

Ethical Geospatial Intelligence for Social Sustainability.
Lessons from ICI's Child
Protection & Geospatial
Technology Framework

Martinson Yirenkyi-Smart
International Cocoa Initiative

AfricaGIS 2025 and
UN-GGIM: Africa XI Joint Conference
Harnessing Geospatial Intelligence for Africa's



AfricaGIS 2025



UN-GGIM: AFRICA
UNITED NATIONS
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT



About the ICI Foundation:

A multi-stakeholder organisation that brings together civil society, certification bodies, the cocoa and chocolate industry, and international institutions. It also works with the governments of producing and consuming countries to combat child labour and forced labour in cocoa production.



Industry:

Abou Camille
Representant agricole
indépendant



Civil society:



Mil Niepold
Expert
indépendant



Richard Longhurst
Expert
indépendant



Solidaridad



Advisors:



UNITED NATIONS
HUMAN RIGHTS
OFFICE OF THE HIGH COMMISSIONER

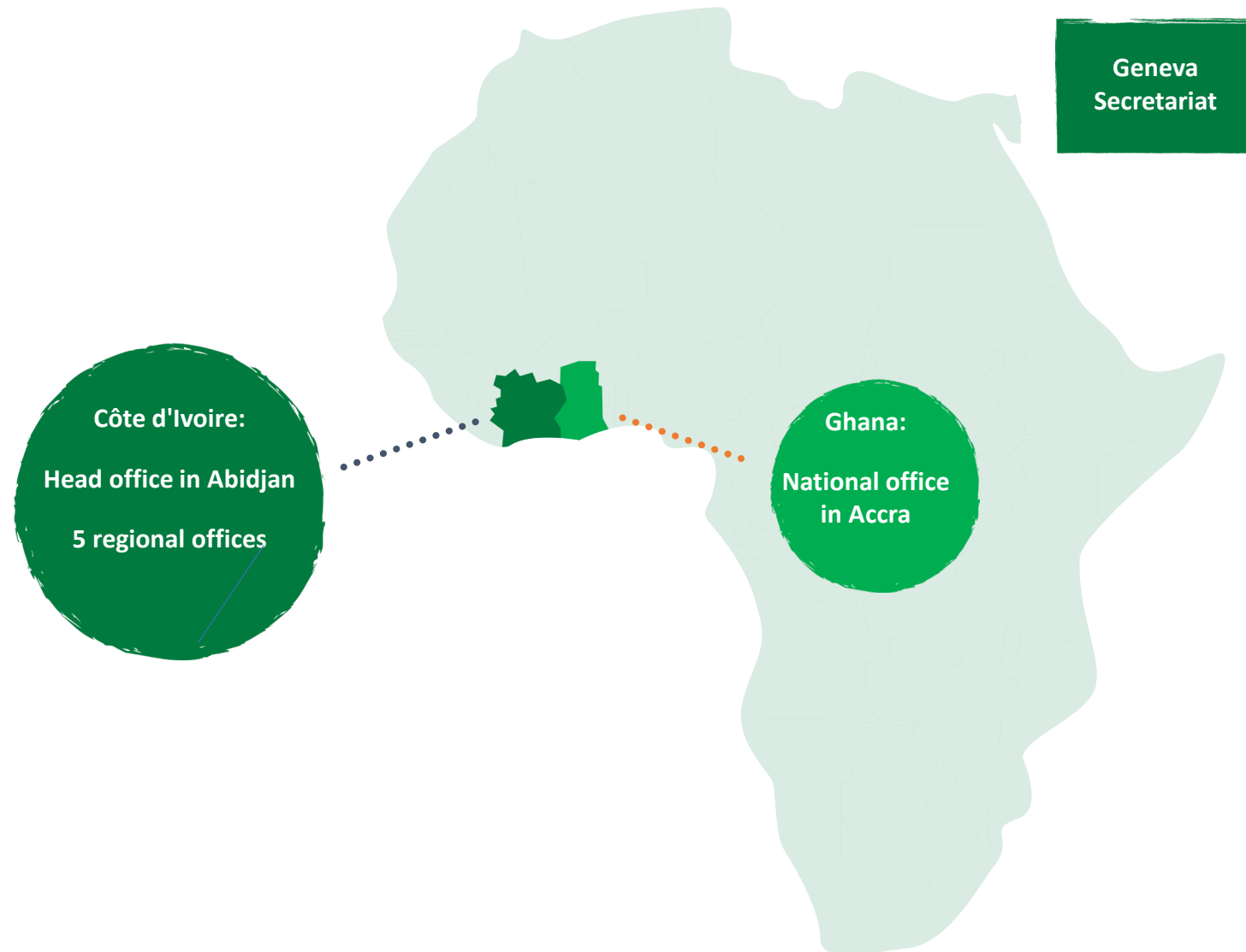
Our Mission

The ICI Foundation **works with its partners** to improve the lives of children and adults at risk of child labour or forced labour in cocoa-producing communities.

The ICI Foundation **innovates, develops and supports the scale up of policies and programmes aimed at preventing** or remedying child labour and forced labour.



Our teams: A strong local presence



Extent of child labour in cocoa



child labourers
worldwide



child labourers in agriculture
worldwide



1.56
million

child labourers in Côte
d'Ivoire and Ghana¹

61
million

child labourers in
agriculture in Africa

Not unique to cocoa, but
factors specific to the cocoa
sector...

- Labour-intensive cultivation
- Small farms
- Fragmented supply chain
- Migration
- Low yields and incomes for farmers
- Poverty
- Poor social infrastructure

... both a symptom and a
cause of an unsustainable
supply chain.

¹ NORC, 2020. Assessment of progress in reducing child labour in cocoa-producing regions of Côte d'Ivoire and Ghana.

² UNICEF: Global estimates, 2020, trends and the road forward

The Need for Ethical Geospatial Intelligence

Accurate, ethical, and actionable geospatial intelligence is essential in ICI for understanding:

- where risks emerge,
- why they persist,
- how to respond effectively and
- strengthen prevention of child labour



ICI Geospatial Framework

- Geocoded Mobile Data Collection (household, community, farm level)
- Child Labour Risk Mapping, Spatial Modelling & Analysis
- Secure & Ethical Data Governance (anonymized data, informed consent)
- Decision Support tools for partners
 - Dashboards
 - Experience Builder
 - Story Maps



Context

- The ICI collects large volumes of geocoded socio-economic data mostly through our Child Labour Monitoring and Evaluation Systems and other interventions
- A multitude of actors (government and private companies) are implementing sustainable development programmes in cocoa-producing areas.
- The cocoa sector is committed to improving cocoa traceability.

GIS supports our work in various areas:

coordination

- Who does what, where?

Learning

- What contextual factors contribute to child labour?

Planning & prioritisation

- Where are the children most in need of protection?

Logistics

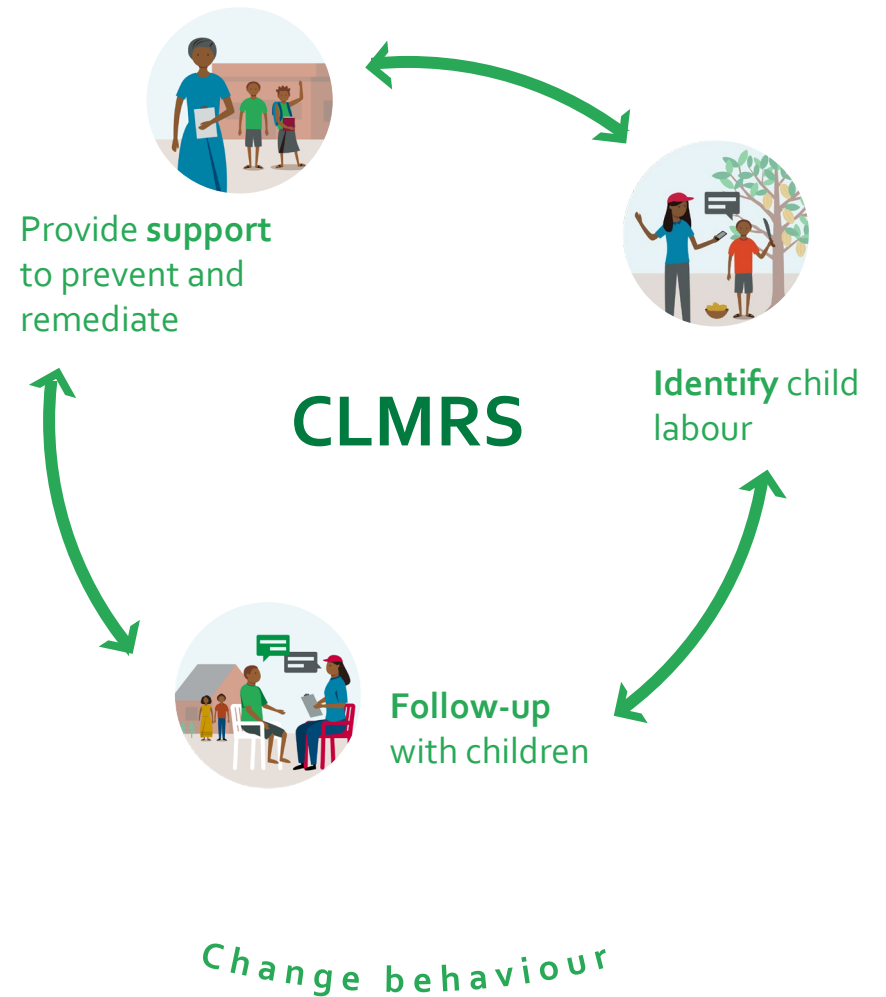
- How can we get our local agents moving?

Communication

- How does our work appear on a map?

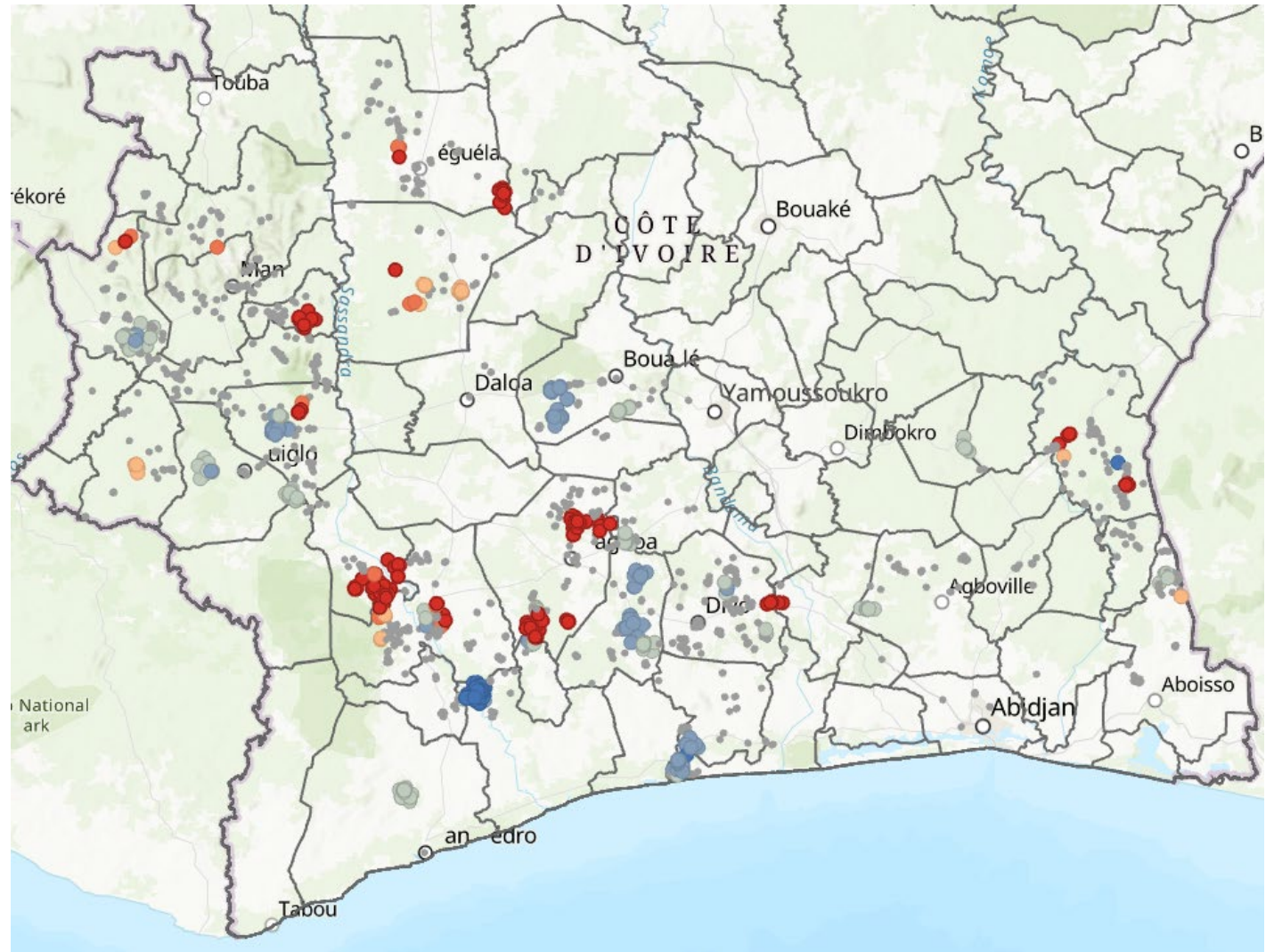
Our main source of
geocoded data:

Child Labour Monitoring and Remediation Systems



Example of
geospatial
analyses:

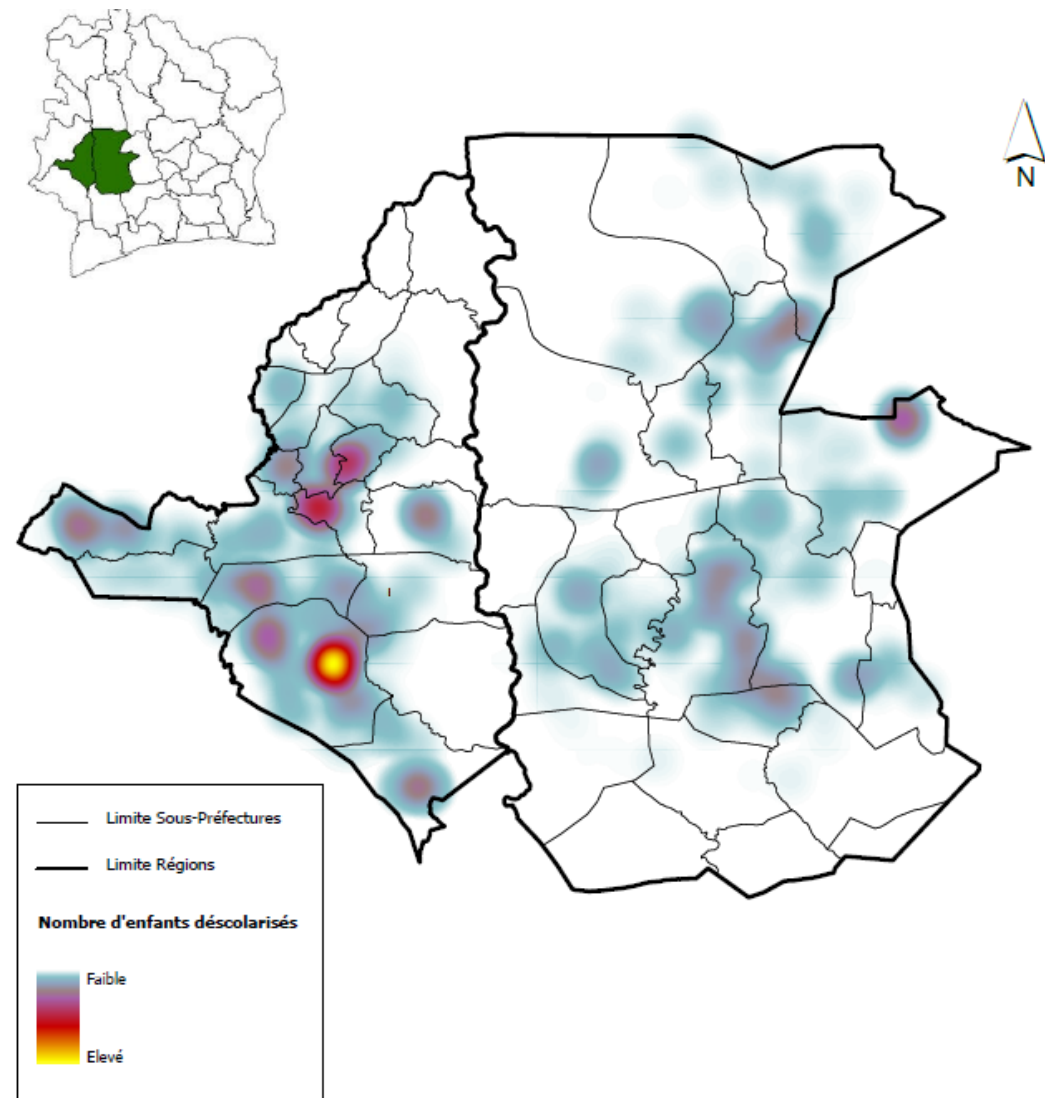
Cluster
analysis based
on CLMRS
data



Hot spots and cold spots of children exposed to child labour / pesticides while working in cocoa fields.

Example of spatial data visualisation to inform programme targeting:

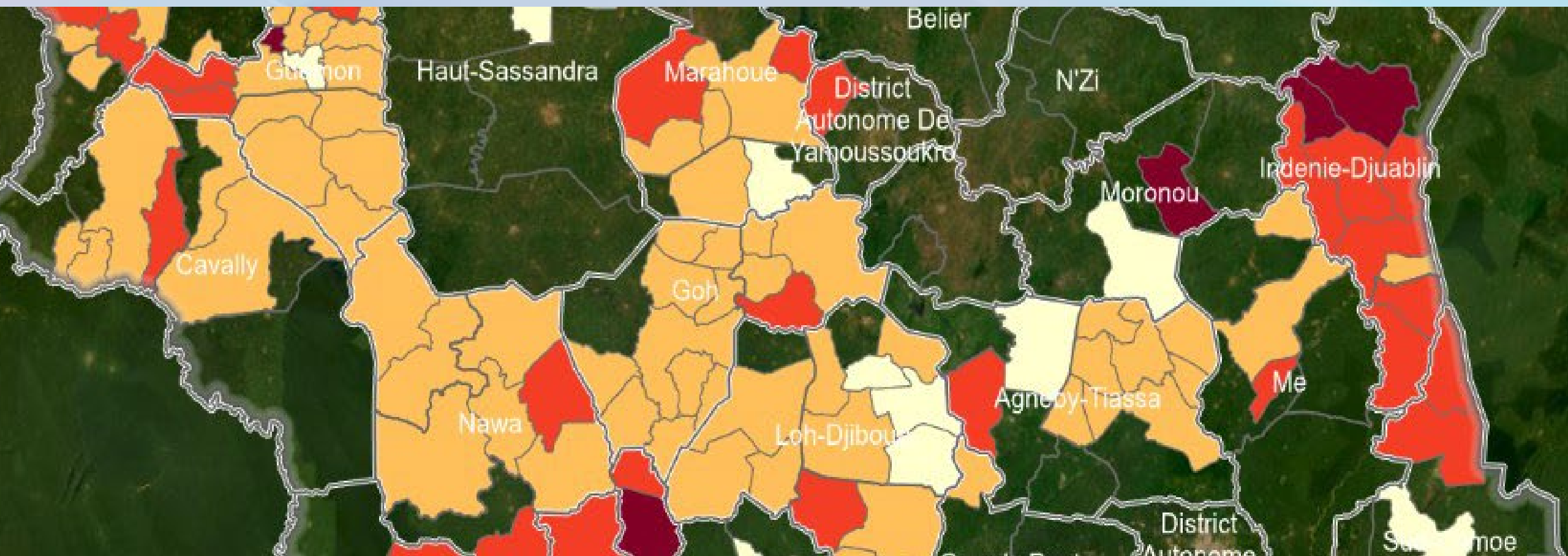
Map showing the density of children not attending school



The map helps to prioritise areas for the establishment of bridging classes (or Accelerated Education program).

Data source: CLMRS data shared by members of ICI.

Child Labour Identified per Sous Prefecture/Districts in CIV



International
Cocoa
Initiative

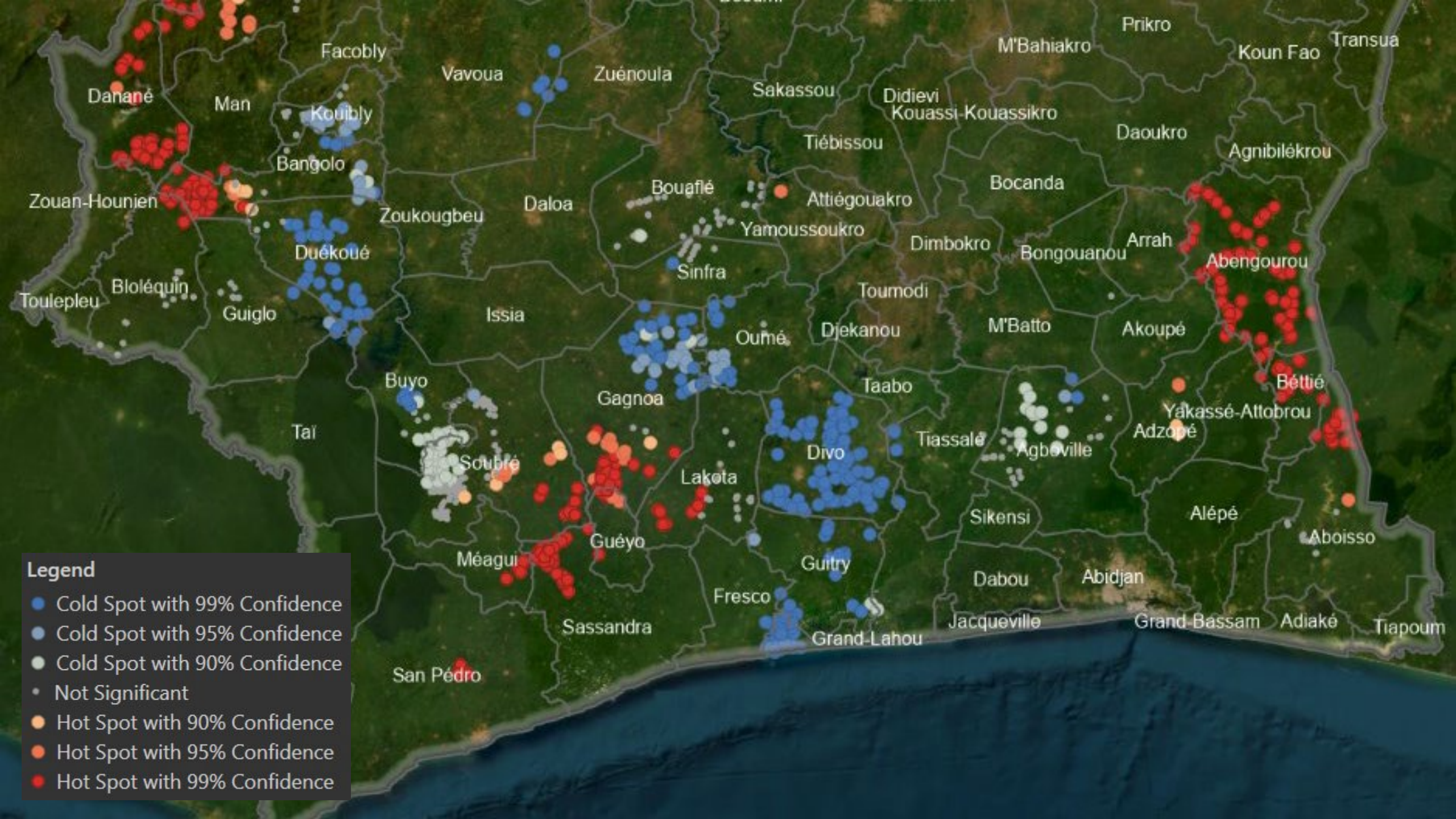
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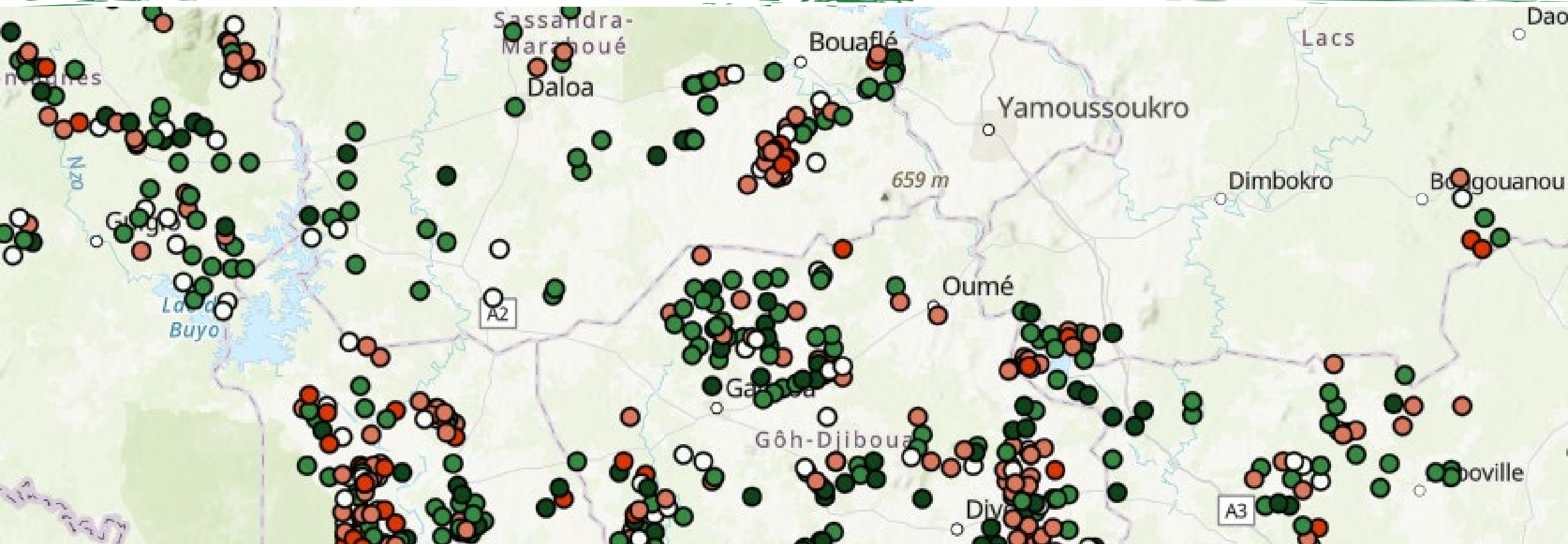
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ICI's Protective Community Index WebApp



Protective Community Index (PCI) - What is it?

An index that combines 10 indicators related to children's rights that are associated with the risk of child labour.

- A simple tool developed to rapidly assess access to services that help protect children in cocoa-growing communities. It is used to
 - ✓ Monitor service access and quality, and change over time
 - ✓ Identify gaps in service provision and quality
 - ✓ Support intervention planning

Scores from 0 (least protective) to 10 (most protective) calculated on the basis of 10 indicators:

- Access to adult labour?
- Child labour awareness activities?
- Women among community leaders?
- Access to a protected water source?
- Presence of a pre-school school?
- Is there a primary school?
- Separate toilets for girls and boys at school?
- School canteen?
- Access to scholarships for pupils?
- Do teachers use violent discipline?



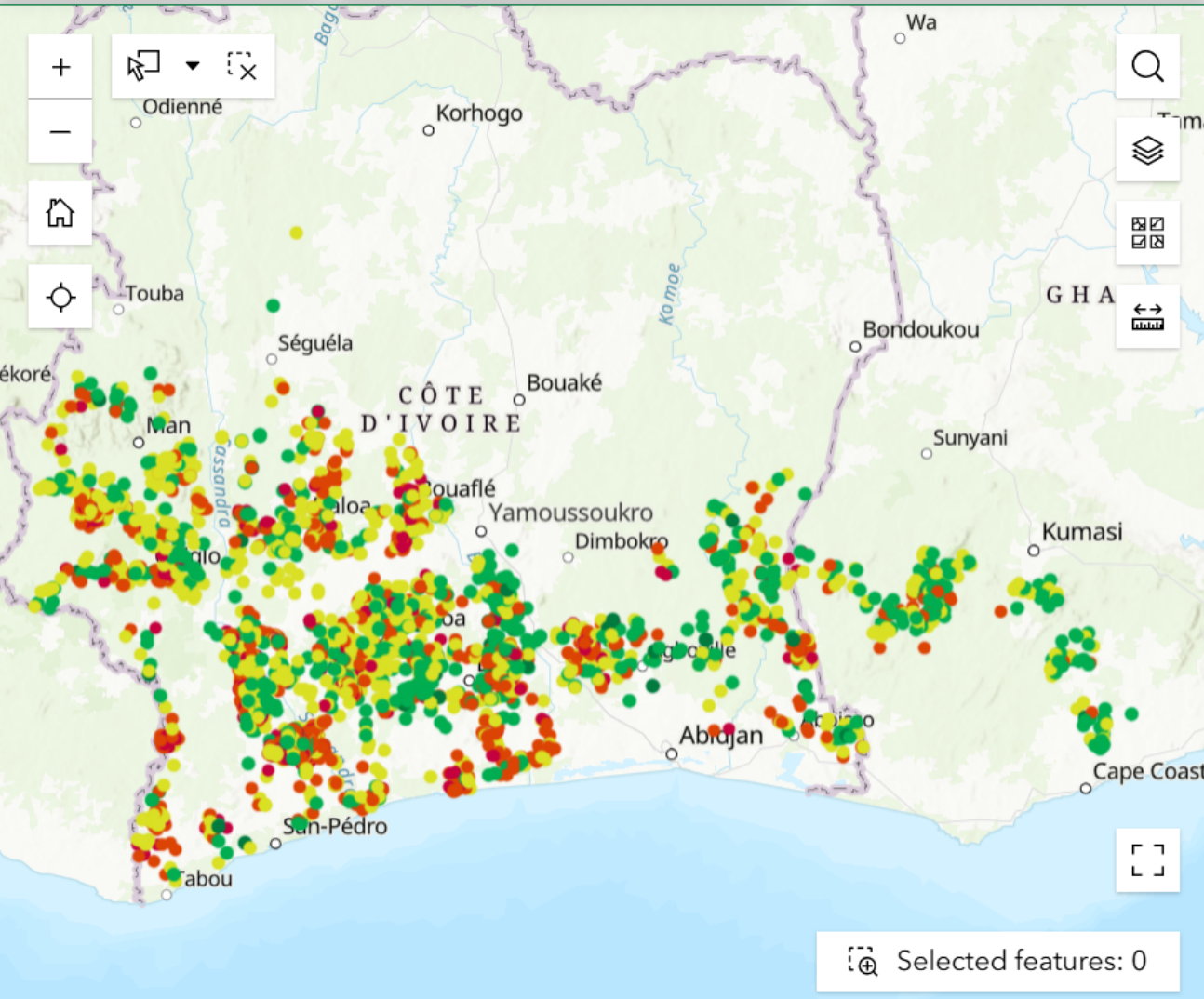
ICI's Protective Community Index Web Map

This web map displays and summarizes data collected by using the Protective Community Index (PCI), a simple tool, developed by ICI, to rapidly assess access to service protect children in cocoa-growing communities. To access the legend of the map, click on the "Layers" icon. For more details on how to use this map, [click here](#).

Location Filters

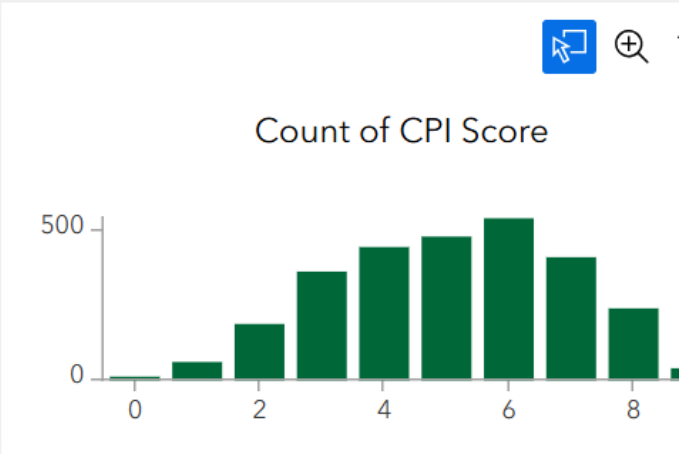
Select communities with

Select CPI Score of



Number of PCI points in map extent or selection
2,793

Average PCI score in map extent or selection
5.075



PCI_Nov_2025 - PCI No...

Country	Region	Distri...	Area ...	Com...
Ghana	Ashanti	Adansi Asokwa	Adansi Asokwa	Ansa
Ghana	Ashanti	Adansi Asokwa	Adansi Asokwa	Nsuta
Ghana	Ashanti	Adansi Asokwa	Adansi Asokwa	Nyamebe
Ghana	Ashanti	Adansi North	Adansi North	Adokwai

Suivez en temps réel les visites plantations auprès des producteurs membres des coopératives et visualisez les données géolocalisées pour mieux prévenir et remédier au travail des enfants. Un outil simple, dynamique et efficace pour renforcer le suivi et la prise de décision sur le terrain.

NOMBRE DE PRODUCTEURS

2,632

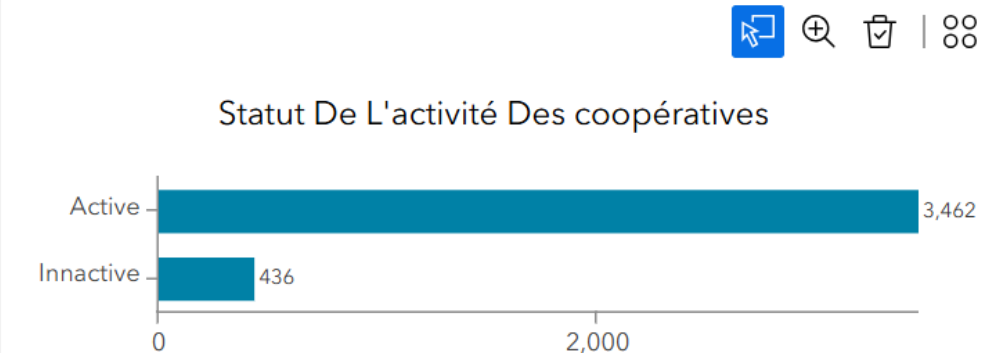
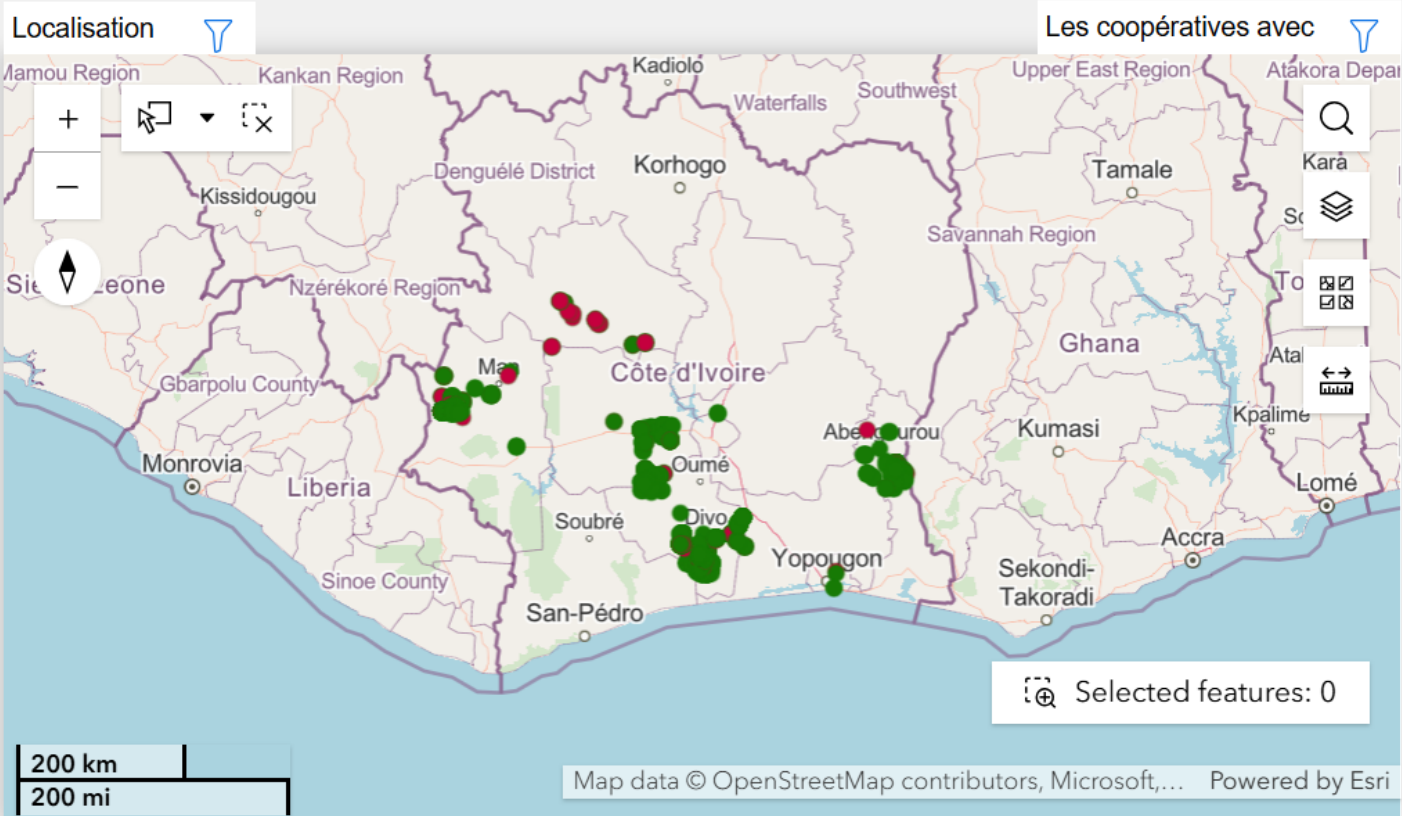
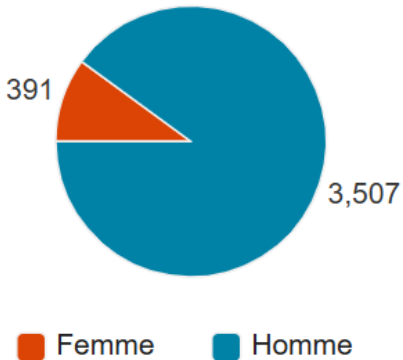
NOMBRE D'ENFANTS DE MOINS DE 18 ANS

1,333

NOMBRE D'ENFANTS DE MOINS DE 18 ANS EXECUTANT DES TRAVAUX

1,290

Nombre de Producteurs Selon Le Genre



Data_HH_Visit_F2

Annee_...	certain...	code_s...	date
2,022	2	266P0001	5/19
2,022	2	266P0001	5/19

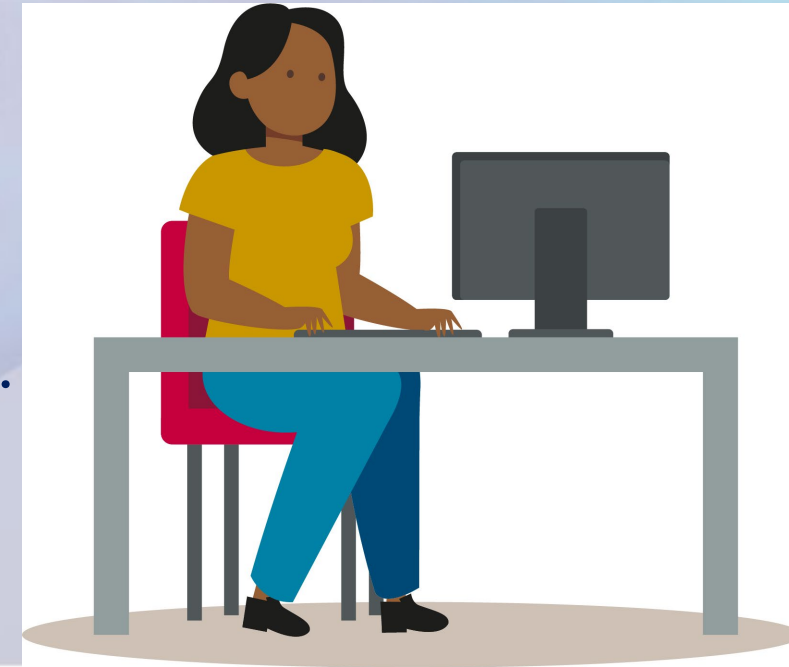
Total: 3,898 | Selection: 0

The Landscape Pilot and Referral Project Dashboard

This dashboard is developed from data collected from Assin South, North and Central and Asunafo North Districts of Ghana. It aims to use the data collected from Landscape's partners to foster and enhance functional cooperation among industry players, civil society organizations, NGOs, and the government. The goal is to combat child labour and improve protection in the project's beneficiary districts.

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Community

Sabina

GHS

Abe Ase (As)

Touton

Abease No 1

BDR

Abease No 1

GHS

Abease No 2

BDR

Abebrese

NCCE

Abebrese

Partner & Proj...

Partner:

GHS



Project:

Assin North Landscape

Partner:

Touton



Project:

Vsla, Ccpc, Tranings, Iga, Fpc, Fied Monitoring, Awareness Creation, Services Providers

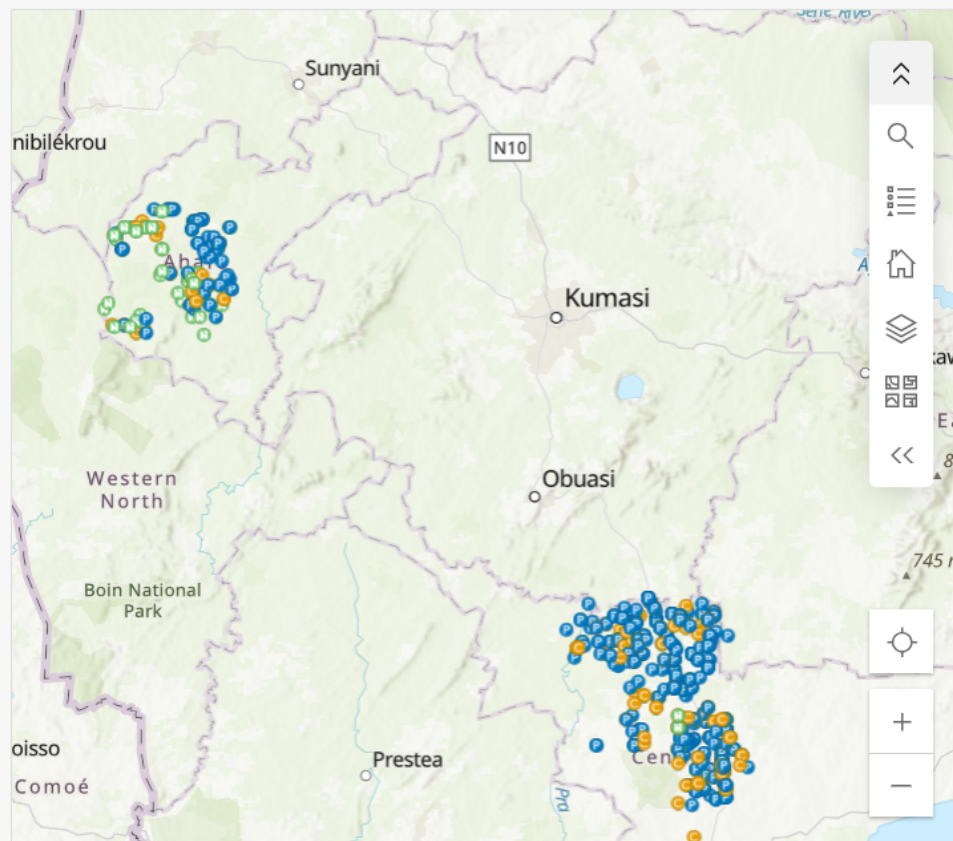
Partner:

BDR



Project:

Birth And Death

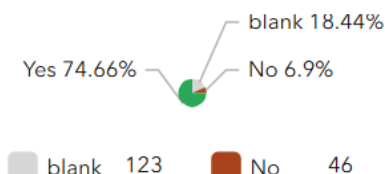


Esri, USGS | Esri, TomTom, Garmin, FAO, NOAA, USGS

Powered by Esri

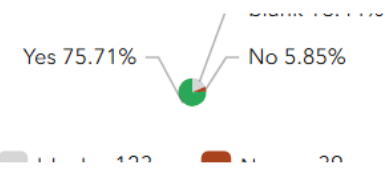
REMEDIAL MEASURES

Individual Preventive and ...



FOLLOW UP

Follow Up to the Child Lab...



Community Name: Sabina

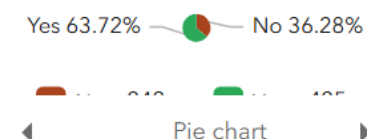
1 of 667

GHS / Assin North Landscape

FID	1
District	Assin North
Community	Sabina
Latitude	5.871810

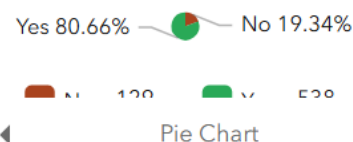
COMMUNITY DEVELOPM...

Are Community Develop...



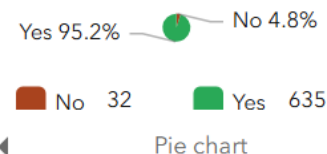
TRAINING

Does the project provide Tr...



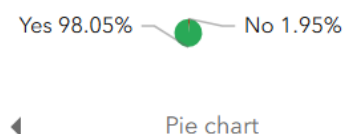
COMMUNITY AWARENESS

Are mass awareness-raisin...



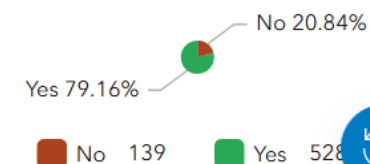
HOUSEHOLD AWARENESS

Are local awareness camp...



CL IDENTIFICATION

Child Labour Identificatio...



Number of Interventions

667

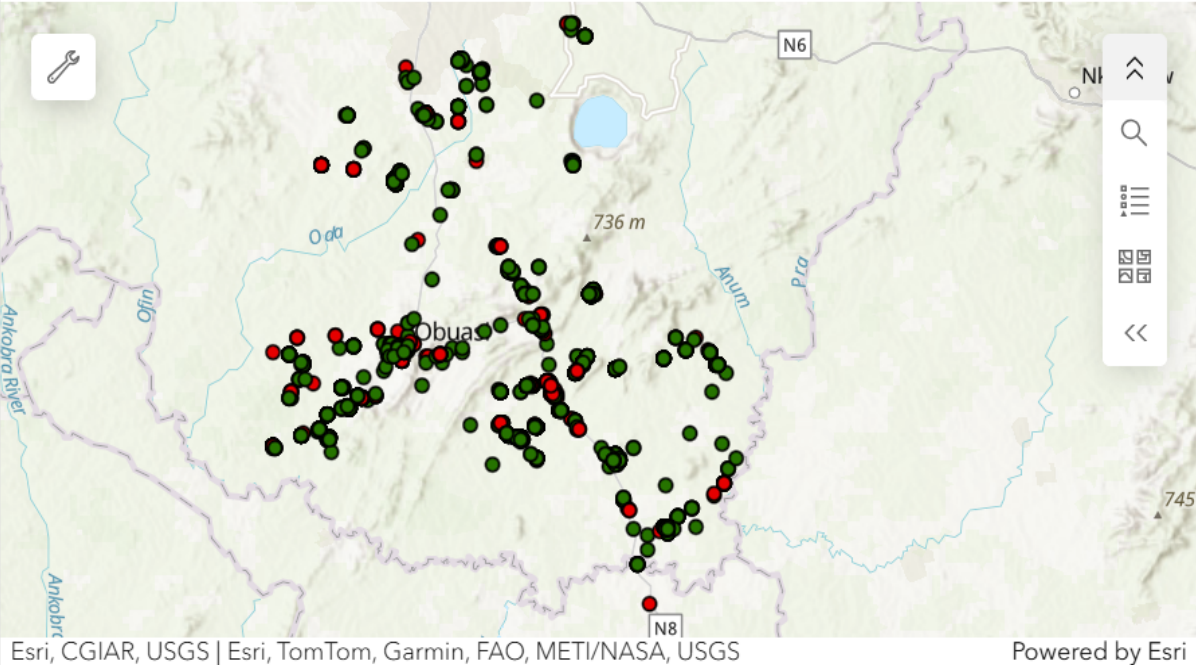
in current extent/selection




Farmer List

- Akua Fokuoh
IAP-24-GH00001
- KOFI ANAN
IAP-24-GH00281
- KWAME DOME
IAP-24-GH00687
- FOZIA NAA
IAP-24-GH00691
- MAMUNA
BIMOBA
IAP-24-GH01104
- ISAAC TETTEH
IAP-24-GH01148
- OPOKU
AGYEMANG
IAP-24-GH01195
- ALBERT AWUKU
IAP-24-GH01234
- Stephen Bobie
Anash


Household Eligibility Map



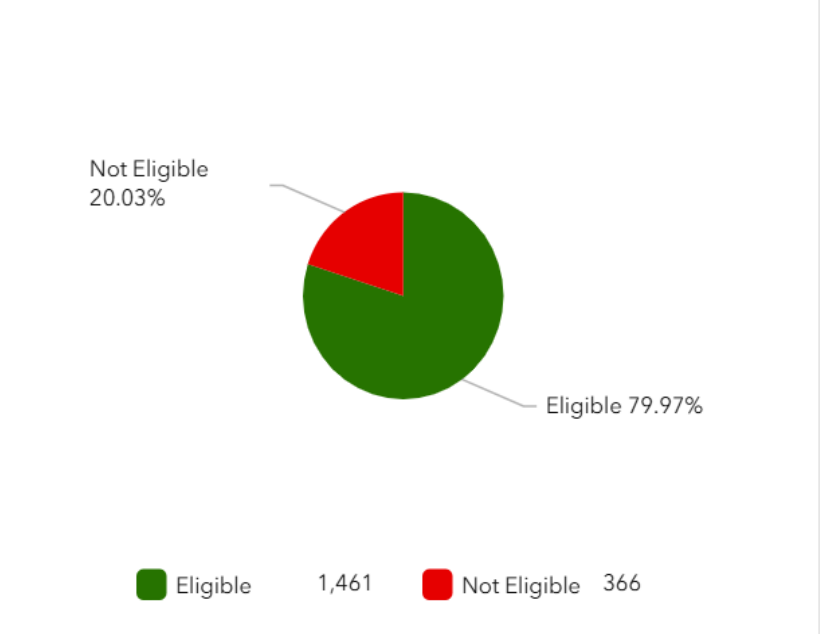
Total No. of Households Surveyed

 1,827

Total Number of Children in Household

 3,355

A Chart showing Eligible vs Ineligible Households



Eligible Households

 1,461

Ineligible Households

 366

“At ICI, Geospatial intelligence becomes transformative because it strengthens systems, protects dignity, and ensures that no child is left unseen or unprotected.”



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Thank you

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