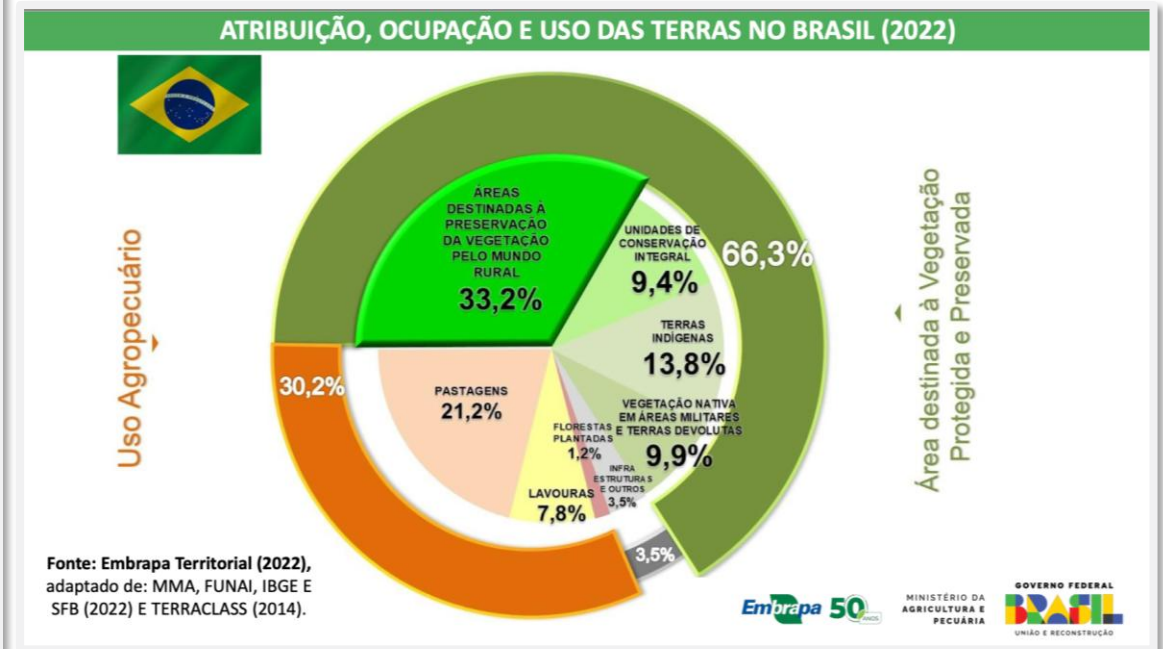


Land use Brazil

33,2% of total Brazil Area is native vegetation inside private farms

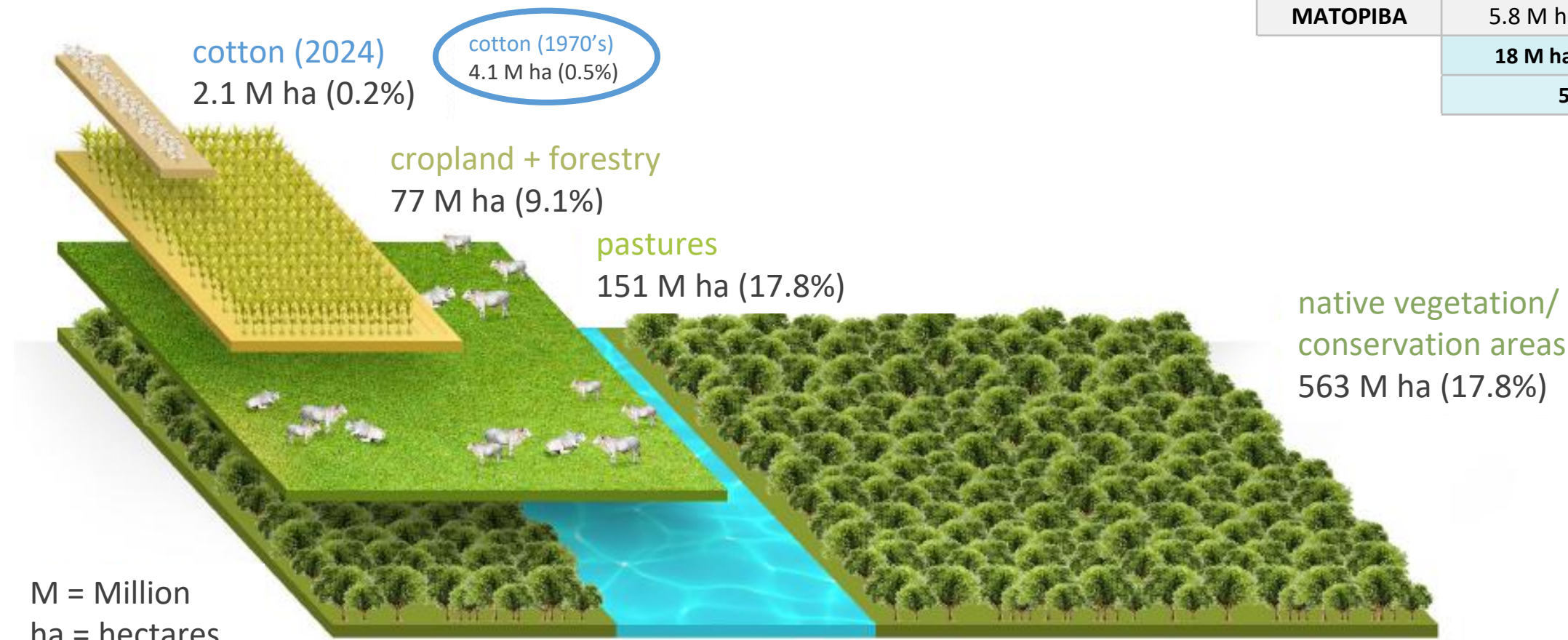


Faz. Conquista Farm – Burgel Family – Mato Grosso do Sul – Brazil – ABR/BCI Certified



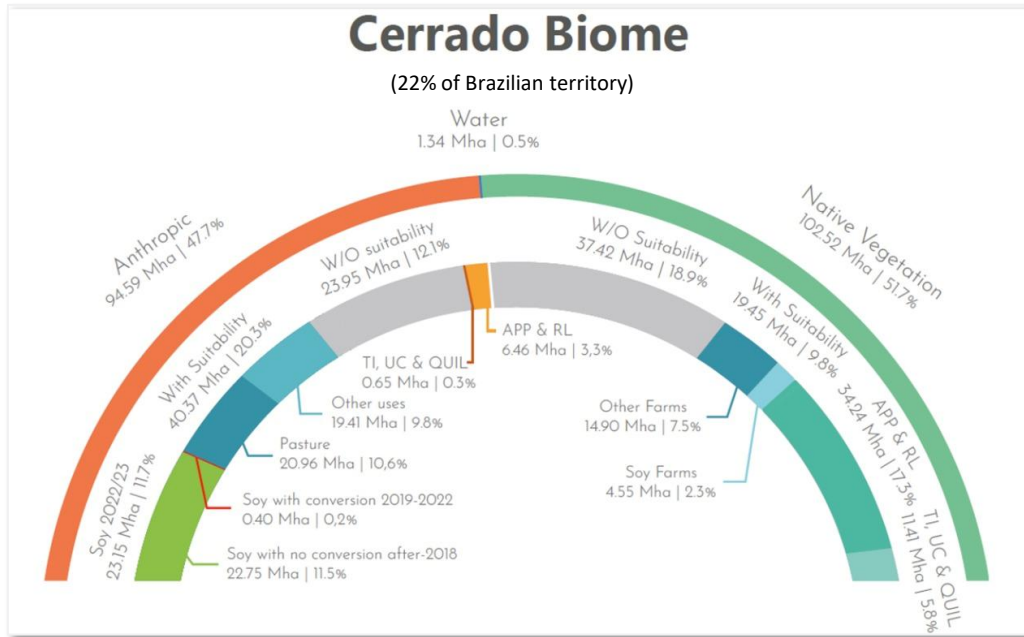


Land use in Brazil



Planted area		
Region	Soybean	Corn 2nd
Mato Grosso	12.2 M ha	6.8 M ha
MATOPIBA	5.8 M ha	0.7 M ha
	18 M ha	7.5 M ha
	5% = 1.0 M ha	

The Cerrado is the second-largest biome in Brazil (only behind the Amazon)



Natural Vegetation:

Diverse and adapted to dry conditions: twisted shrubs, trees with thick bark and small leaves.

Presence of grasses and herbaceous plants among scattered trees.



Soil:

Acidic, nutrient-poor soils with a high concentration of aluminum.

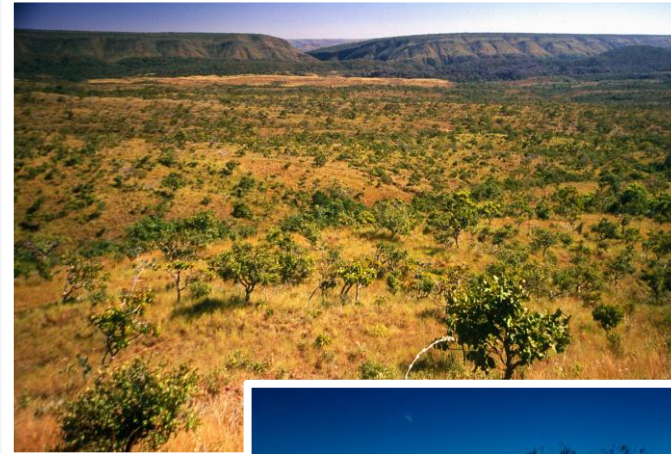
High drainage capacity, which contributes to the sparse vegetation.



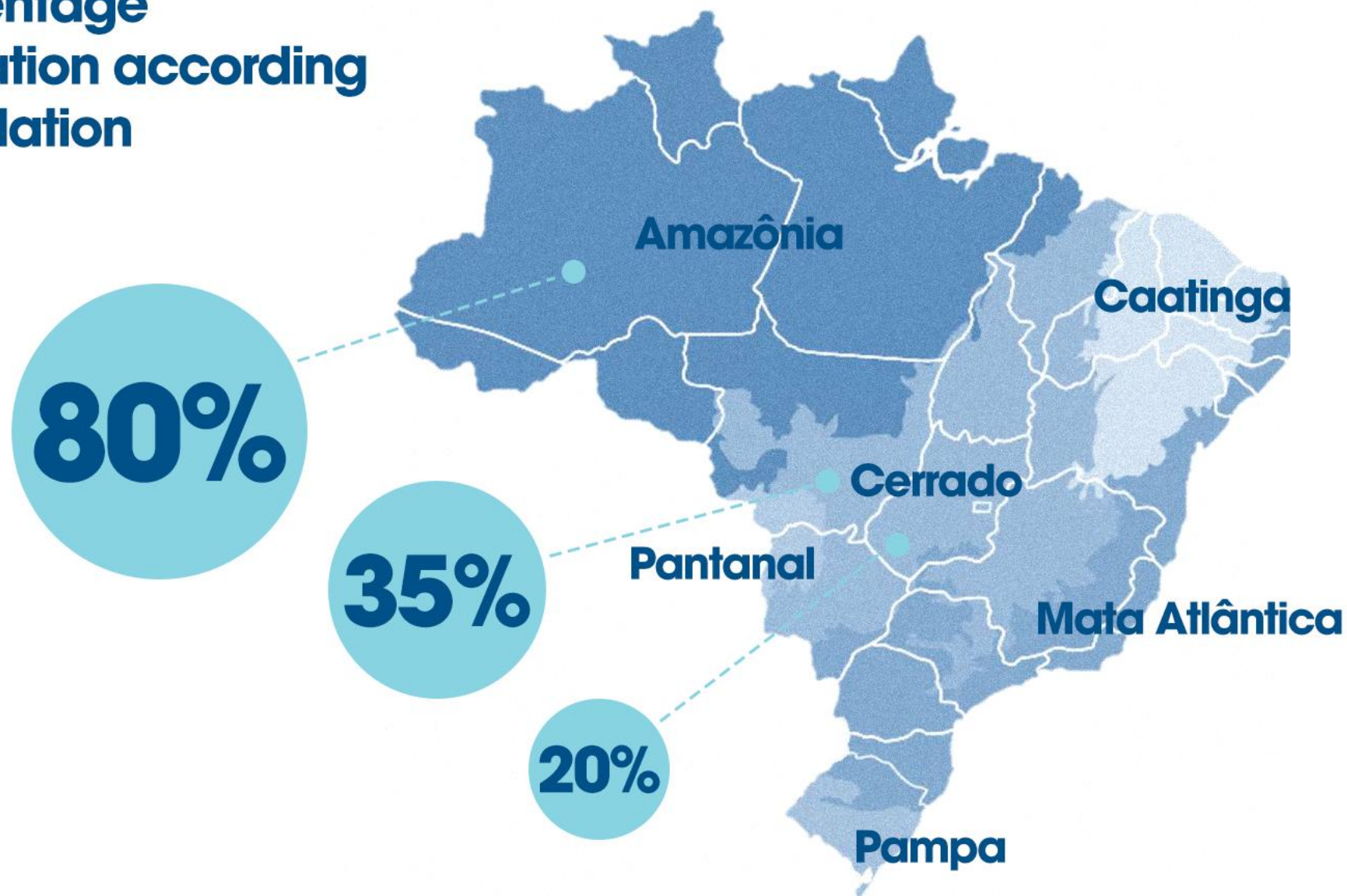
Fauna

High biodiversity, with many endemic species.

Typical species include: maned wolf, giant anteater, jaguar, giant armadillo, as well as birds like the seriema and road runner.



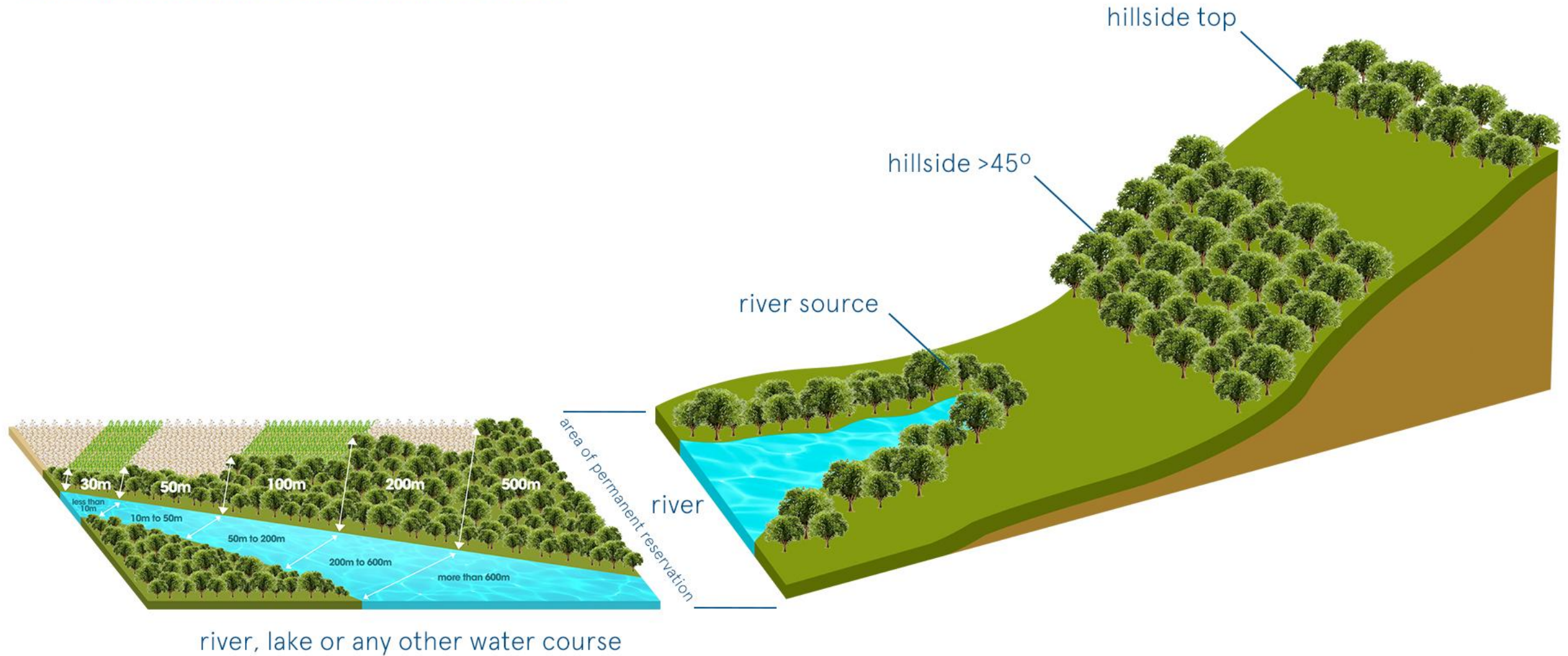
**minimum percentage
of nature vegetation according
to Brazilian legislation**

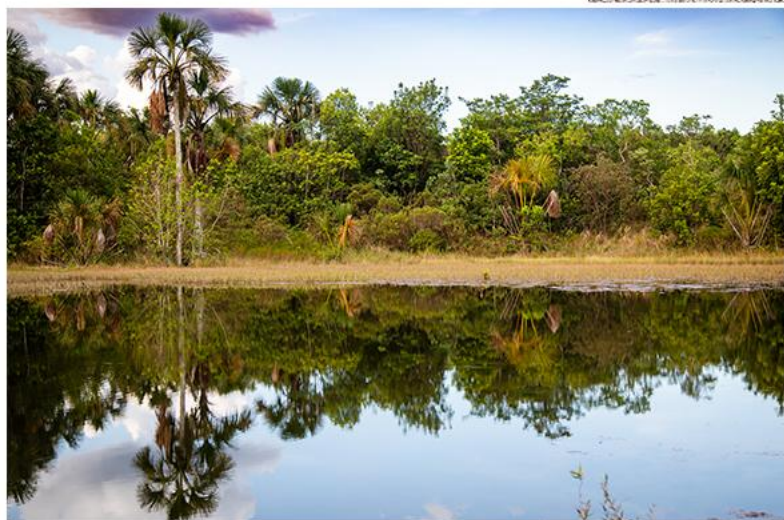




high conservation value areas – mandatory to preserve

Brazilian national environmental law

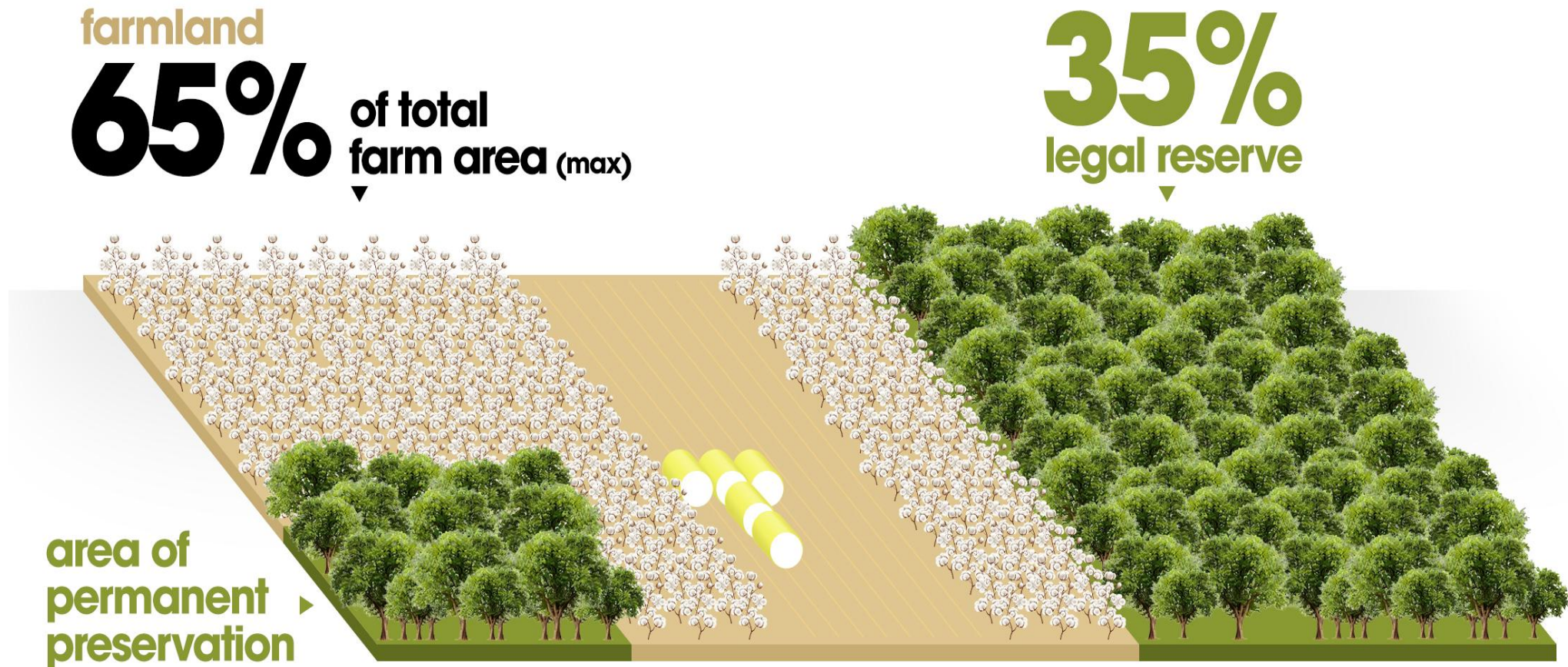






Native vegetation + Agriculture = FARM

Conservation of native vegetation (case of Brazilian legislation requirement* **)



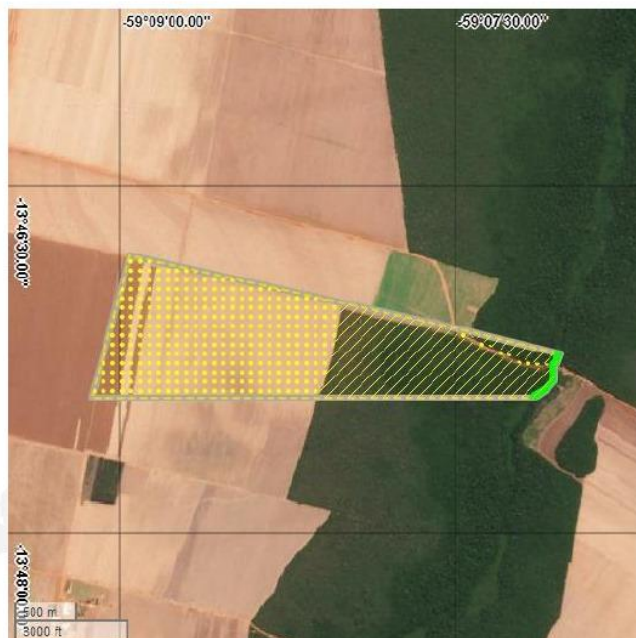
* Legal reserve mandate could be either **20%, 35% or 80% of total farm area**, depending on the region of the country

** areas of permanent preservation are additional to legal reserve and are composed of sensitive areas like river banks, hills, wetlands, etc

Rural environmental registry - Verification

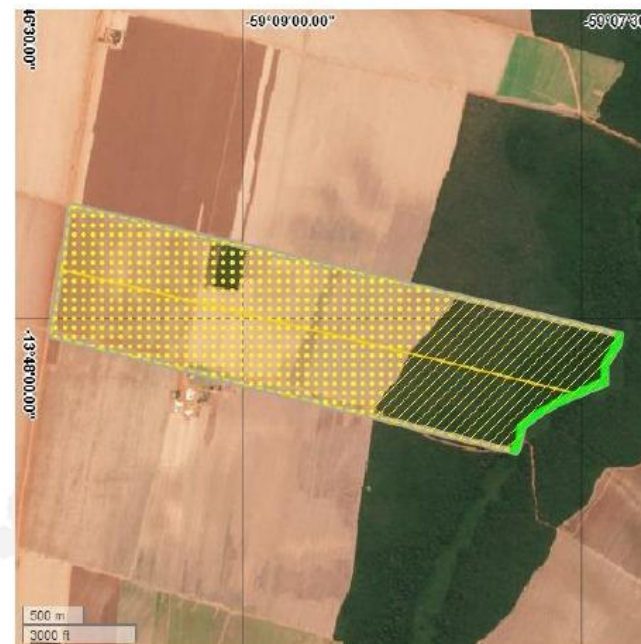
Native vegetation preservation inside the farm

Croqui do CAR



Legenda	Identificação da Área	Área (ha)
	ATP - Área Total da Propriedade	272,1494
	AIR - Área do Imóvel Rural (Matrícula/Posse)	272,1494
	APP - Área de Preservação Permanente	1,3246
	AVN - Área de Vegetação Nativa	97,3550
	AUAS - Área de Uso Antropizado do Solo	0,0000
	Área Consolidada	174,7876

Croqui do CAR



Legenda	Identificação da Área	Área (ha)
	ATP - Área Total da Propriedade	449,4067
	AIR - Área do Imóvel Rural (Matrícula/Posse)	449,4067
	APP - Área de Preservação Permanente	4,1377
	AVN - Área de Vegetação Nativa	143,4698
	AUAS - Área de Uso Antropizado do Solo	0,0000
	Área Consolidada	305,9368



ABR verification of compliance with National Environmental Legislation

Native vegetation preservation inside the farm



ALGODÃO BRASILEIRO RESPONSÁVEL
RESPONSIBLE BRAZILIAN COTTON

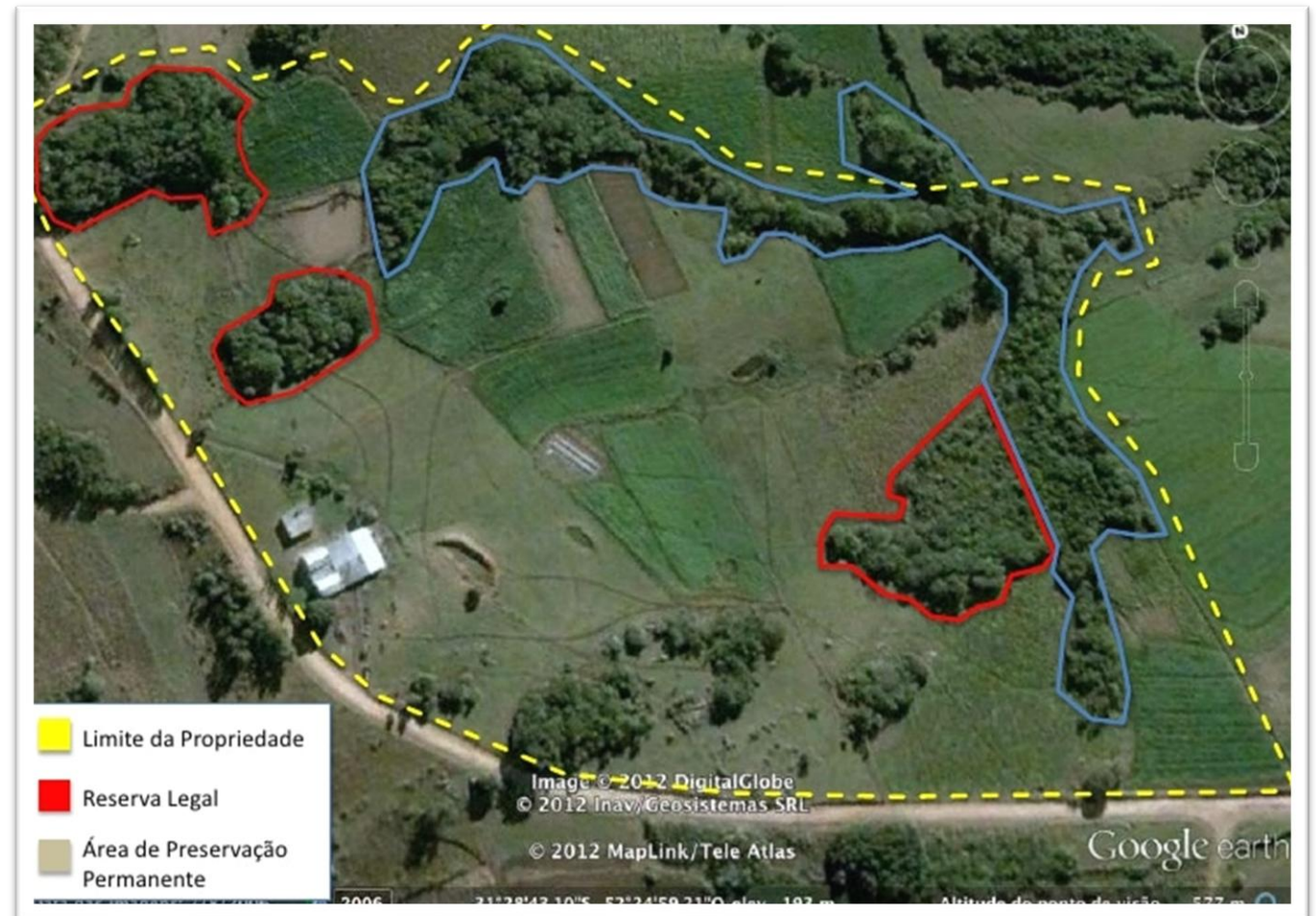
Compliance of National Forest Code



All ABR certified farms have their mapping and environmental documentation checked;



There is a plan for recovering degraded areas, if identified.





ABR | third-party audit companies



Individualized presential inspection (audit), farm by farm.

Annual renewal process;

Mandatory to be internationally recognized;



Compliance also monitored by trading's companies in Brazil

Forced Labor public lists and Environmental compliance



Verification of Environmental Embargoes (IBAMA, SEMA-MT, ICMBio, LD)

Verification of the employer's public list on the forced labor list;;

Overlapping public conservation areas

Overlapping Indigenous Lands

Public Vegetation Suppression Authorization (ASV)



Conserv Project | Remuneration for standing forest in private farms

Surplus legal reserve of native vegetation

What is Conserv?



Conserv is a mechanism to avoid deforestation on properties, offering rural producers a new revenue: **remuneration for the standing forest**

This mechanism aiming to preserve biodiversity and mitigating climate change. In addition to the financial factor, Conserv offers the market an **Excellence Producer** in line with the legislation in all aspects



Conserv Project | Remuneration for standing forest in private farms

Surplus legal reserve of native vegetation



(Project finished in 2024)

<https://conserv.org.br/en/>

Perdizes Farm

Located in Porto dos Gaúchos, Mato Grosso (MT)

It has **42,181** hectares of total area

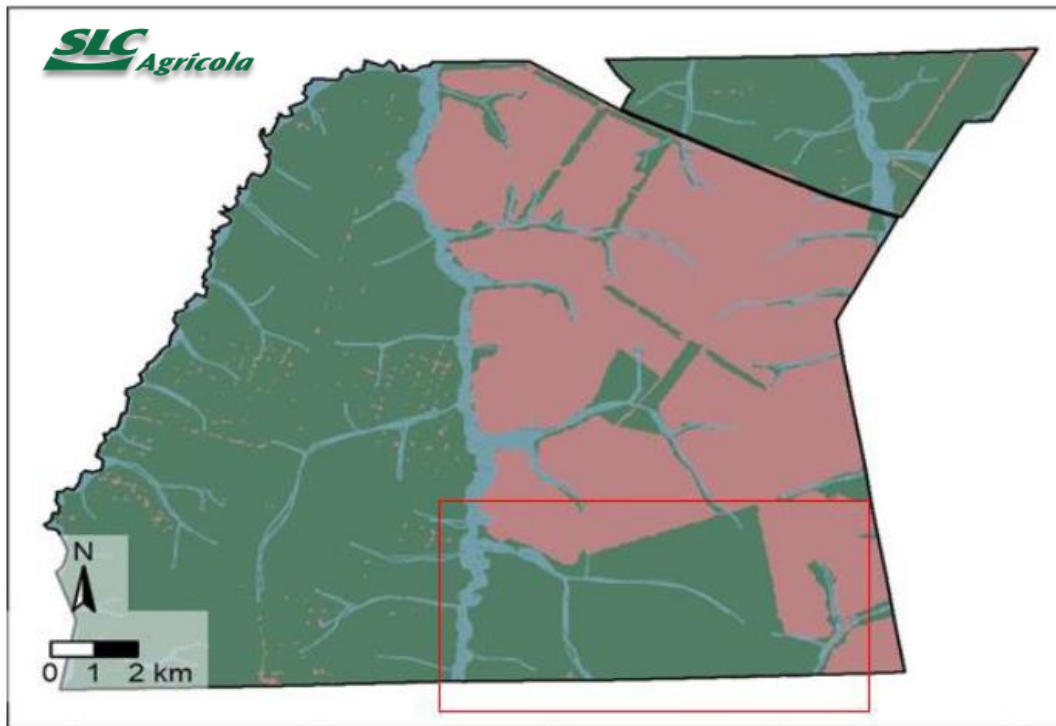
Planted Area: **26,427** ha

Preserved Area: **27,229** ha



Conserv Project | Remuneration for standing forest in private farms

Surplus legal reserve of native vegetation



(Project finished in 2024)

PES –Payment for Environmental Services

The Perdizes Farm has been approved and already received payments in 2022;

The area of contracted is 1,358 ha, the largest asset area ever contracted by Conserv Project;



Conserv Project | Remuneration for standing forest in private farms

Surplus legal reserve of native vegetation

PES –Payment for Environmental Services

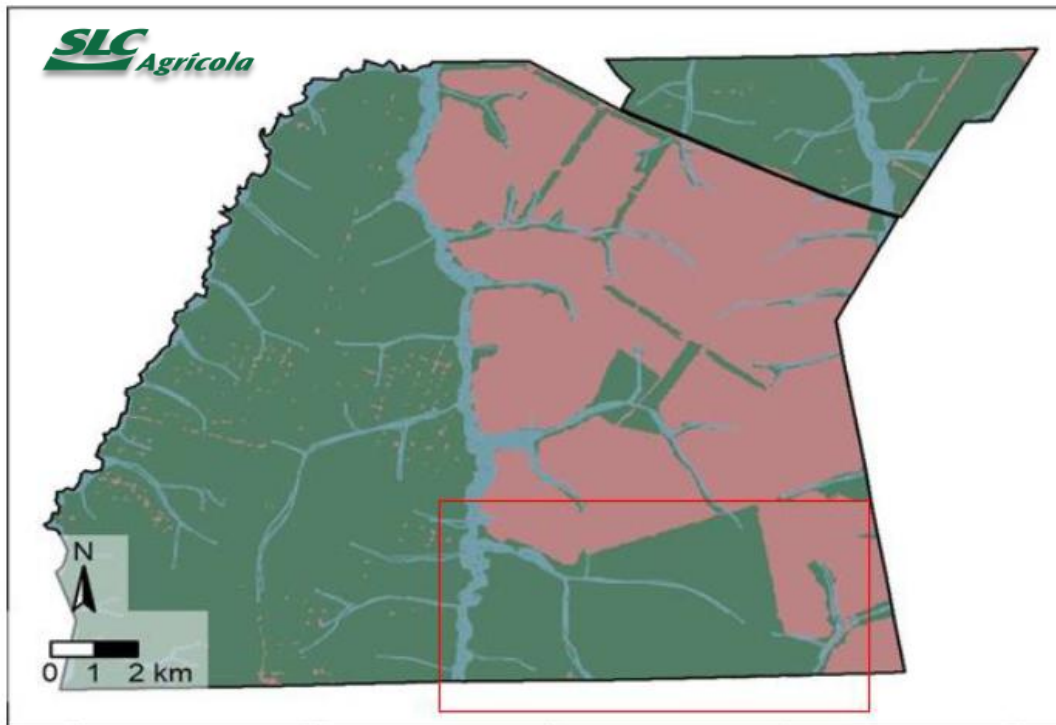
What is monitored

Native vegetation, in assets or in legal reserve;

Permanent Preservation Area (monitored every 3 months);

Environmental and legal compliance

Field validation (annual)



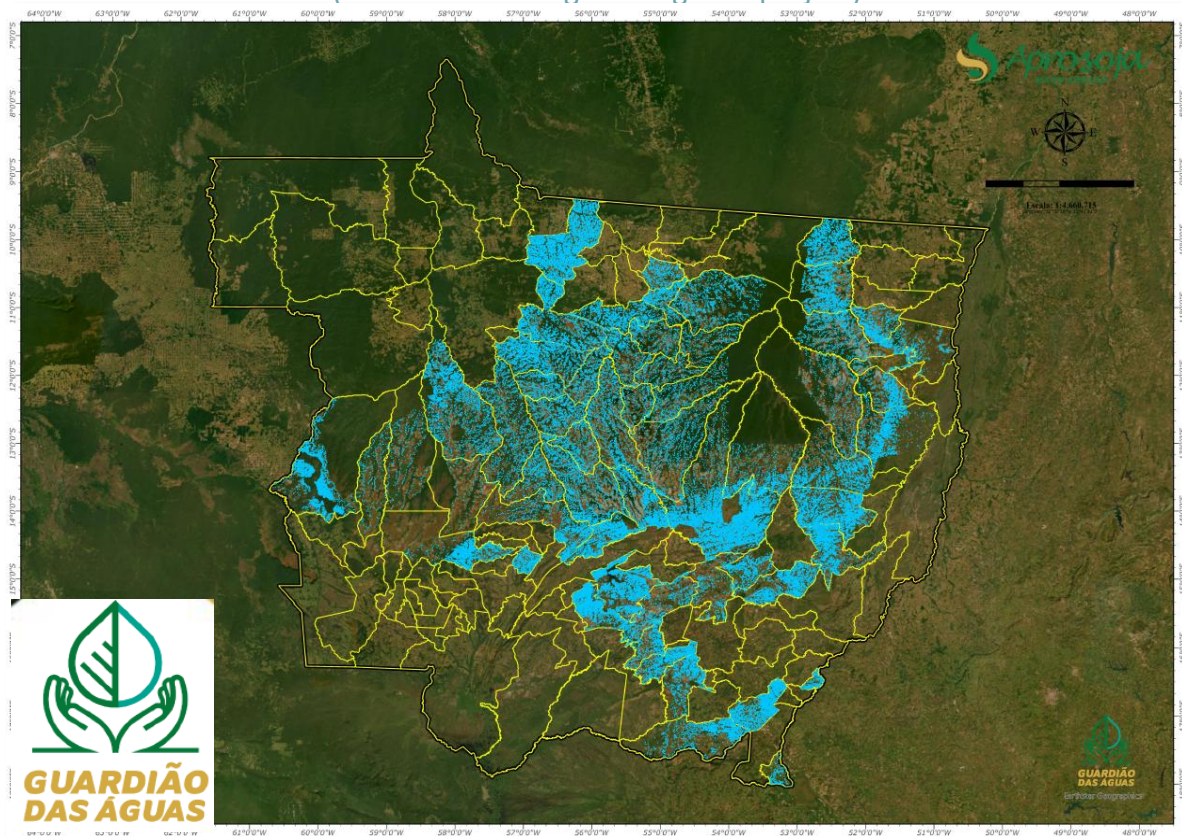
(Project finished in 2024)



River Springs | Monitoring and restoration (private project)

Mato Grosso State

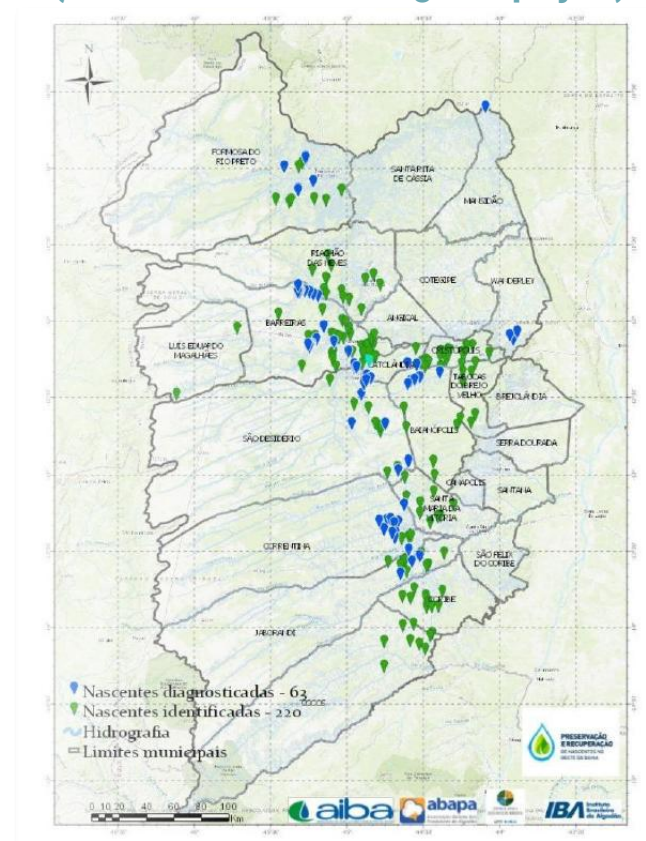
("Guardiões das águas" regional project)



109.000 river springs monitored
7.000 river springs restored since 2018

Bahia State

("nascentes do oeste" regional project)



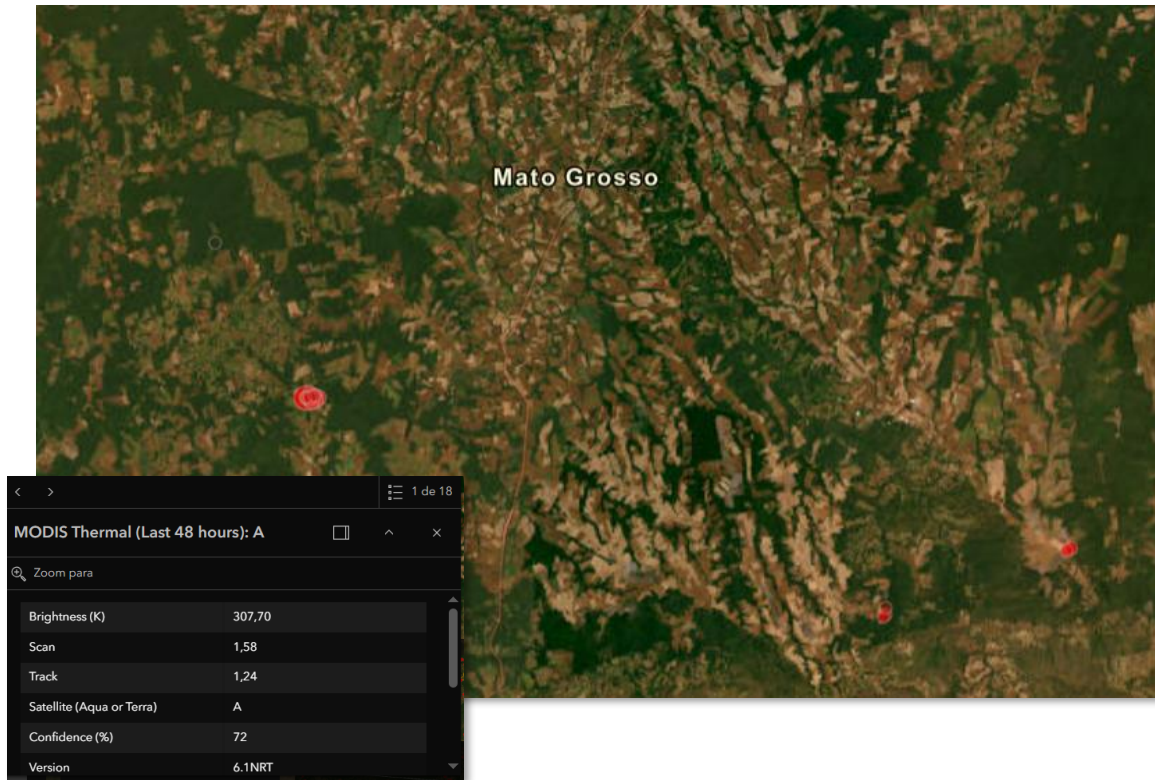
63 river springs restored
220 river springs monitored



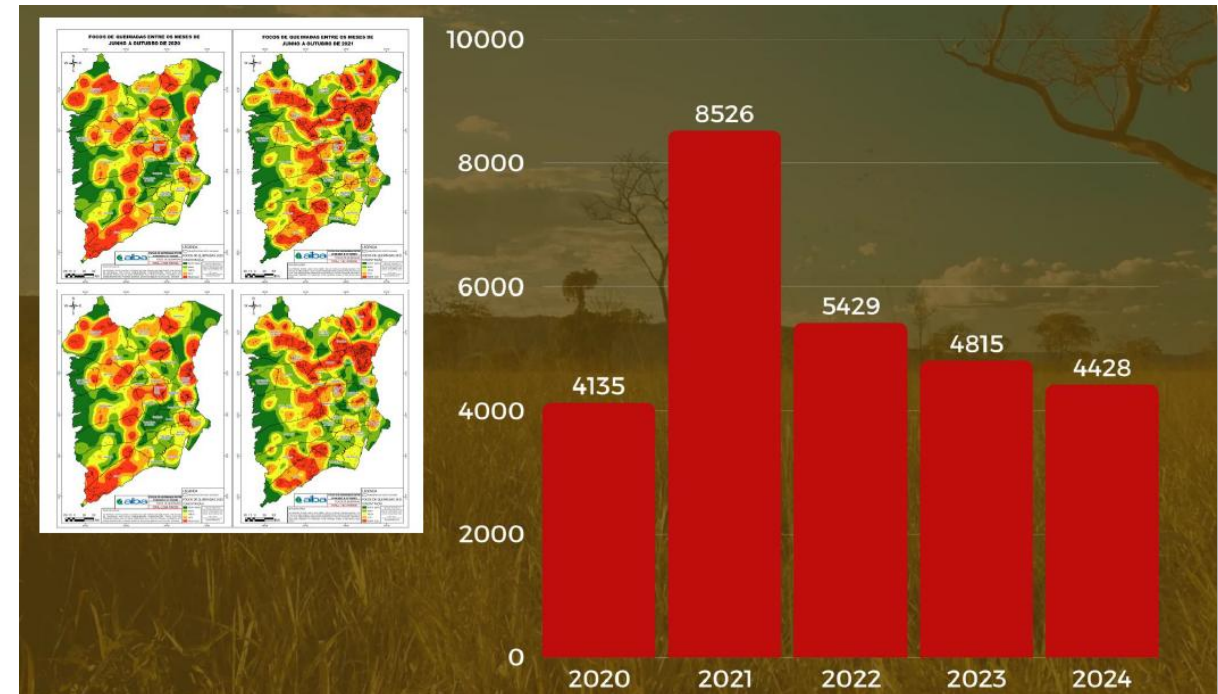
Private Project - Monitoring Heat Sources and Fire Activities

Thermal activity detected by MODIS sensors on NASA's Aqua and Terra satellites during the last 48 hours

Mato Grosso



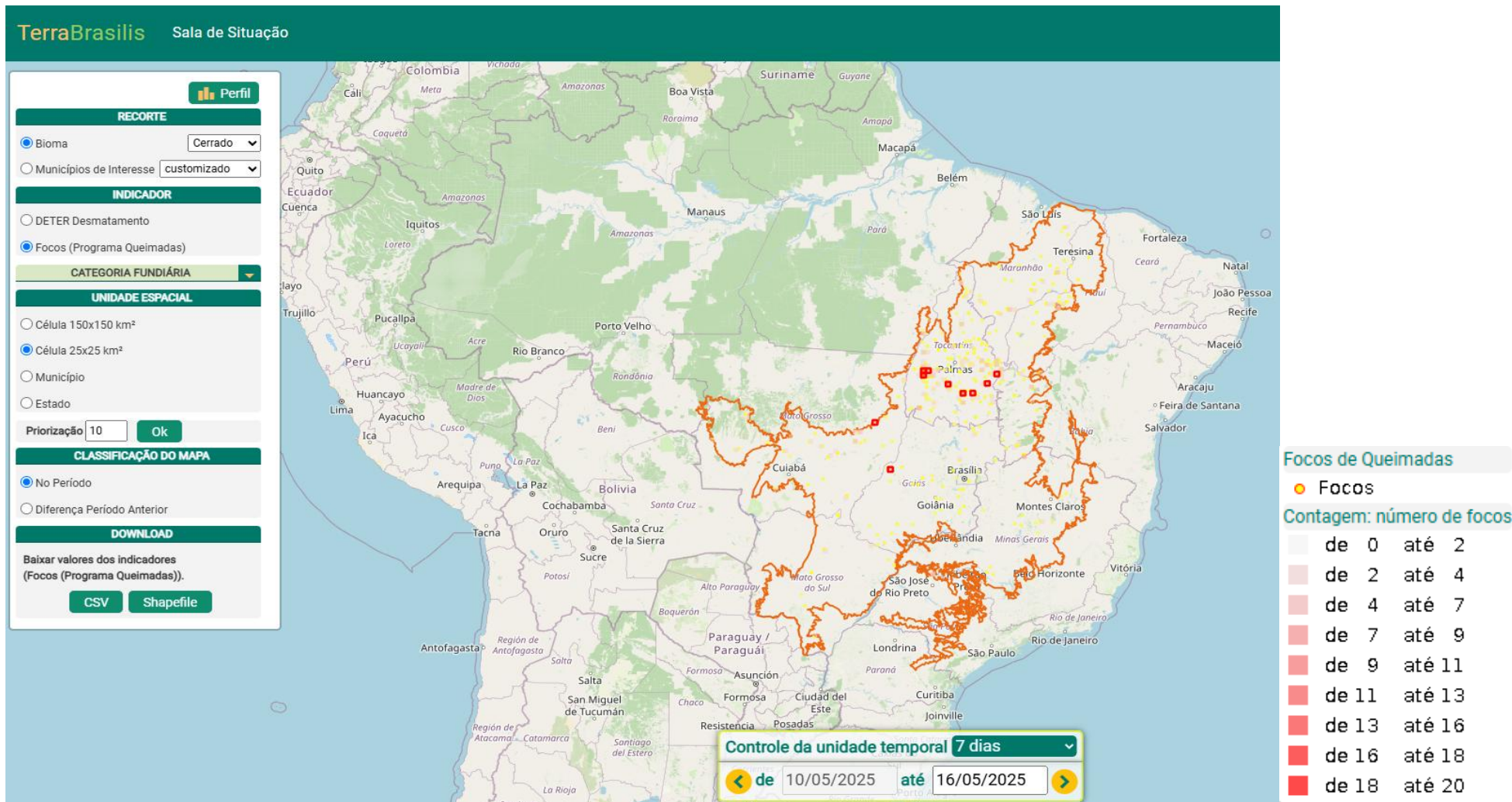
Bahia



Source: <https://experience.arcgis.com/experience/428b6af0180e4aa195e1e1ec8cd8c830>



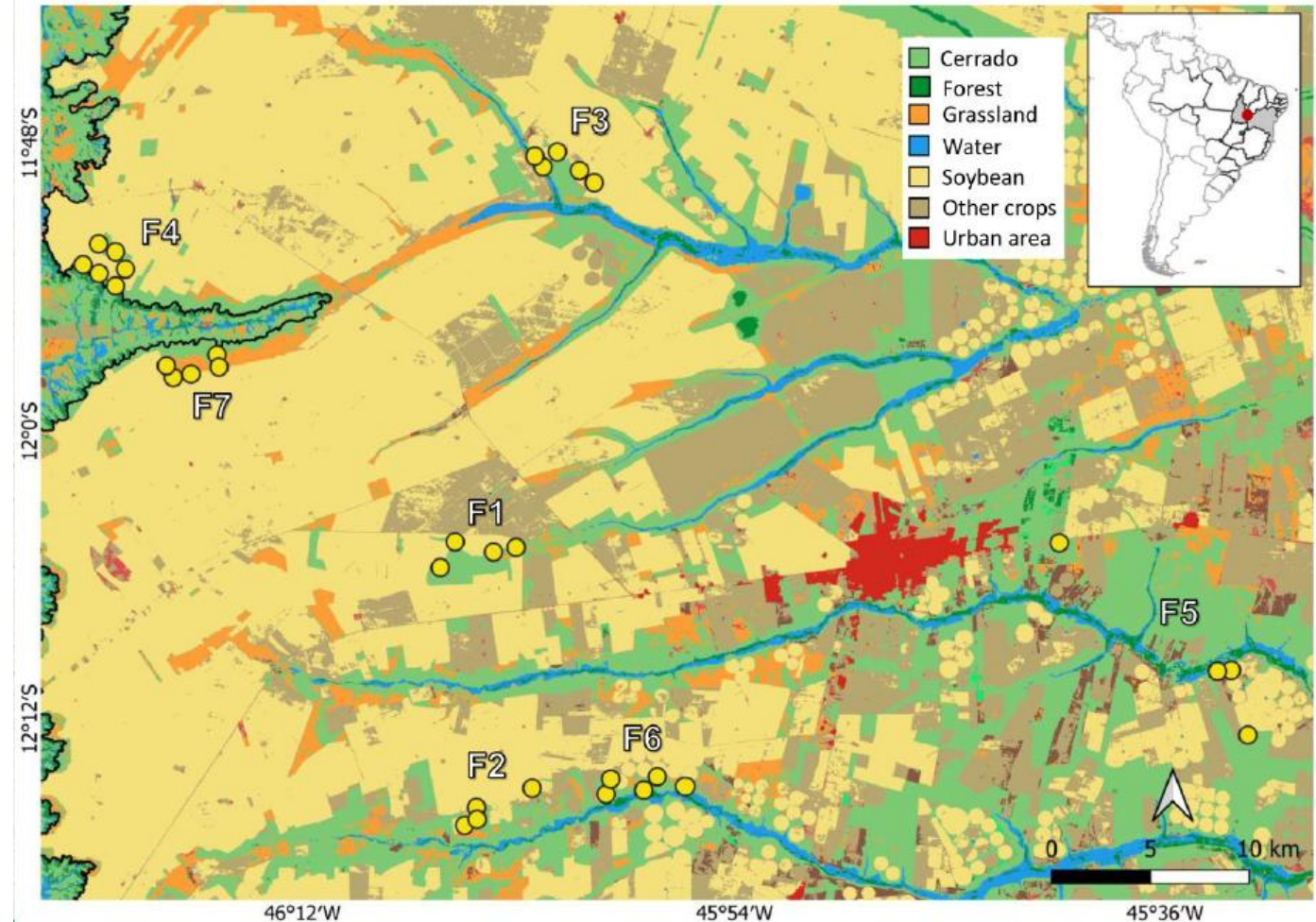
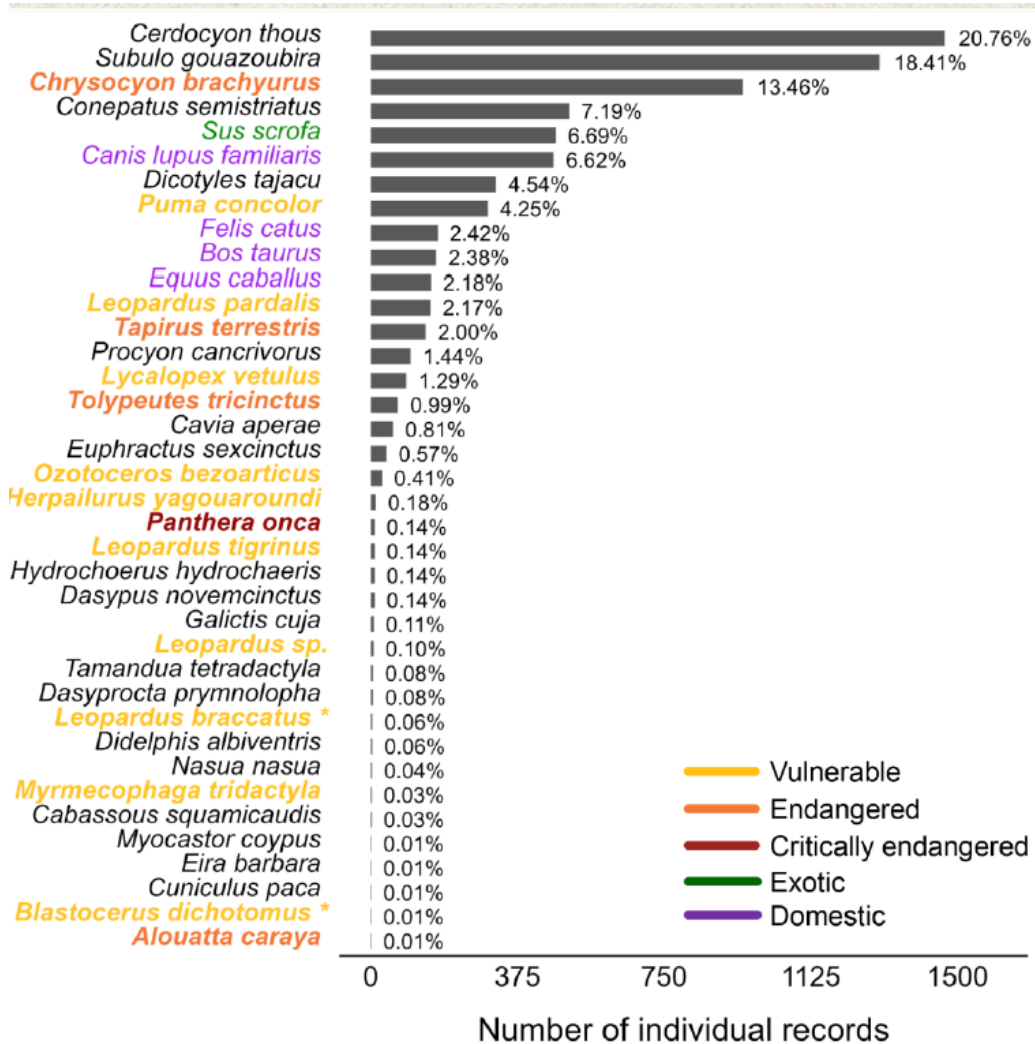
Governmental Monitoring Heat Sources and Fire Activities



<https://terrabrasilis.dpi.inpe.br/app/dashboard/fires/biomes/aggregated/>



Wildlife monitoring project – Bahia (private project)





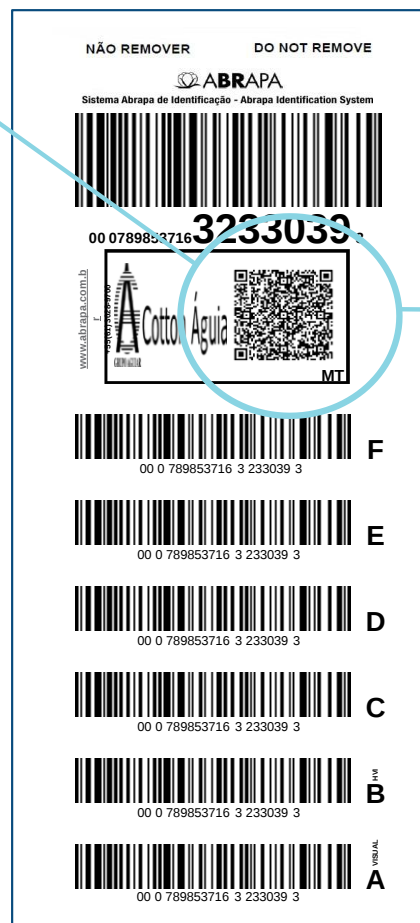


how to identify ABR cotton

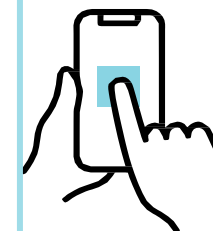
Abrapa Online Cotton Bale Database (using the bale ID tag)

BAR CODE (20 DIGIT NUMBER)

cottonbrazil.com/traceability



QR CODE



how to identify ABR cotton

1

production origin

2

Sustainability
certifications

3

HVI Classing





Language 

Pesquisar neste site 

Menu

Origem da Produção / *Production Origin*

Produtor, Grupo / Farmer: O Telhar Agropecuária Ltda

Unidade Produtiva / Farm: Primavera

Endereço / Address: Rodovia MT 130 Km165, 40 Km de PVA do Leste sentido Parantinga - Zona Rural

Cidade / City: PRIMAVERA DO LESTE

Estado / State: MT

Localização da Fazenda / *Location of the farm*



Certificação ABR / *ABR Certification:* 357.012.MT.2021

Licenciamento BCI / *BCI License:* BR-MT-194

Resultados de HVI / *HVI (High Volume Instrument) Cotton Classification Results*

SCI	Mic	Mat	Pol	UHML (mm)	UI (%)	SF (%)	Str (g/tex)	Elg (%)	Rd	+b	CGrd	TrCnt	TrAr (%)	TrID (LeafGrd)	CSP
127	4,18	0,85	1,130	28,68	81,4	8,2	29,1	7,4	80,0	7,3	31-1	14	0,18	2	2201

 Download PDF

Nova Consulta

cottonbrazil.com/traceability





traceability of Brazilian cotton



Abrapa's bale ID

blockchain platform

