



El futuro de la Agricultura en Colombia

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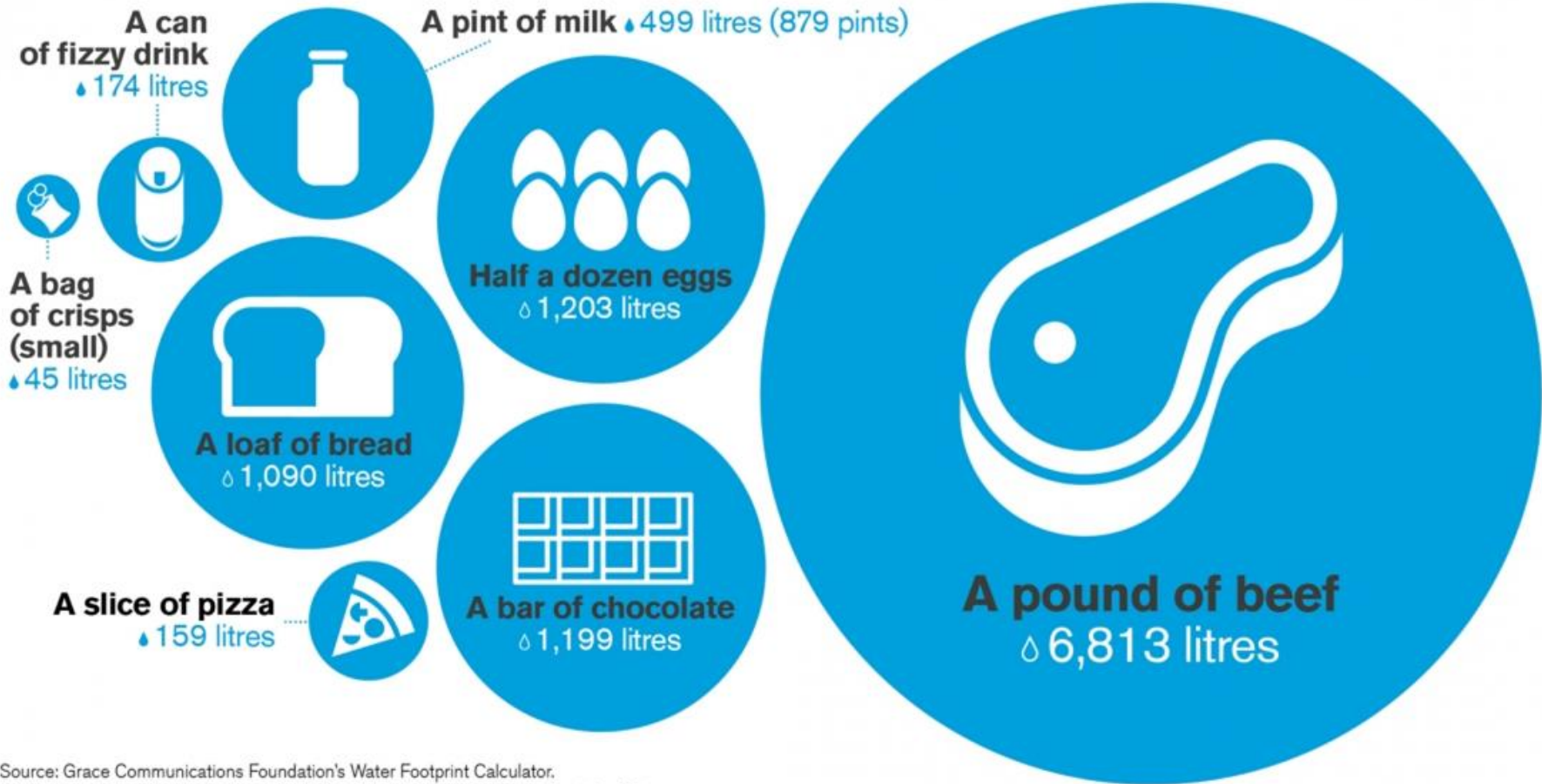
2050



9.000 MILLONES
de personas

“Debemos producir más comida en las siguientes 4 décadas que todos los agricultores han cultivado en los últimos **8.000 años**” Ernst van den Ende

<https://www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/>



Source: Grace Communications Foundation's Water Footprint Calculator.
 All calculations are approximate and based on foodstuffs produced locally in the US

<http://www.fao.org/aquastat/en/>

Figures are averages for the period 2001-2010, expressed in billion tonnes CO₂ eq

**Global emissions from agriculture (crops & livestock)
continued to increase in the last 50 years**

1961
2.7 billion tonnes
CO₂ eq

2011
more than
5.3
billion tonnes
CO₂ eq

The largest emitters in agriculture are:



**Enteric
fermentation**



**Manure left
on pasture**



**Synthetic
fertilizers**



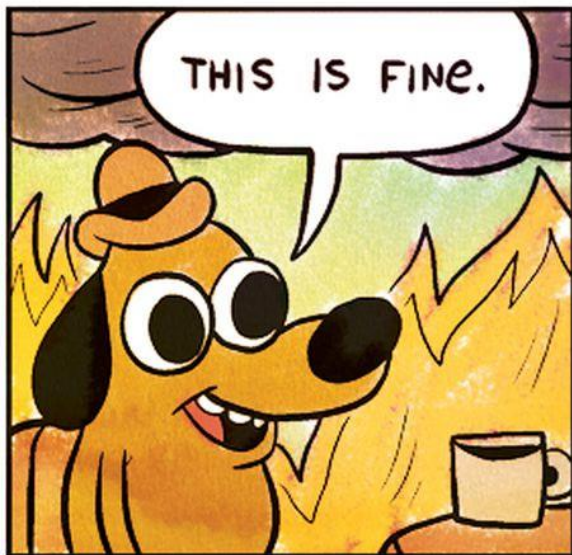
Paddy rice



**Manure
management**



**Burning of
savannahs**





MINDSET

(poco se habla en agricultura)

jueves 07 de noviembre de 2019 - 12:00 AM

Al agro le hace falta talento para afrontar la cuarta revolución industrial

Los expertos hablaron sobre los retos que tiene el país para enfrentar de manera exitosa la llamada cuarta revolución industrial.



jueves 07 de noviembre de 2019 - 12:00 AM

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HISTORIAS

Las manos del campo están envejeciendo

AGOSTO 05 DE 2019



Aunque porcentualmente todavía hay más jóvenes en la ruralidad que en los centros urbanos, el relevo generacional en el campo no se ve cerca. Los más experimentados sienten que se están quedando solos. .

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Los expertos hablaron sobre los retos que tiene exitosa la llamada cuarta revolución industria

«La productividad en Colombia lleva estancada más de 20 años. Solo cuatro productos han registrado mejoras. La guerra y falta de una política de incentivos son las principales causas de ese estancamiento»

H

Santiago Tobón, experto en temas rurales

Las manos del campo están envejeciendo

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Rendimiento / Hectárea



508

Ton



2,10 Ton

Rendimiento / Hectárea



12,4

Ton

Fuente: FAOSTAT



10,7 Ton
(8)

Rendimiento / Hectárea



10,7

Ton



8 Ton (5)

Fuente: FAOSTAT 2017





A misty mountain landscape with terraced tea fields in the foreground and rolling hills in the background. The scene is bathed in a soft, blue-green light, creating a serene and atmospheric mood. The tea fields are meticulously arranged in rows that follow the contours of the hills. In the distance, several mountain peaks are visible, their details softened by a light mist. A few scattered trees are visible on the hillsides, adding to the natural beauty of the scene.

Realidades
diferentes...

An aerial photograph of a lush green tea plantation on a rolling hillside. The tea bushes are arranged in neat, curved rows that follow the contours of the land. In the background, there are several layers of misty, blue-toned mountains, creating a sense of depth and tranquility. The overall color palette is dominated by various shades of green and blue, with a soft, hazy atmosphere.

Apropiación Tecnológica a medida



La Tecnología transforma lo que antes era escaso en ABUNDANTE

Peter Diamandis

LEY DE MOORE

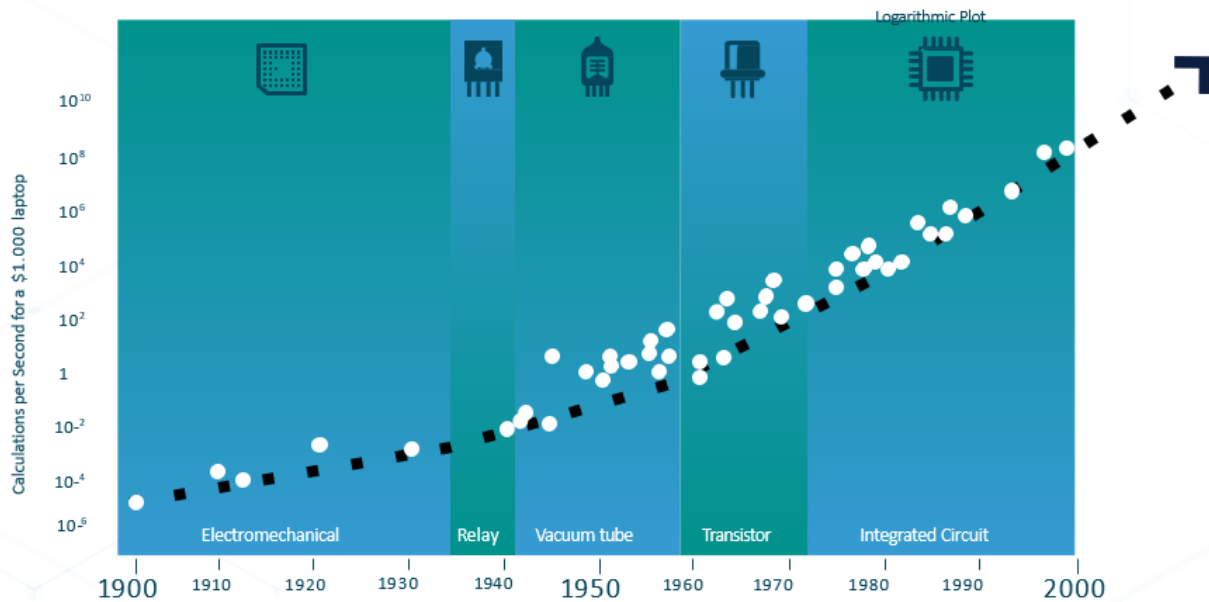
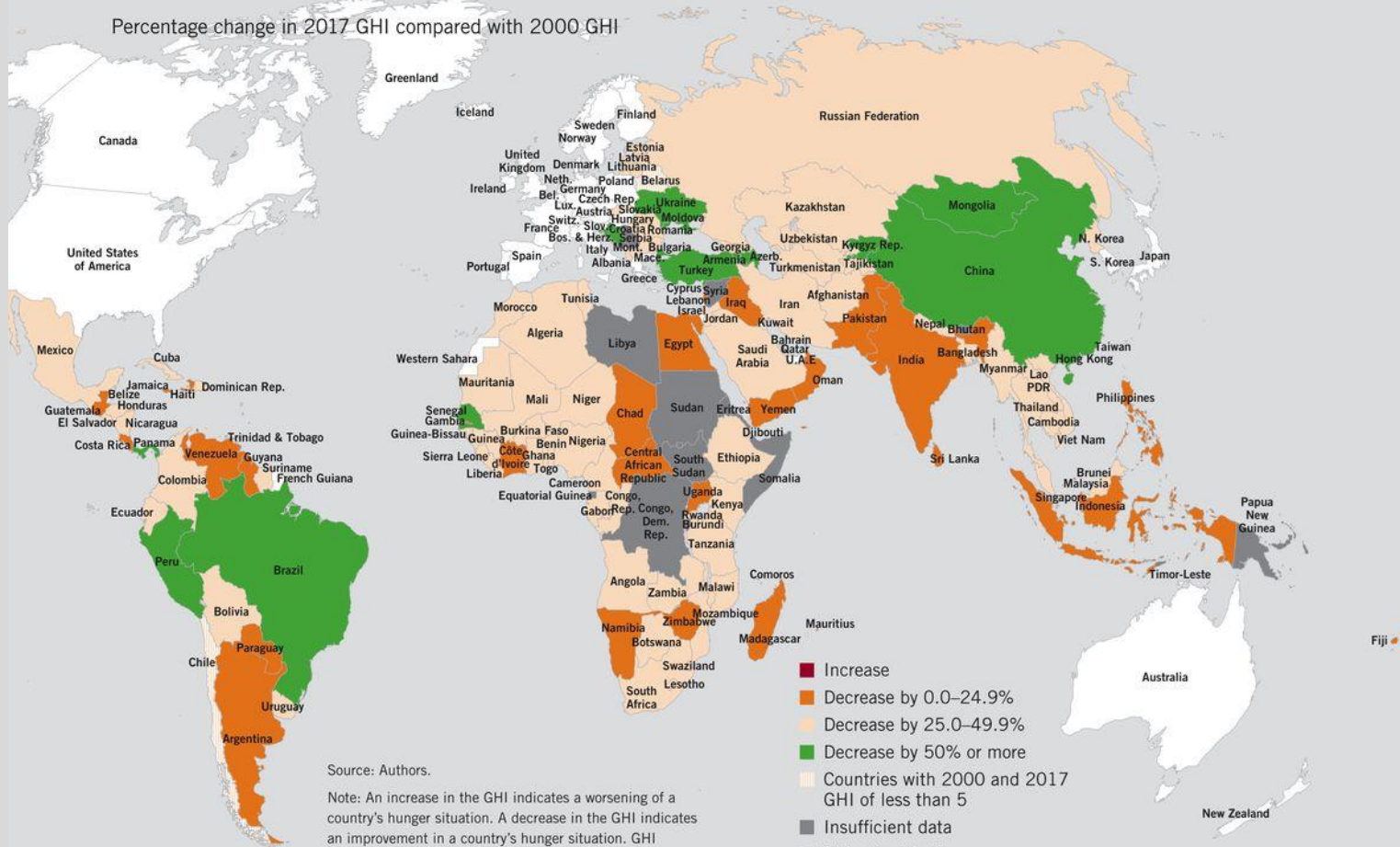


FIGURE 2.2 COUNTRY PROGRESS IN REDUCING GHI SCORES

Percentage change in 2017 GHI compared with 2000 GHI



Source: Authors.

Note: An increase in the GHI indicates a worsening of a country's hunger situation. A decrease in the GHI indicates an improvement in a country's hunger situation. GHI scores were not calculated for countries with very small populations.

*See Chapter 1 for details

Conectividad

2017

3.800 millones

2024

8.000 millones

A misty landscape with terraced tea fields in the foreground and mountains in the background. The word "USABLE" is centered in a white box.

USABLE

A misty landscape with rolling hills covered in tea plantations and mountains in the background. The scene is bathed in a soft, blue-green light, creating a serene and atmospheric mood. The tea plants are arranged in neat, curved rows that follow the contours of the hills. In the distance, several mountain peaks are visible, partially shrouded in mist. A few scattered trees are visible on the hillsides. The overall composition is peaceful and evokes a sense of rural tranquility.

ECONÓMICA

A misty mountain landscape with terraced tea fields in the foreground and a white rectangular box containing the word 'ACCESSIBLE'. The scene is bathed in a soft, blue-green light, with mist rising between the hills. The tea fields are arranged in neat, curved rows that follow the contours of the hills. In the background, several mountain peaks are visible, their details softened by the mist. A few trees stand on the ridges, and a small structure is visible in the distance. The overall atmosphere is serene and peaceful.

ACCESSIBLE

DIGITAL FARMING

An aerial photograph of a large, flat agricultural field under a blue sky with scattered white clouds. The field is covered with a grid of semi-transparent, colored circles in shades of green, yellow, orange, and brown. Two white rectangular boxes with black borders are overlaid on the field. The first box, on the left, contains the text '40 kg/ha' and has a thin white vertical line extending downwards to a light green circle. The second box, on the right, contains the text '80 kg/ha' and has a thin white vertical line extending downwards to an orange circle. The overall scene represents precision agriculture or digital farming techniques.

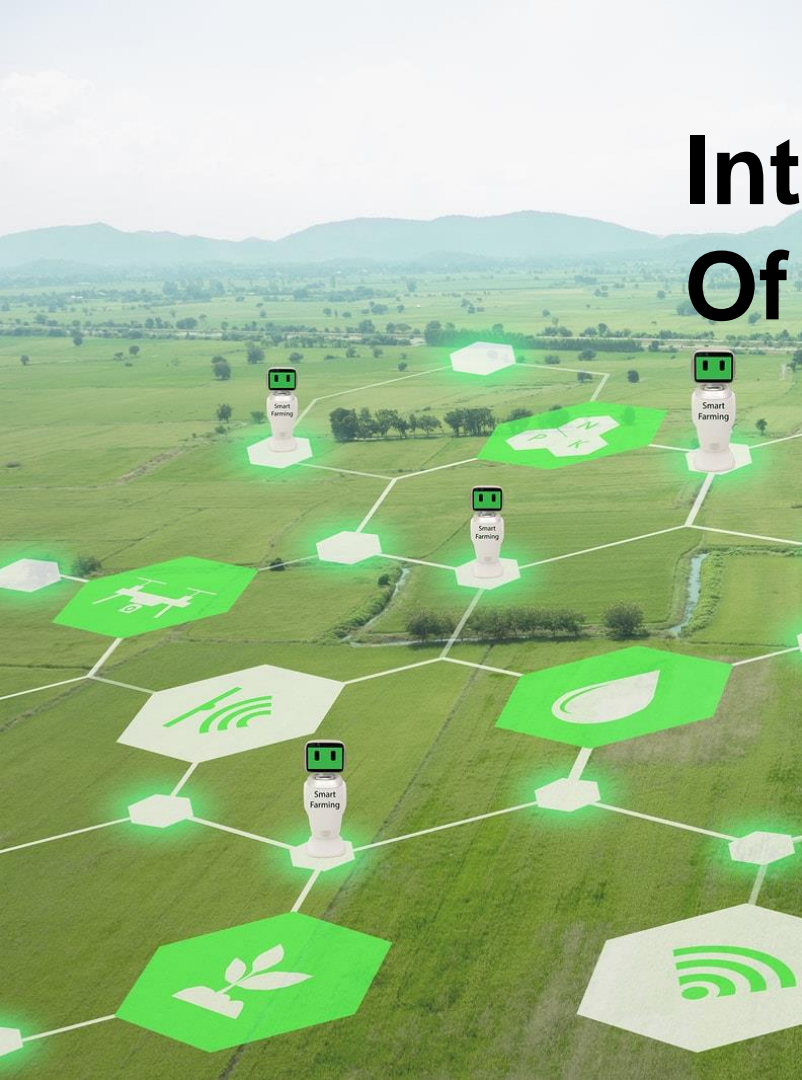
40 kg/ha

80 kg/ha

Internet Of Things

Datos ambientales
+ Variables cultivo

- Sistemas Riego
- **Adopción
Tecnológica**
- Interfaces
- Sensores +
impacto - \$

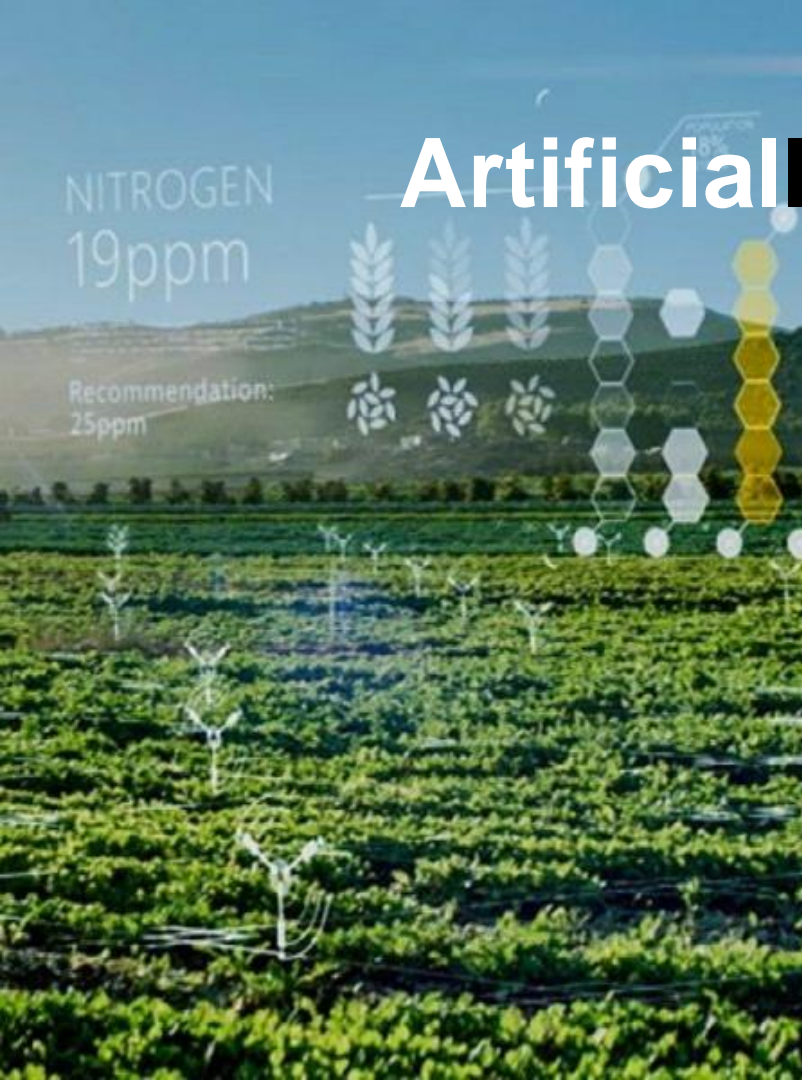




Big Data

Datos útiles para
toda la cadena
Productores

- Acceso
Información
DECISIONES
- Abierta
- ACTUALIZADA



Artificial Intelligence

- Escenarios futuros
- **VARIABLES**
- Clima, mercado, Insumos, Estrategia (Desarrollo 80/20)

Digital Coops



Blockchain
Gobernanza

- Trazabilidad
Sistemas
Recolección
Información
- Impacto en toda
la cadena
productiva

BioTech



Impacto ambiental
EFICIENCIA

- Disrupción Industria ganadera e Insumos
- **Nuevos negocios**



Agroforestry

Conservación &
Biodiversidad

- Viabilidad y Escalabilidad
- **Medición de impacto**

DESAFÍOS DEL PRODUCTOR

A man with grey hair, wearing a red short-sleeved button-down shirt, stands in a lush green field. He is smiling and looking towards the left. The background is filled with various green plants and trees, suggesting a rural or agricultural setting.

Acceso a educación o capacitación

Incertidumbre clima mercado / precio / competencia, importación

Informalidad

Infraestructura: Riego, tecnificación, vías

Acceso a financiación

Acceso a insumos /Tierra /Certificación

ACCESO A ESTRATEGIA

A man with grey hair, wearing a red button-down shirt, is smiling and looking to his left. He is standing in a field of green plants, possibly a farm or agricultural setting. The background shows a line of trees under a clear sky. A white rectangular box is overlaid on the image, containing the text 'TRANSICIÓN' in large white letters and '(de esto tampoco se habla)' in smaller white letters below it.

TRANSICIÓN

(de esto tampoco se habla)



A man with grey hair, wearing a red short-sleeved button-down shirt, is smiling and looking to his left. He is standing in a field of tall green grass and dark-leaved plants. In the background, there is a line of trees under a clear sky. A white rectangular box is overlaid on the image, containing the text "EL INICIO...".

EL INICIO...

· BIG DATA ·


**CULTIVANDO
FUTURO**

· COLOMBIA ·

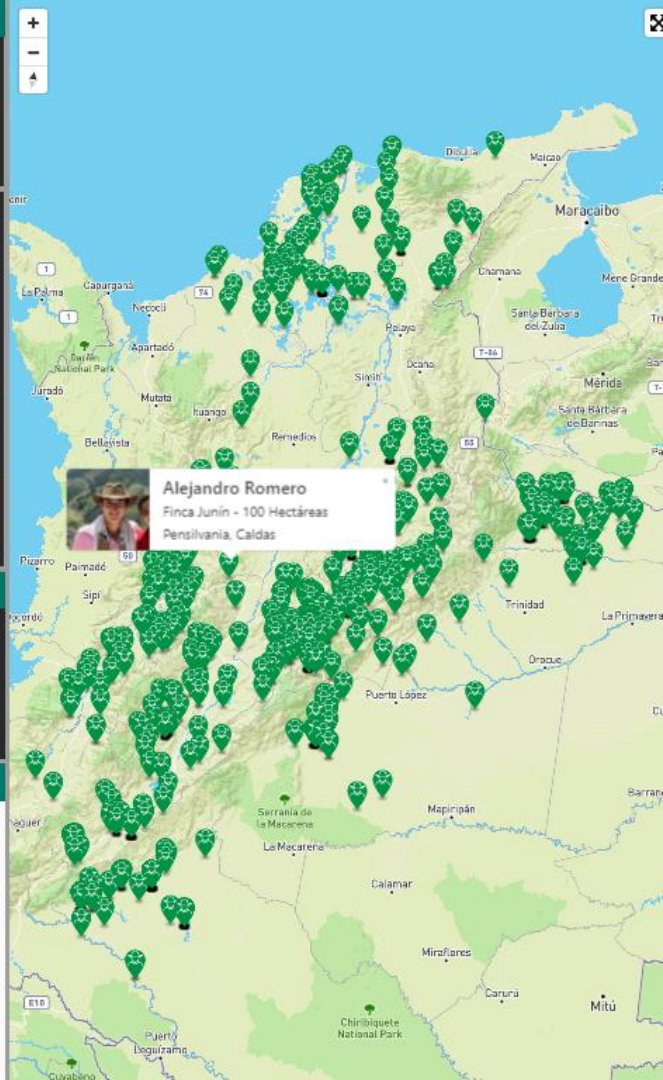
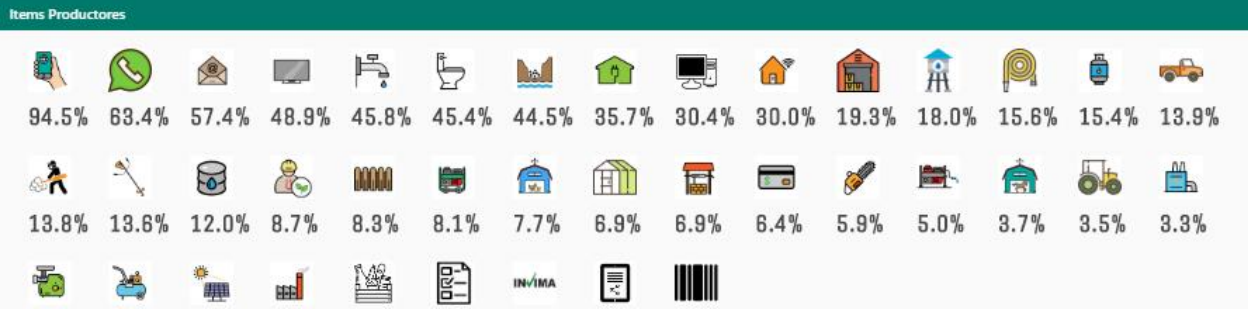
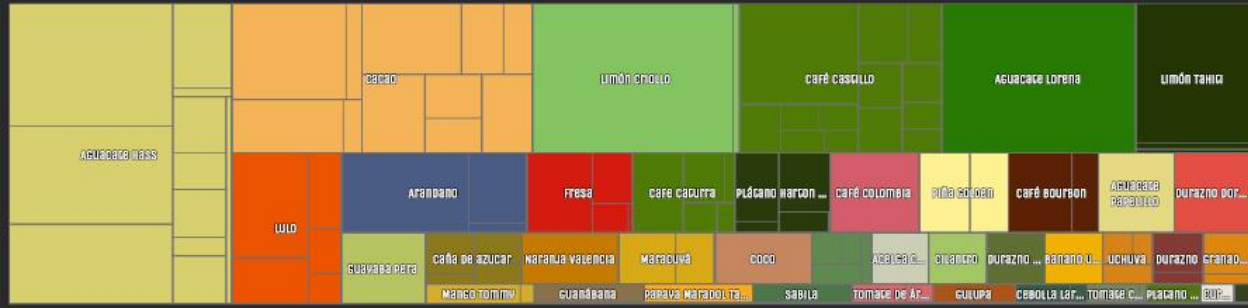
BIG DATA Para
[DESARROLLAR]

Las capacidades de los
AGRICULTORES

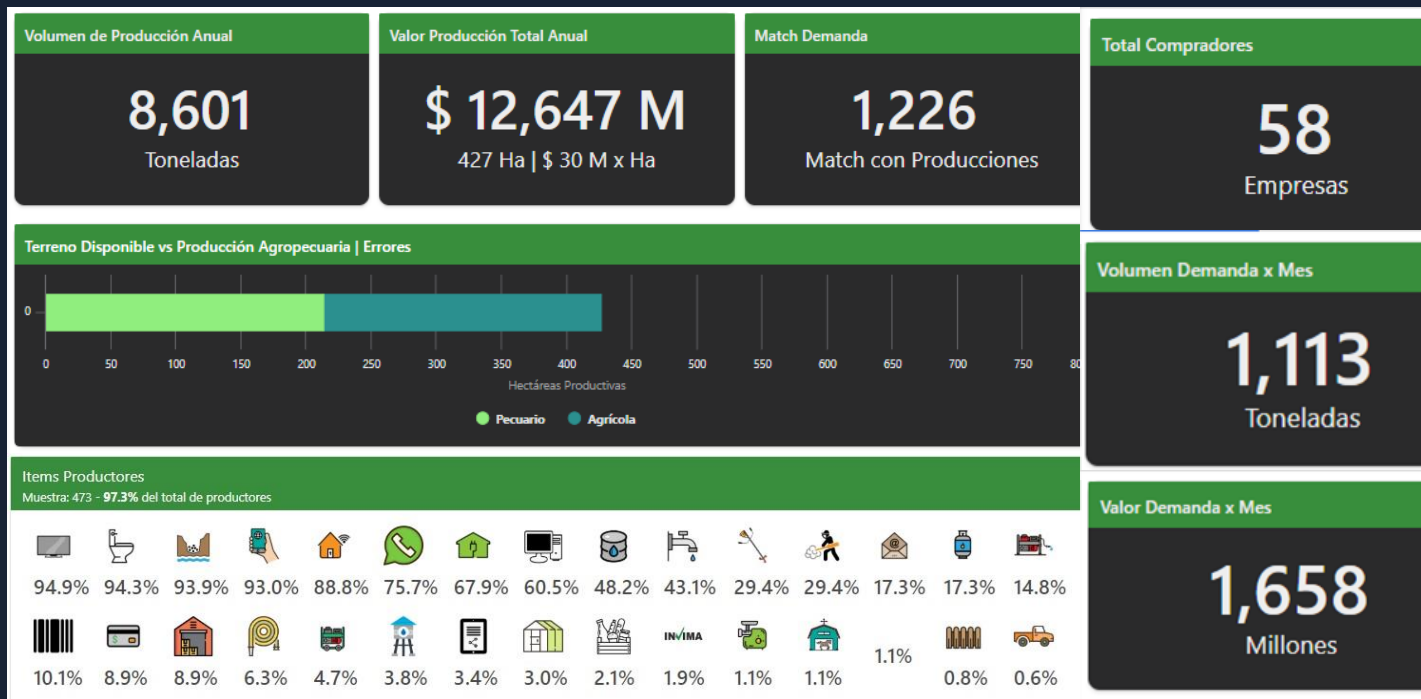


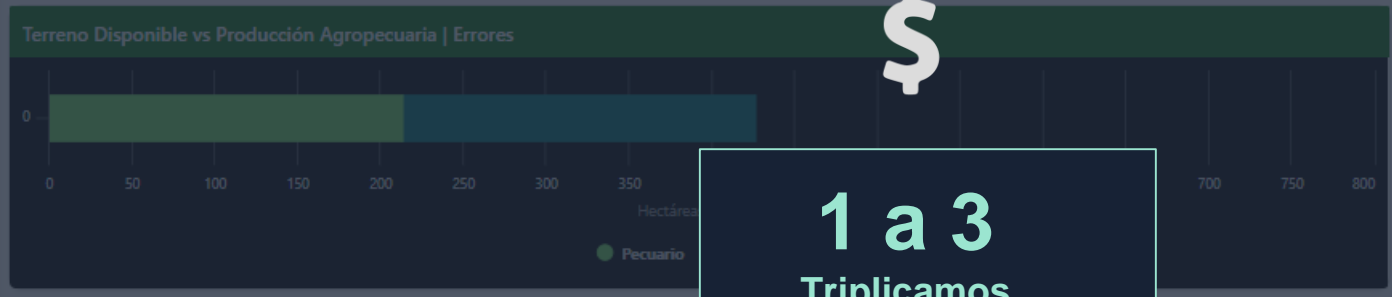
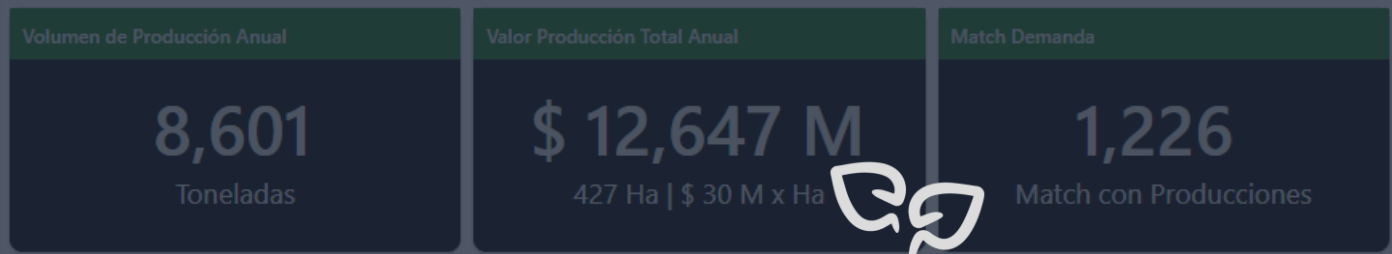


49 PRODUCTOS AGRÍCOLAS EN PRODUCCIÓN
CLICK PARA VER DETALLES. LAS UNIDADES ESTAN BASAS EN HECTÁREAS



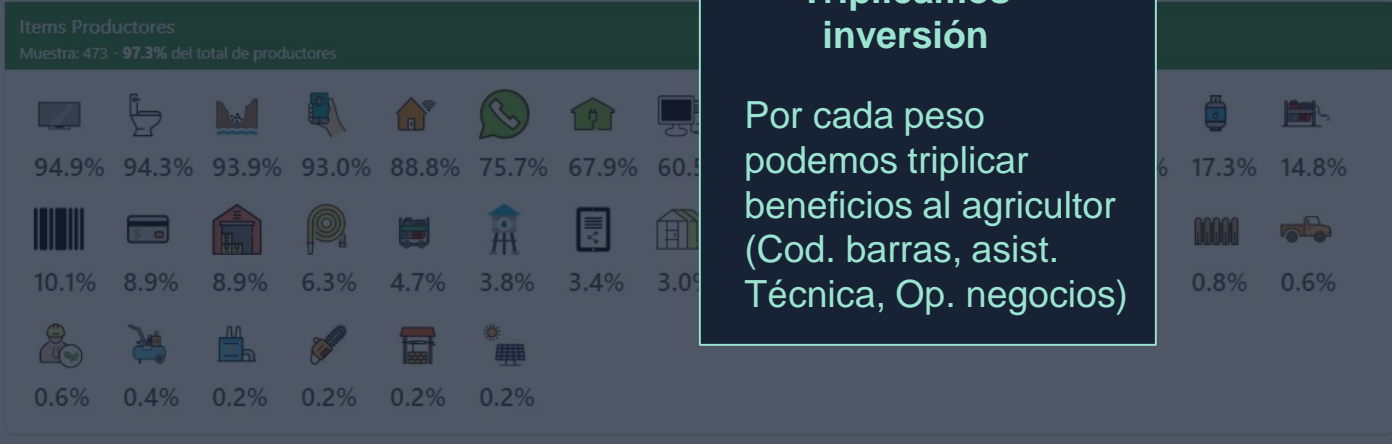
Implementación Rionegro





1 a 3
Triplicamos inversión

Por cada peso podemos triplicar beneficios al agricultor (Cod. barras, asist. Técnica, Op. negocios)



A close-up photograph of a pair of weathered, brown hands cupping several ripe, red cherry tomatoes. The tomatoes are vibrant red with green stems. The background is dark and out of focus, suggesting an outdoor setting like a field or garden. A white rectangular box is overlaid on the center of the image, containing the text.

TIMELINE

(Estrategia y en qué momento cada tecnología)



SINERGIAS

Cooperación SECTOR PRIVADO
STARTUPS
GREMIOS
SECTOR PUBLICO



ACTIVISMO

*Activista no es el que dice que el río está
contaminado. El activista es quien limpia el río*
Ross Perot

. BIG DATA .

CULTIVANDO FUTURO

. COLOMBIA .

Contacto

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Recursos

<http://www.fao.org/resources/infographics/infographics-details/en/c/471471/>

<https://www.portafolio.co/economia/record-en-produccion-de-cacao-en-primer-semester-508495>

Agroforestry <https://renaturefoundation.nl/what-is-agroforestry/>

Farmbot <https://www.dinero.com/emprendimiento/articulo/maquinaria-y-tecnologia-agricola-para-aumentar-la-productividad/243799>

REndimientos HA <https://agriculturers.com/rendimiento-por-hectarea-de-los-cultivos/> <http://www.hortoinfo.es/index.php/5865-val-mund-tom-140717>

Desafios Colombia <http://www.redagricola.com/cl/desafios-en-colombia-segun-marco-mattar/> NATGEO
<https://www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/#/hunger-solution-greenhouse-farm.jpg>

<https://semanarural.com/web/articulo/como-han-cambiado-las-tradiciones-campesinas-con-el-pasar-del-tiempo/993>