



**Capacity building of small farmers:  
Improve yield & enhance traceability**

**ICAC**

**Brisbane**

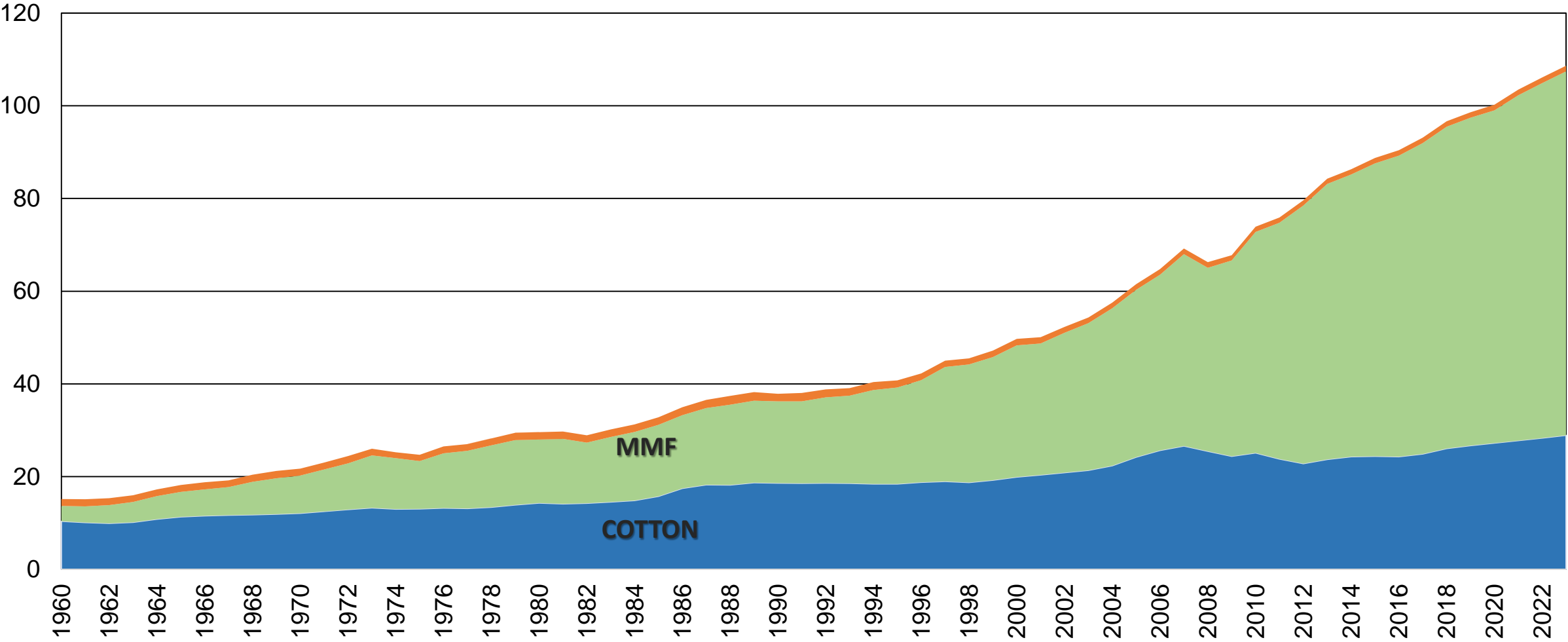
**4<sup>th</sup> December 2019**

**Anupam Gupta**

**Olam International**

# Global Fibre Demand Expanding

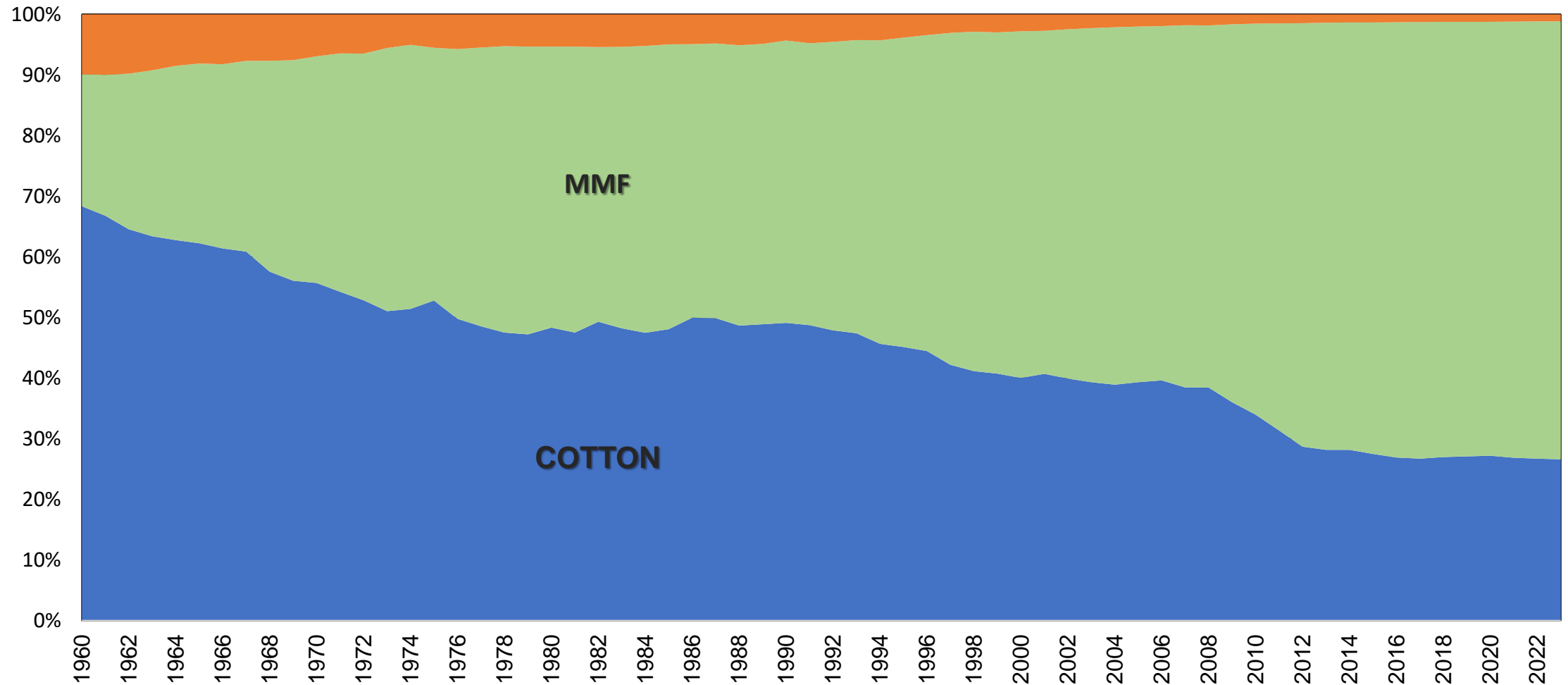
~108 MMT in 2022, Cotton unable to keep pace



Sources: ICAC, IWTO, USDA, and Fiber Economics Bureau.

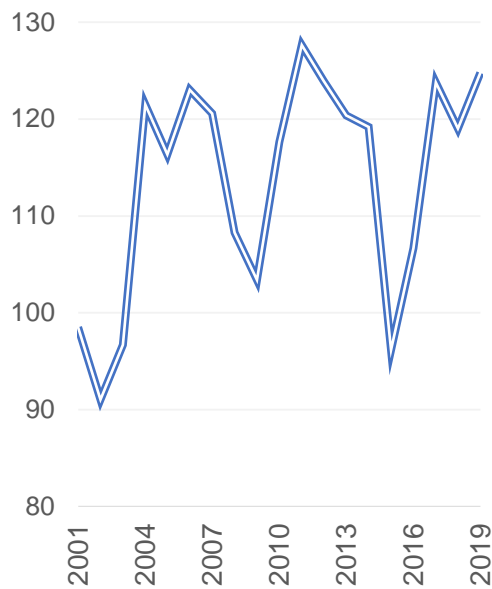
# Cotton losing share

68% (in 1960) to 27% (expected in 2022)

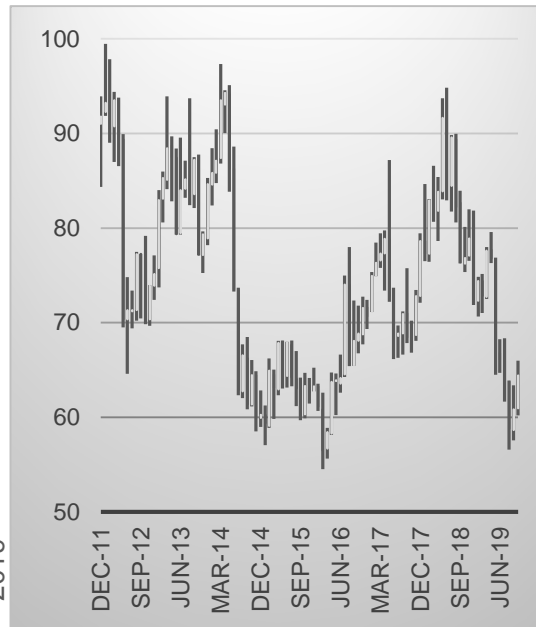


# Challenges faced by Cotton Industry

Supply Volatility



Price Volatility



Labor intensive

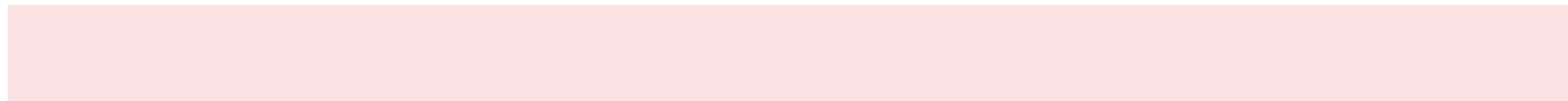


Pesticides



Dyes & chemicals

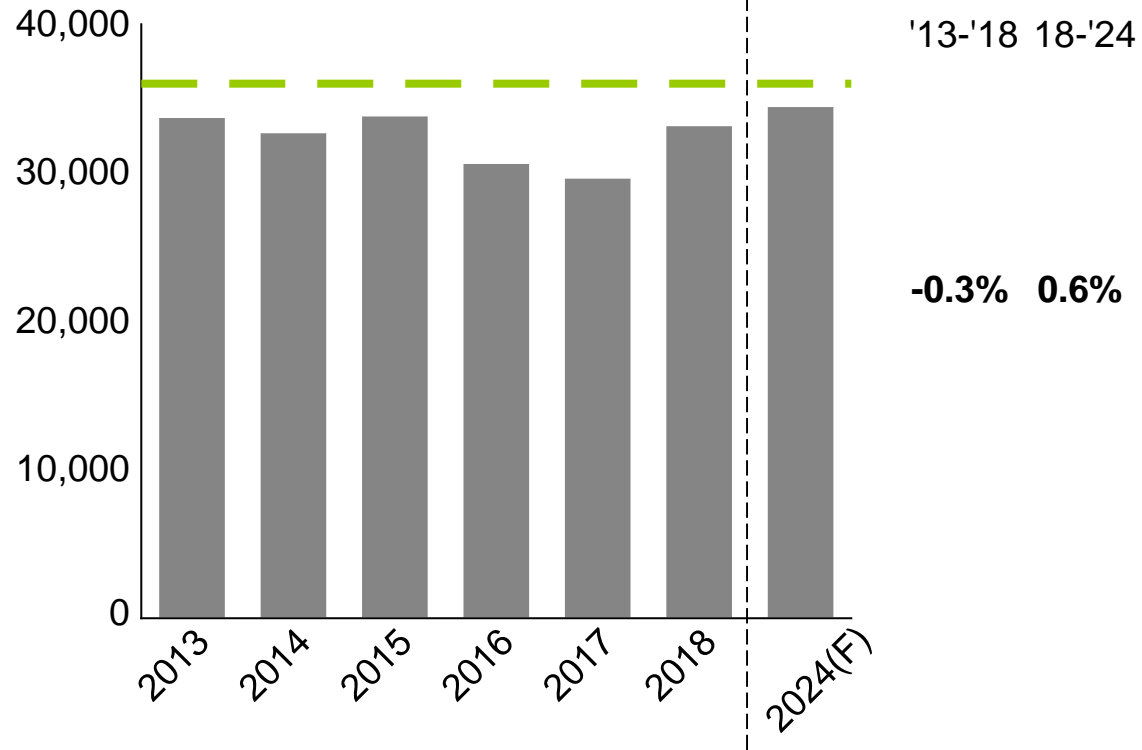




# Supply: Potential constrained by production area and yield

## Production Area

Cotton global production area ('000, ha)



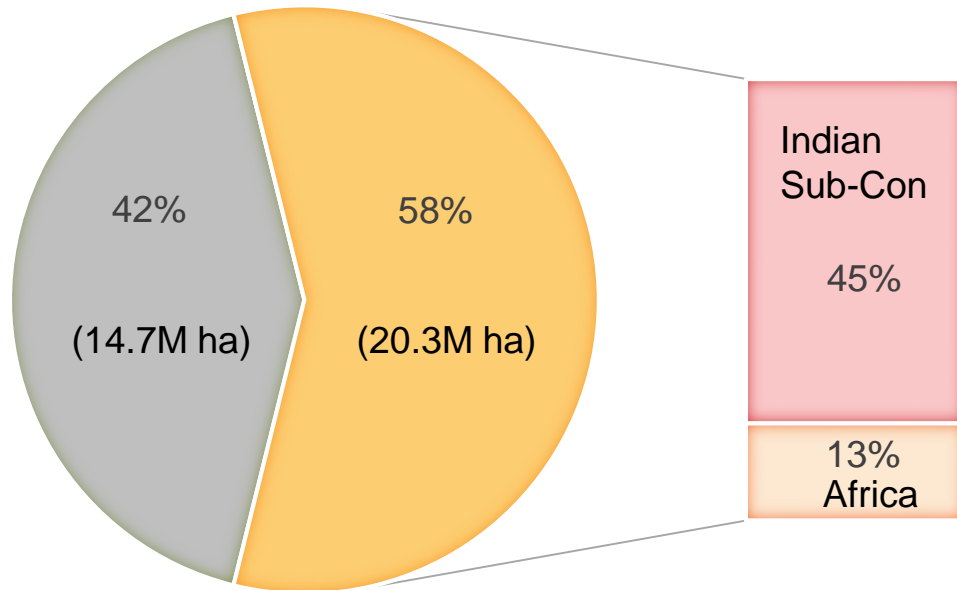
## Yield

Note: 2018 represents 2017/18 harvest year  
Source: ICAC

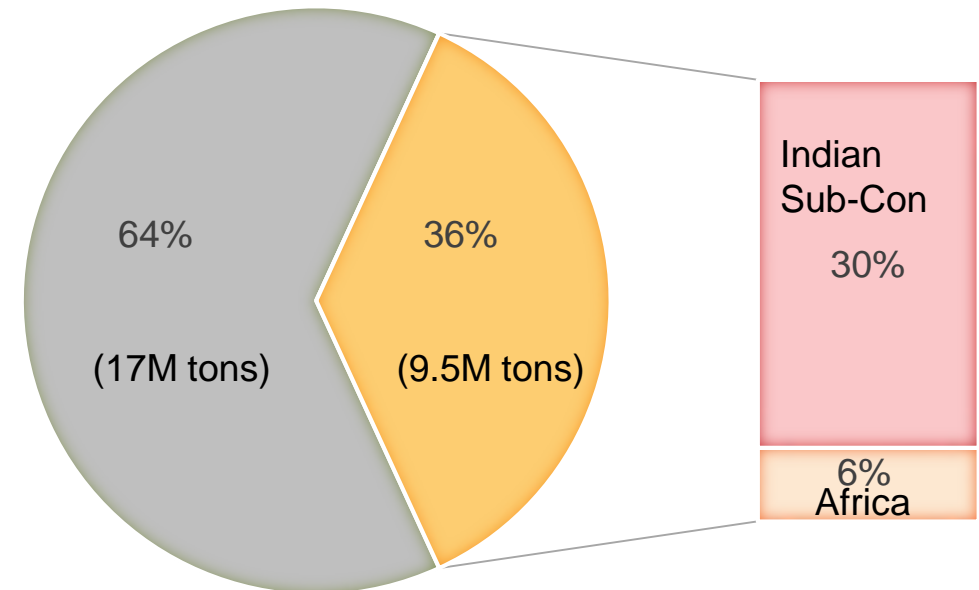


# Small Farmers: 58% Area, Produce 36%

## ACREAGE



## PRODUCTION



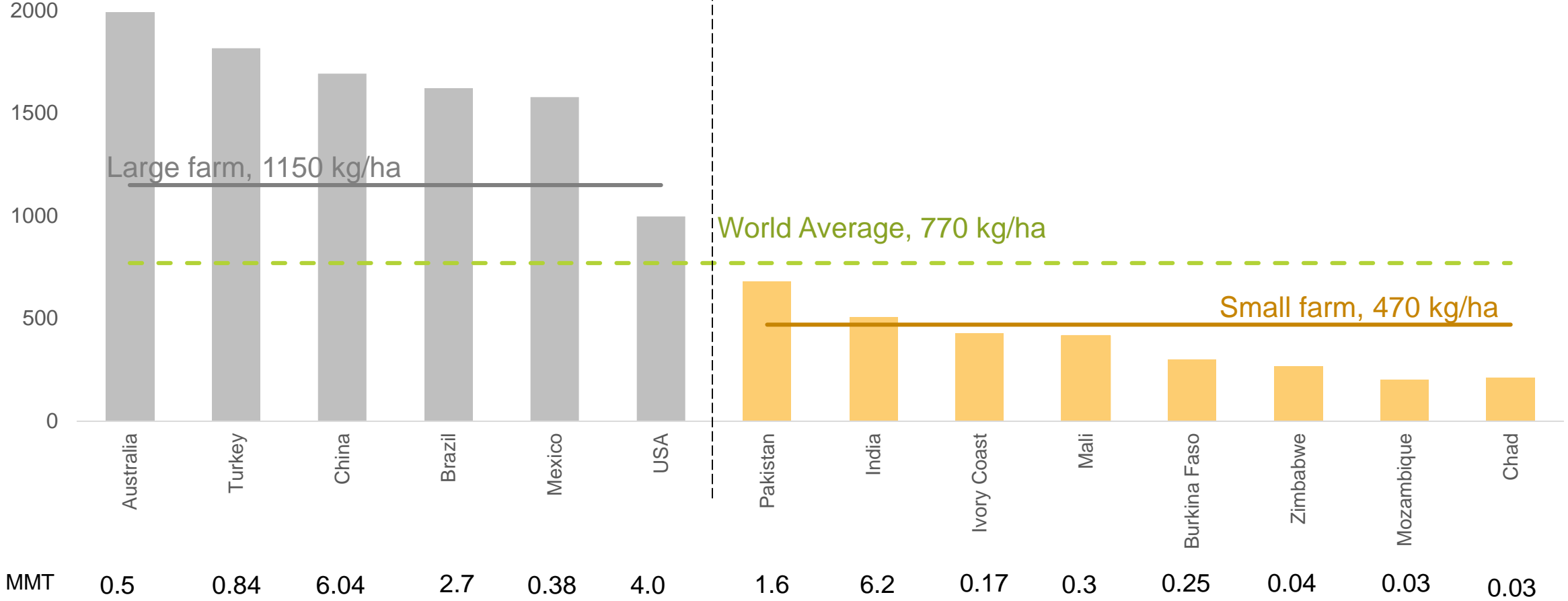
# Yield: Australia & Brazil among highest yield with African nations the lowest



Yield (2018, Kg/ha)

Mechanized & Irrigated

Manual & Rain-fed



Source: ICAC





# Small holder farmers - Challenges



Access to good quality agriinputs

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Access to Bank/Micro Finance : limits capacity building through investments into mechanization

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Training in Good agricultural practices

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Access to Technology: unable to deploy modern technology due to small farm size

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Market access, fair price

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Functional literacy, access to medical amenities

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# Ecosystem required for success of small cotton farmer

## West Africa example



**Role of government:** create a governance model to define roles of sector participants, enforce contractual performance, ensure balanced sector development

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**Role of industry association :** Create platform for dialogue between stake holders, develop market based pricing model for seed cotton and create a support fund to maintain sector maintain financial attractiveness of the sector during low price regime

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**Role of ginner :** Long term commitment to support growers and provide all the resources required for cotton production, yield improvement, capacity building.

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**Role of NGO & DFIs :** Build farmer capacity through training in GAP, functional literacy, farmer field schools, functioning of cooperative, educating farmers on Child Labor policy, deforestation, sustainability programs

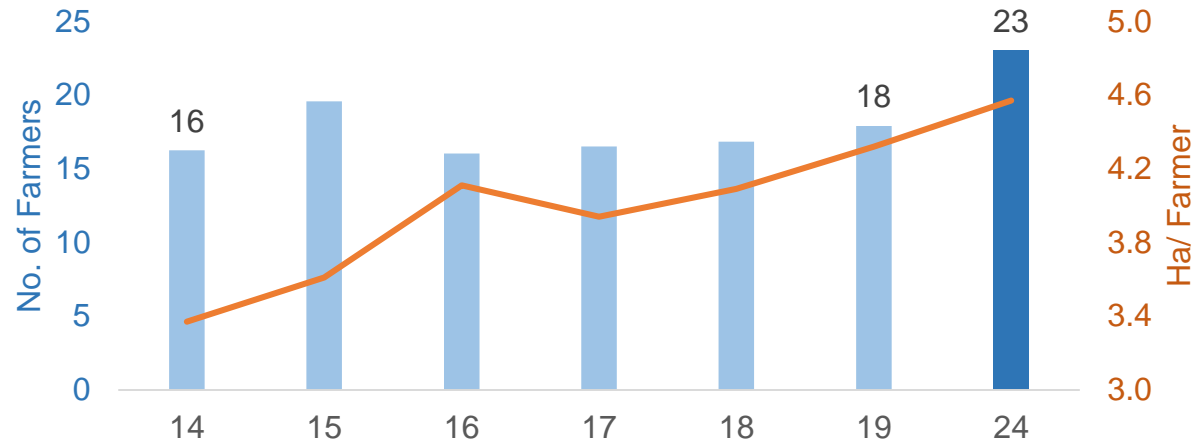
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# Olam's experience in Integrated ginning in Cote D'Ivoire

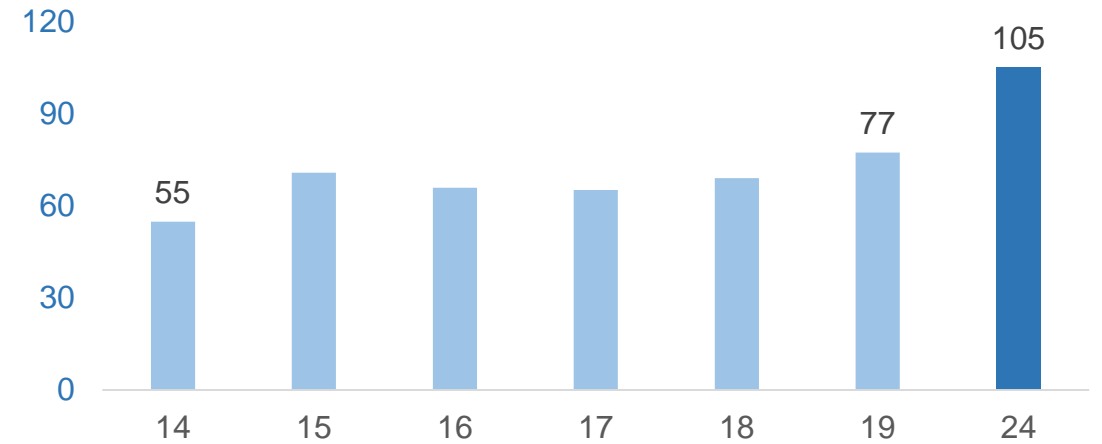
## Production Volume Drivers : Area X Yield



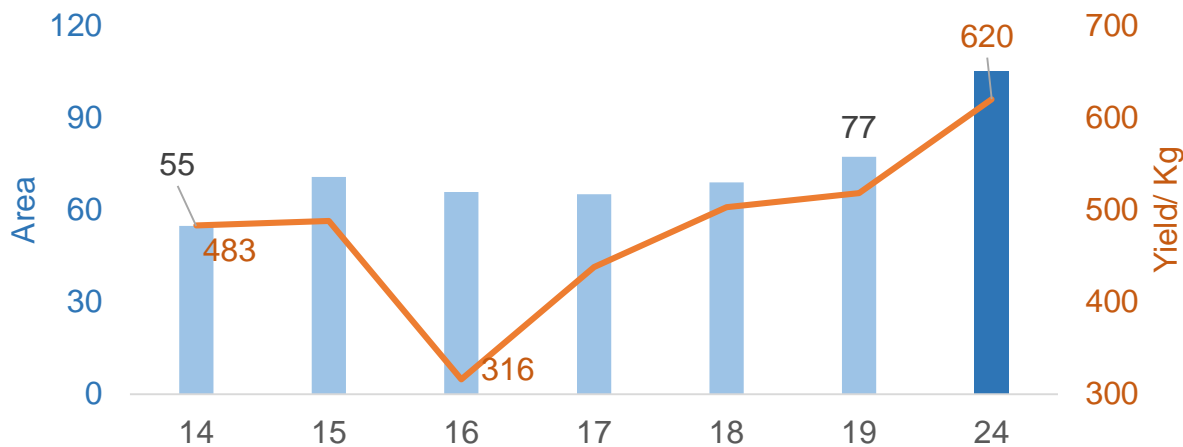
No. of Farmers ('000 Ha) & Ha/ Farmer



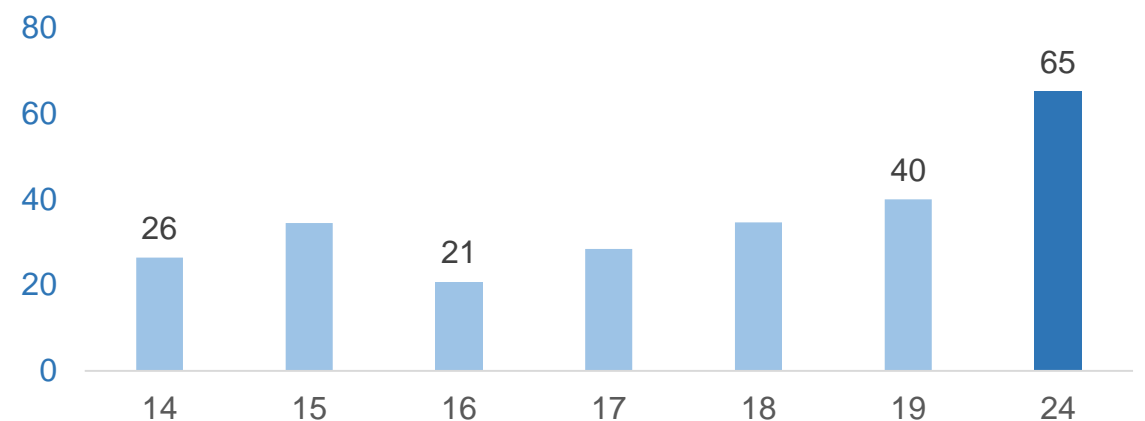
Area ('000 Ha)



Area ('000 Ha) & Yield/ Kg

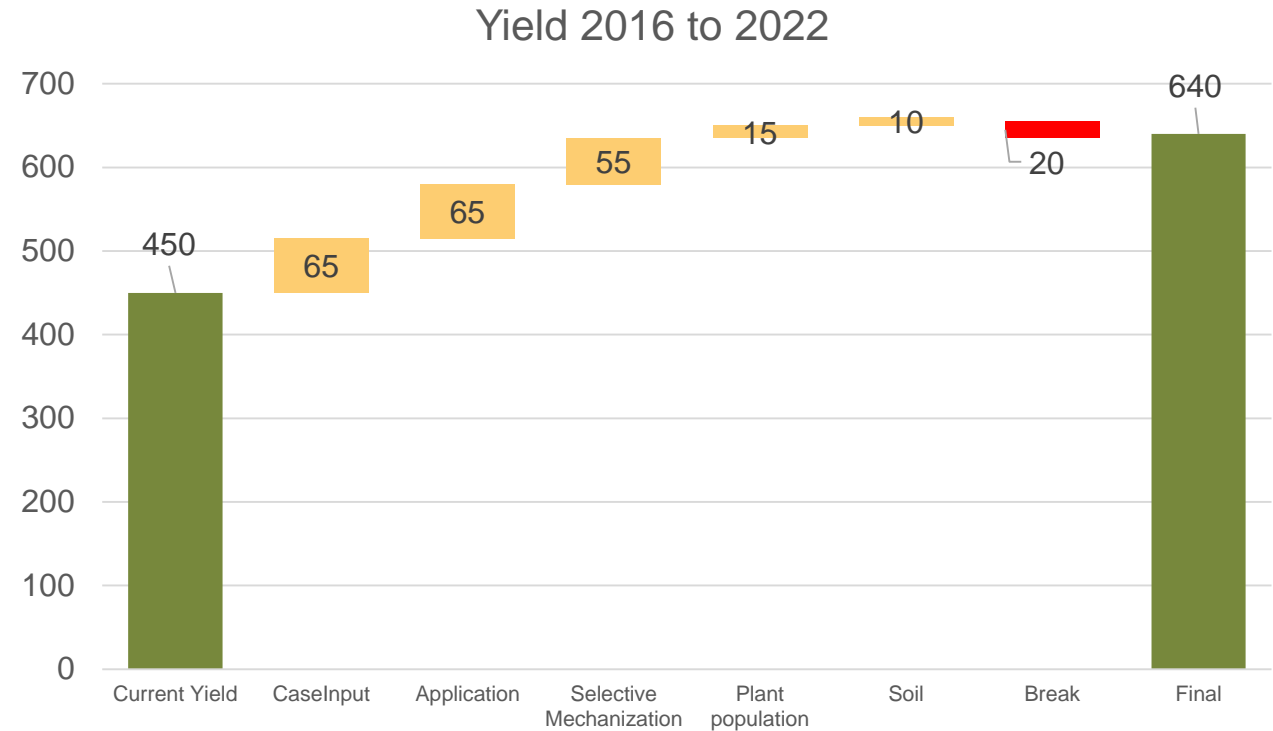


Production ('000 Tons)



# Yield Growth Initiatives

Initiative	
Current Yield - Base Case (kg/ha)	450
R1 & R2 Seed Generation (kg/ha)	65
Input Application (kg/ha)	65
Plant Population (kg/ha)	55
Selective Mechanization (kg/ha)	15
Soil Fertility (kg/ha)	10
Expected Yield (kg/ha)	660
Target Yield (kg/ha)	640



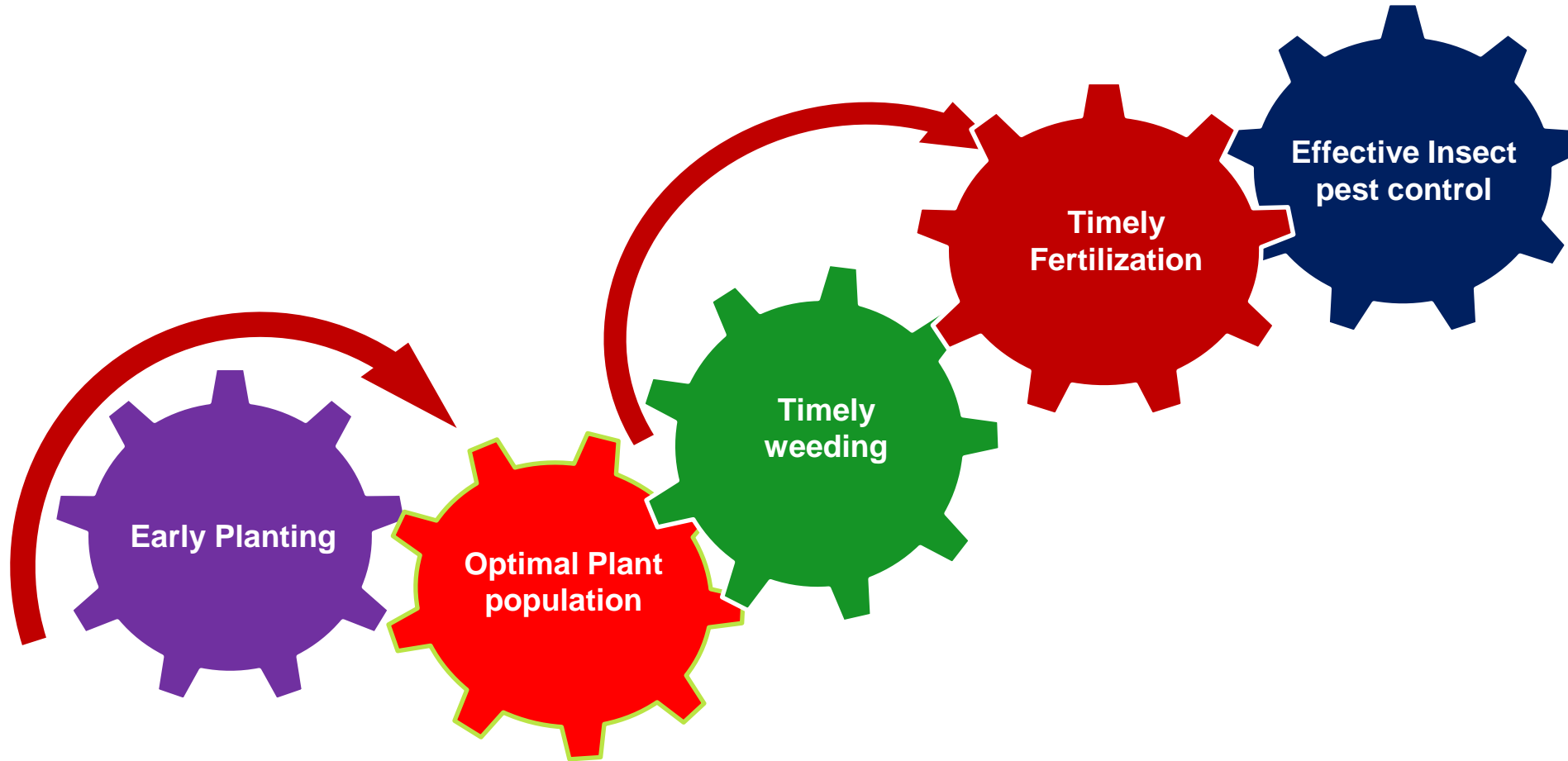
**Target Yield of 640 kg/ ha**

## Key for success

To achieve differential yield requires **extensive farmer engagement, continuous follow up and frequent trainings** warranting different approach for Farm Extension Services through **embedding** this activity within Co-operatives



# Improving Yield – Back to Basics



5 fingers approach for achieving better yields



# Improving Yield of Small Scale Farmers



## Seed Multiplication Program

Produce quality planting seeds for farmers



## Farmer training program

Increase crop productivity with Good Agricultural Practices (GAP)



## Model demo farms

Establish yield potential of a village by ensuring all GAP are deployed.



## Cattle Agric. Equip support program

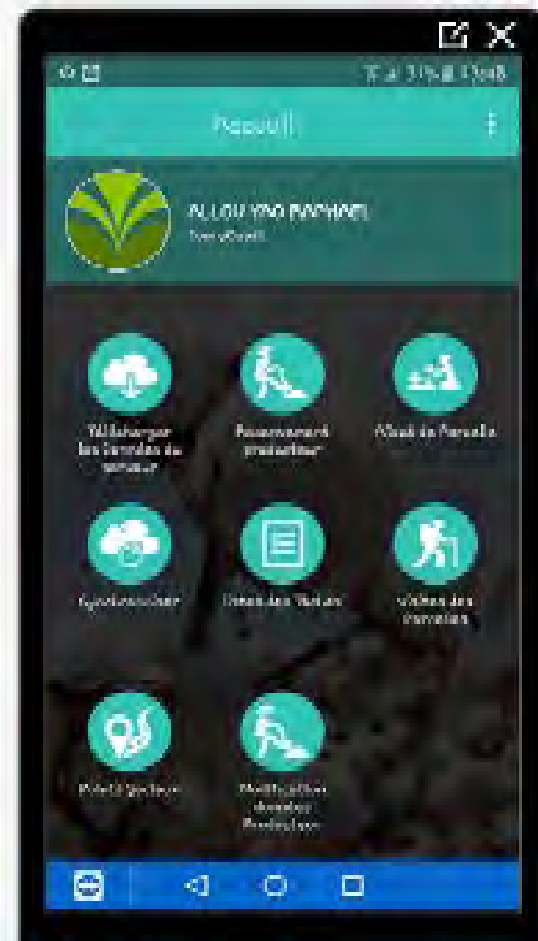
To help small holding cotton farmers for increased cotton area & plant cotton early as monsoon sets in.



## Zero Tillage Farming

To help small holding cotton farmers for increased cotton area & plant cotton early.

# Spyder: Tool for farmer engagement, farm extension services & crop tracking



## Farm activities

Track season activities from Farmer registration to Payment

## Farmer engagement, two way communication

Track Extension Services activities of Field Staff

## Agri Inputs distribution & inventory control

Online data entry & tracking of Agri Input distribution

## Farmer/Cooperatives Credit & payment tracking

Reports on credit outstanding & Payments

## Database creation and data analysis

Link to SOFIA & Building on Farmer / OPA Database

# AtSource Olam's Sustainability platform

Agriculture faces some of the biggest development, economic, and environmental challenges...

Consumers are becoming aware & demanding... But agricultural supply chains are complex

A lot of **re-imagination is required** to grow responsibly

**AtSource** is Olam's **comprehensive sustainable sourcing solution** in the B2B marketplace

- **Customer** focused
- Driving **transparency** across our supply chains
- Showing sustainability **metrics** that matter
- Generating **action** on identified risks
- Helping our **customers** meet **their** sustainability commitments & targets
- Fully **aligned** with our Purpose to Reimagine Global Ag & Food Systems
- Delivered through a simple & clear **Digital Dashboard**





# Conclusions



1. Cotton is a preferred textile fibre
2. Increasing supply will result in higher demand
3. Significant opportunities to increase production by small scale farmers in Africa
  - a) Area increase from 4.5M ha to 6.0 M ha and yield increase from 350 kg/ha to 640 kg/ha.
  - b) Current production of 1.5M tons can increase to 3.8M tons
4. Governments have to create an enabling ecosystem for Ginners to take a long term view and engage with farmers in improving farm productivity and increasing farmer capacity.
5. Ginner to play multi functional role – banker, seed company, agri inputs company, agronomic advice, logistics company, community projects
6. Production increase through yield increase will help increase financial returns for the farmer
7. Technology has a significant role in reducing supply chain costs and establish transparency & traceability.