# BRIDGING THE TRUST GAP

WITH TECHNOLOGY

The Journey and Scope of Soy

# Increasing Global Significance of Soy

| | |
|---|---|
| Lowers blood pressure **1** | **2** Naturally cholesterol-free |
| **3** Strengthens bones | **4** Reduces risk of heart diseases, stroke |

**Benefits**
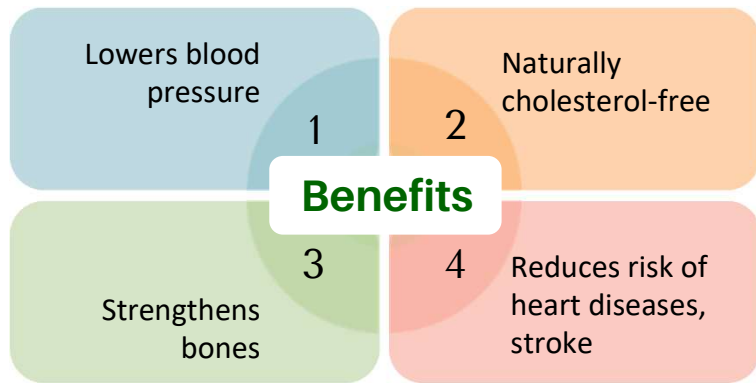
The plant-based market grew by 20% during the pandemic.

Worldwide **veganism** grew with increasing health and consumer awareness

10% of US adults are Vegan

By 2031, it will increase by **20.5%**

2022 Global plant-based meal **5.3%**
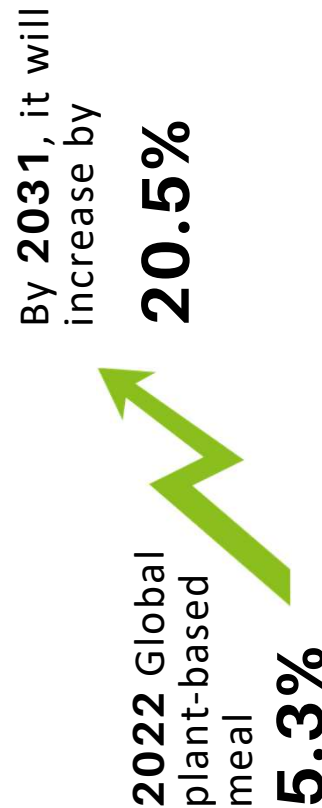
A study published in an Italian article journal, Environmental Public Health in Jan 2023

Association exist between soyfood or soybean products consumption and psychological symptoms.

**1** Secretion of brain hormones

**2** Isoflavones in soy act as anti-depresentants.

**3** Animal experiment reverted potential mechanism of action of Isoflavones

# Scope of Soy

**Demand**

Industrial Applications

Nutrition

Sustainability

Growth in income

# Soy for Industrial Application

Soybeans have found diverse uses in various industrial applications due to their **versatility and eco-friendl**y nature.
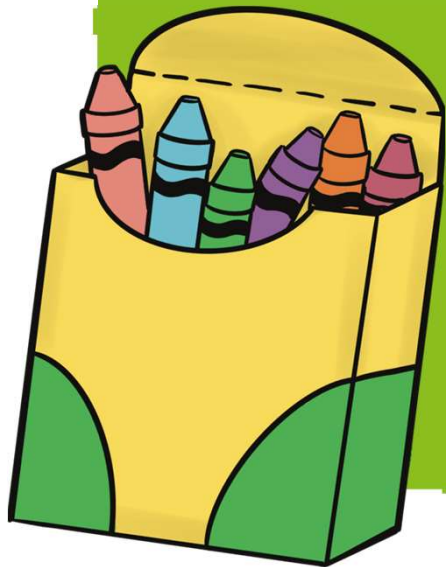
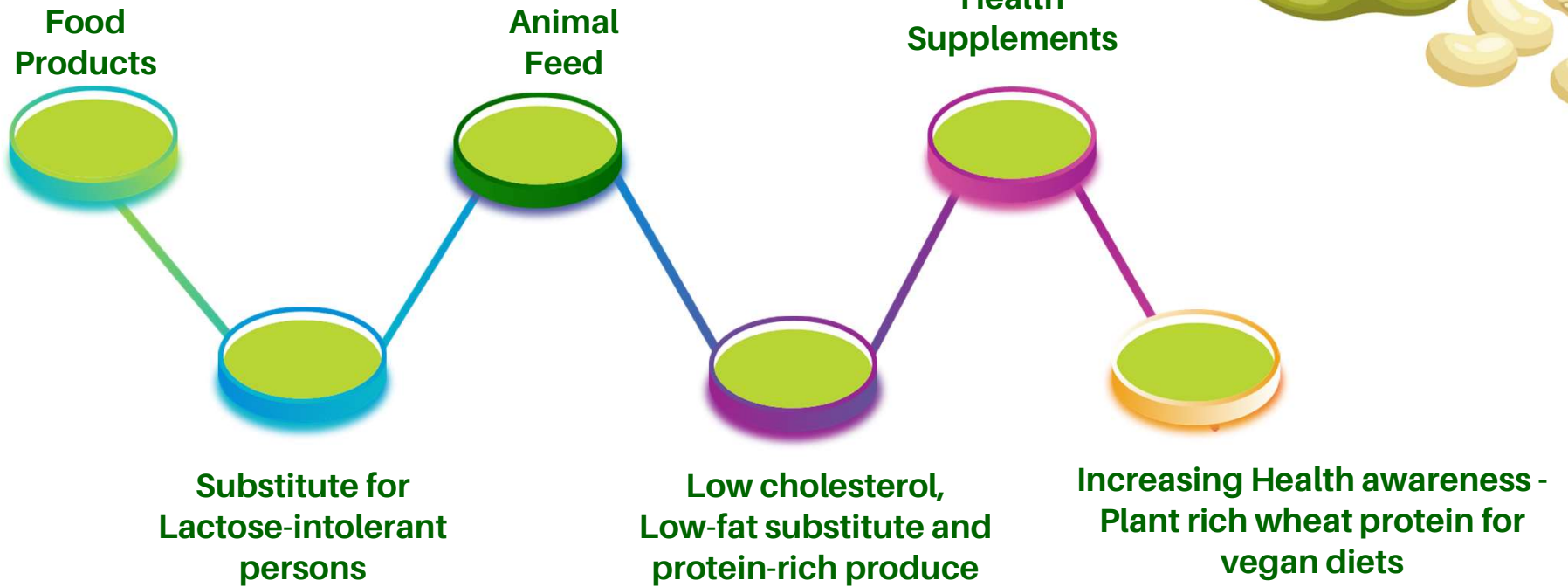**Biodiesel:** Soybean oil can be converted into biodiesel.

**Inks, Crayons, and Candles:** Made from soybean oil.

**Solvents & Cleaners:** Some are made using soy-based ingredients.

# Impact of Soy on Nutrition

**Food Products**

**Substitute for Lactose-intolerant persons**

**Animal Feed**

**Low cholesterol, Low-fat substitute and protein-rich produce**

**Health Supplements**

**Increasing Health awareness - Plant rich wheat protein for vegan diets**

# Soy Food Products & Health Supplements

**Food Products**

**Tempeh:** A fermented soy product consumed as a protein source.

**Soy Sauce:** A condiment made from fermented soybeans.

**Soy Milk:** A common dairy milk alternative.

**Edamame:** Young green soybeans often consumed as a snack.

**Tofu:** A popular meat substitute, especially in vegetarian and vegan diets.

**Soy Flour & Soy Protein:** Used in various food products like bread, cereals, and meat extenders.

**Textured Vegetable Protein (TVP):** Often used in meat analogues or as meat extenders.

**Soybean Meal: A major source of protein used in livestock feed.**

Soy Isoflavones: Often promoted for their potential health benefits

Soy Lecithin: Used as an emulsifier in many food products & supplements.

# Soy's role in a sustainable future

**1**

**Sustainable Agriculture:**
Soybeans can be grown sustainably,

**2**

**Crop Rotation:**
Soybeans are nitrogen-fixing plants and are often used in crop rotation to improve soil health.

**3**

**Genetic Modification:**
Soybeans are one of the primary crops that have been genetically modified for various reasons, such as resistance to certain pests.
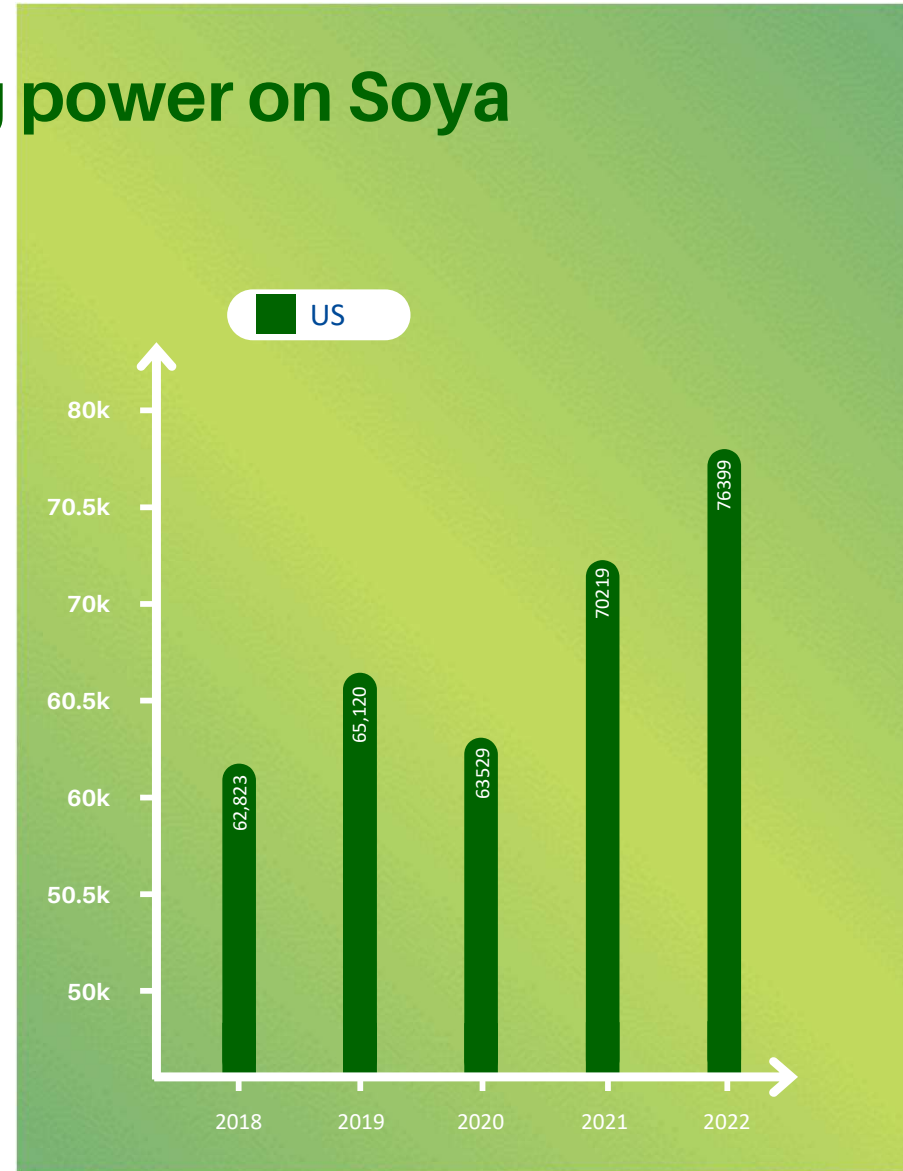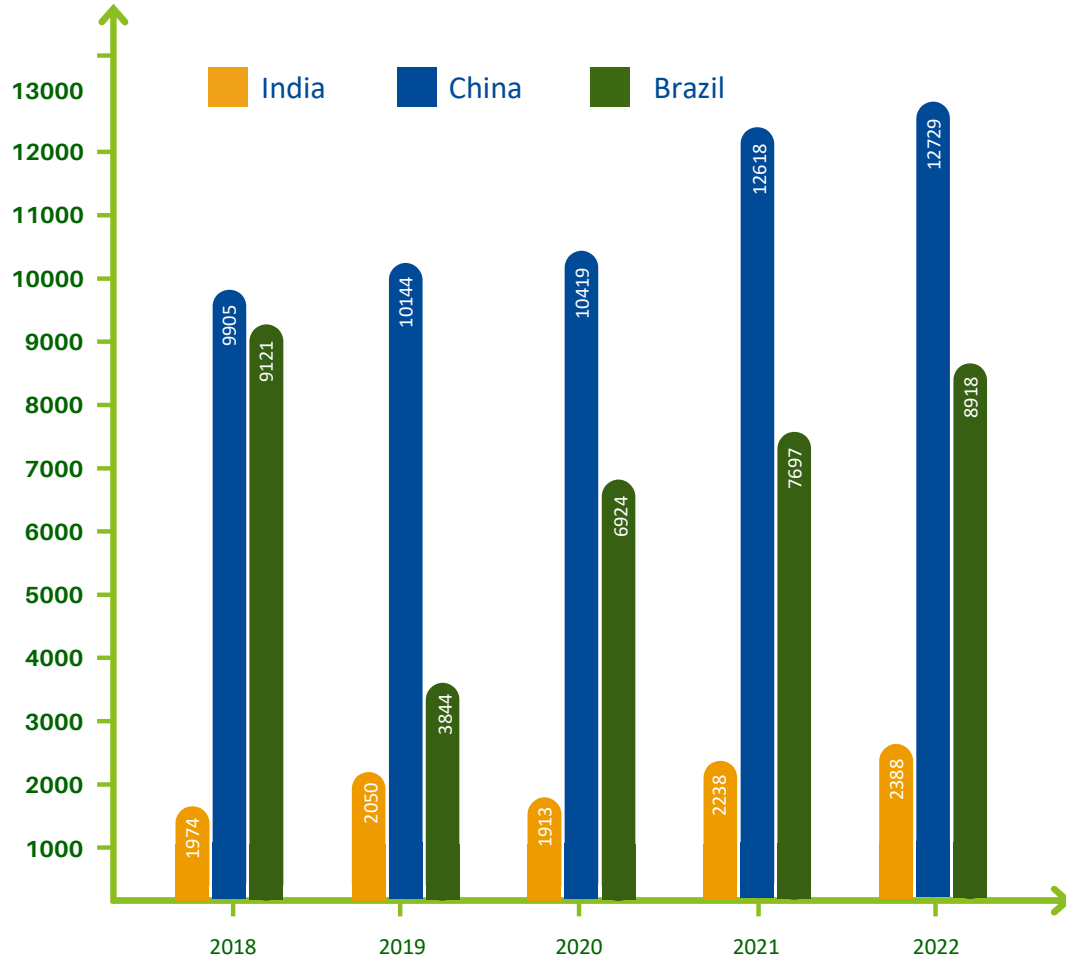
**4**

**Genetic Modification:**
Carbon Sequestration: Soybean plants can capture and store atmospheric carbon, playing a role in combatting climate change
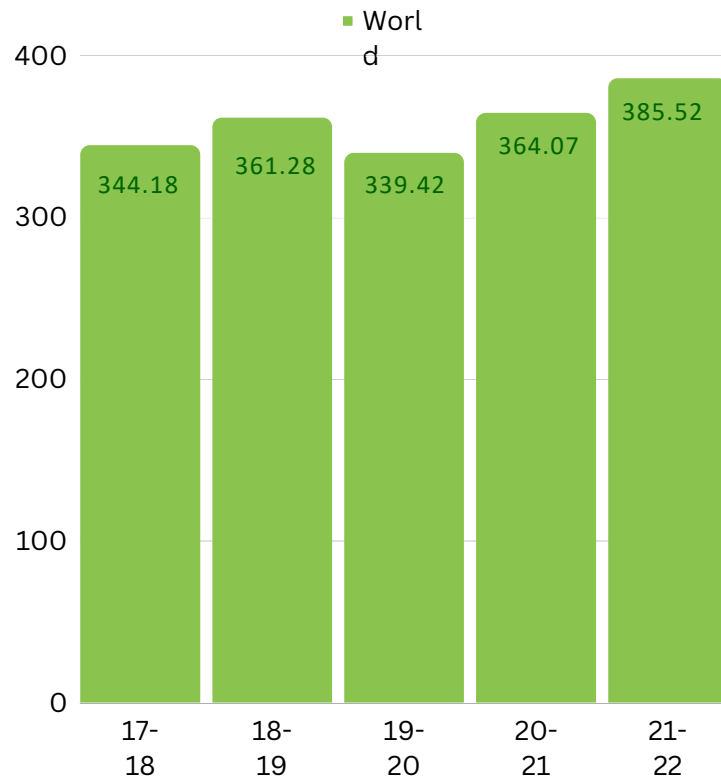
# Impact of purchasing power on Soya

# The growing market for Soy

185.16 BN
2023

259.7 BN
2028

CAGR - 7%

85%

Argentina
Brazil
US
Canada
Paraguay
Uruguay

North America - Fastest growing market

South America- Larger market

# Soy production



World

| 400 | |
| --- | --- |

Bar chart values:
- 17-18: 344.18
- 18-19: 361.28
- 19-20: 339.42
- 20-21: 364.07
- 21-22: 385.52

| Year | India |
| --- | --- |
| 17-18 | 8.35 |
| 18-19 | 10.93 |
| 19-20 | 9.30 |
| 20-21 | 10.45 |
| 21-22 | 11.20 |

Light Green to Dark Green : Soybean Farms.
Orange: Other pulses & crops, also there are high chances of intercropping in these fields.
Red: Trees / Fruit & Vegetables.
White: Trees

# Soybean Acreage

| STATE | DISTRICT | CROP | 2021-22 | 2022-23 | 2023-24 |
|-------|----------|------|---------|---------|---------|
| Madhya Pradesh | SHAJAPUR | Soybean | 284,807 | 253,479 | 272398 |
| Madhya Pradesh | Agar Malwa | Soybean | 166,167 | 144,565 | SOPA |
| Madhya Pradesh | Ujjain | Soybean | 509,257 | 483,794 | SOPA |
| Maharashtra | Akola | Soybean | 231,961 | 255,157 | SOPA |
| Maharashtra | Nanded | Soybean | 415,310 | 448,535 | SOPA |
| Maharashtra | Parbhani | Soybean | 276,896 | 296,279 | SOPA |

* All area unit is in hectare (ha)
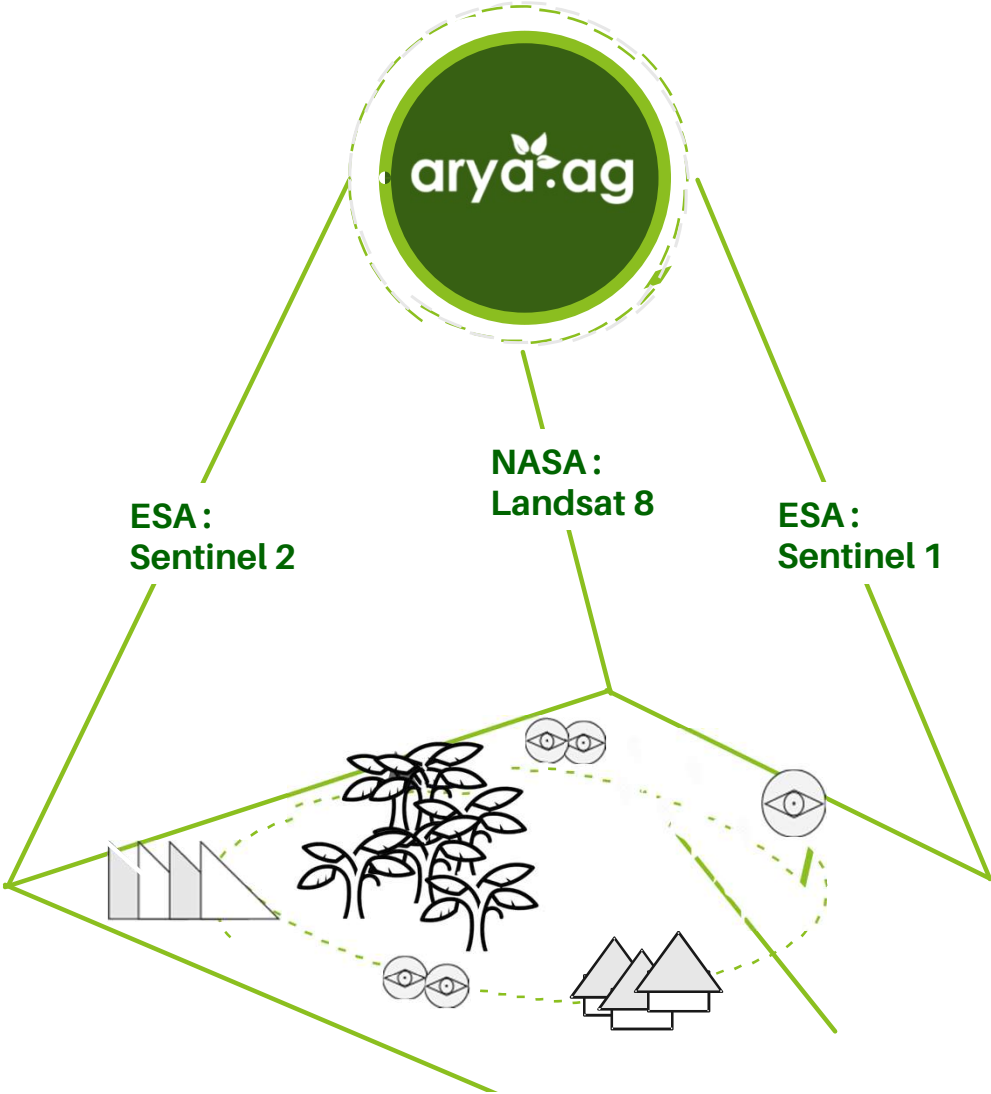* Arya has done tie up with sopa, the numbers will be presented by sopa shortly

# Production

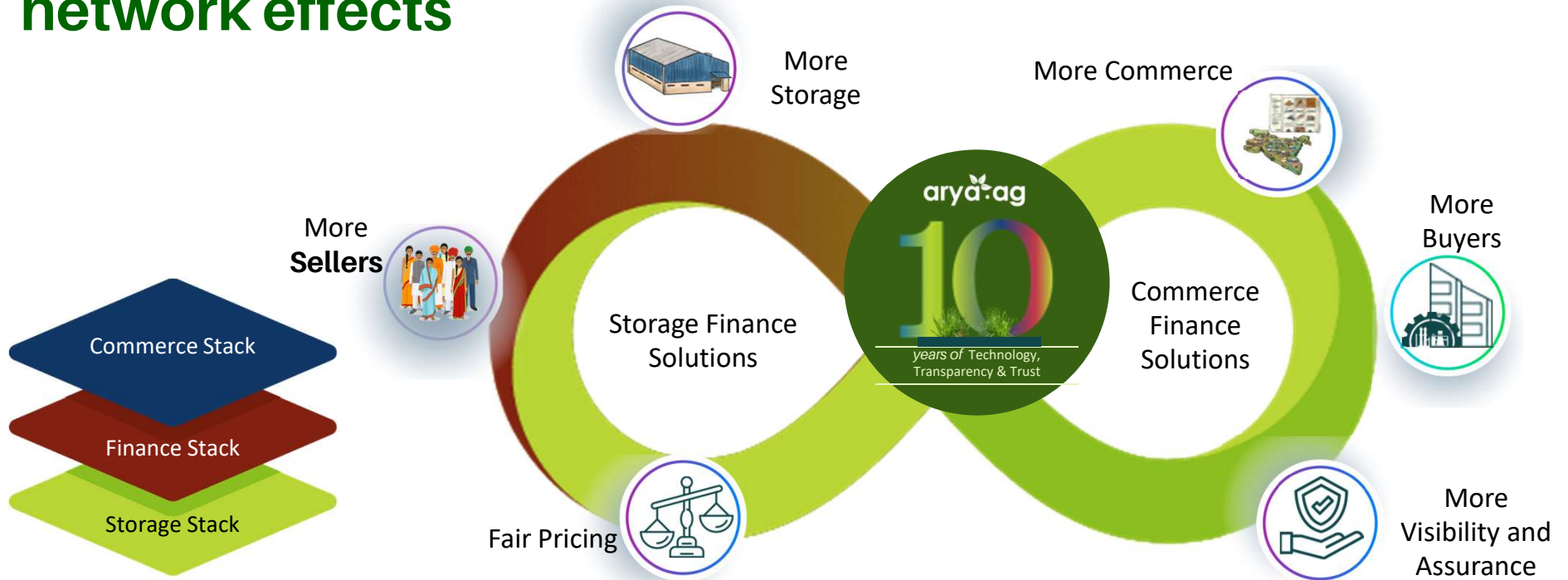| COUNTRY | INDIA |
|---------|-------|
| CROP | Soybean |
| YEAR | 2022-23 |
| GOVT | 149.76 |
| ARYA | 143.01 |
| CHANGE % | -4.5 |

Tonnes

# Our flagship offering, Satellite Data Intelligence

We leverage advanced AI and machine learning techniques to analyze satellite imagery for monitoring farms, crops & area of operations across the globe.

| >90% | 07 | 50+ |
|---|---|---|
| AI Models Accuracy | Days Revisit | Crop Portfolios |



**arya.ag**

**ESA :** Sentinel 2

**NASA :** Landsat 8

**ESA :** Sentinel 1

# An integrated platform enabling network effects

# Sectors we impact

## Inputs and Chemical
Farm Stress and Catchment Analysis

## Banks and Insurance
Farm Credit and Income Assessment

## Seed and Processors
Member and Trials Farm Management

## Corporate & Government
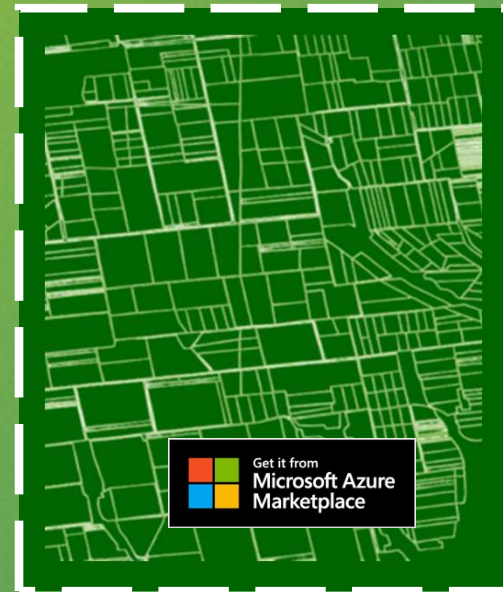Farm Sustainability & Carbon Monitoring
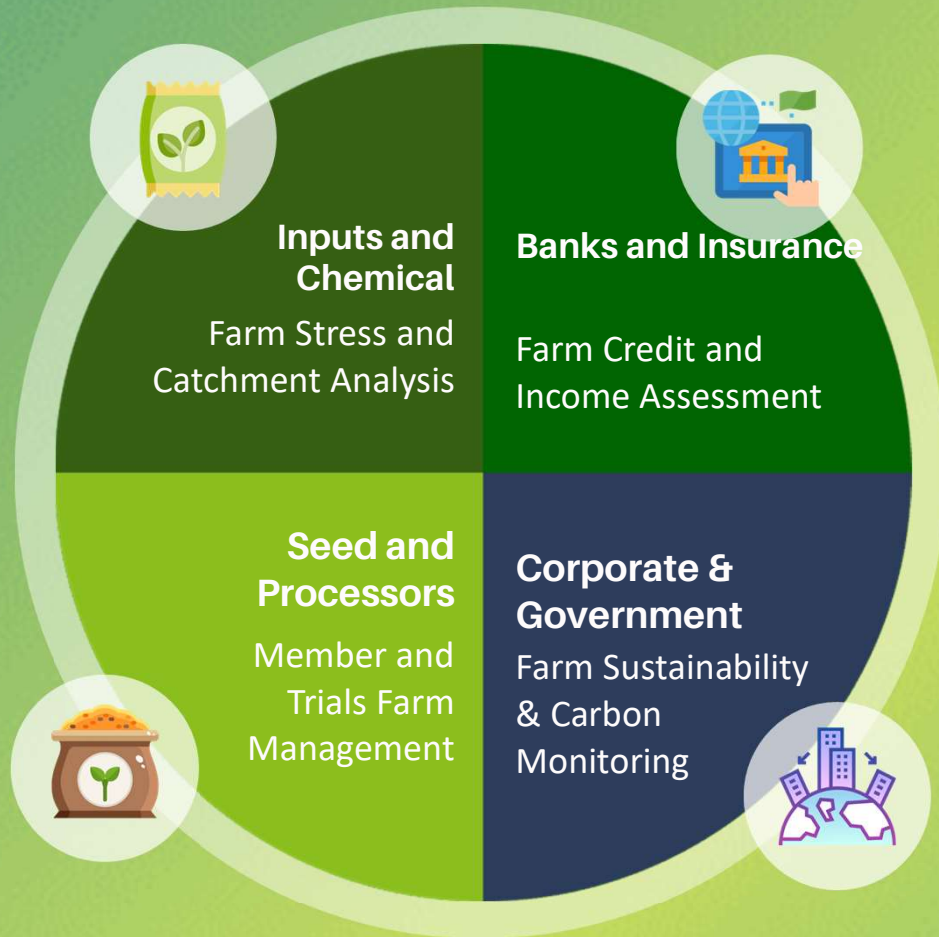
# Farm Boundaries

## The Need for Mapping
Essential for Effective Land Management and Crop Production

## 70x Fast and Accurate
Our AI Technology Provides Precise Farm Boundary and Reduces Physical Fieldwork

## Best Quality
Trained on 1.1 Billion+ segments over 11 million training images. Accuracy > 97%.

Get it from
Microsoft Azure Marketplace

# Farm Insights



> **Boundaries**
Ease user onboarding on digital platforms

> **Activities**
Strategic Sowing & Harvest Timing for Growth & Risk Control

> **Soil Moisture %**
Improving Water Usage with Timely Irrigation Triggers

> **Credit & Income**
Analysing Past Years Crop History and Management Practices

> **Score & Rankings**
Improve Farm Performance & Sustainability

> **Stress**
Analyzing Stress Zones for Optimal Farm Management.

🔴 DAMAGED    🟡 STRESSED

🟢 HEALTHY

# Catchment Understanding



> **Crop Classification**
Identification & distribution of types of crops using AI

> **Stress Projection**
Algorithms for projection of losses, i.e, biotic, abiotic, nutrient, weather-based

> **Production Estimate**
Estimate to Improve Portfolio and Reduce Risks

> **Time Calendar**
Tracking Time & Intervals of Sowing and Harvesting.

> **Year-over-Year**
Comparison from Last Year for Decision Making

> **Resolution**
Leveraging Data for better Analysis

🟠 STATE    🔵 DISTRICT
🟣 TALUKA    🟣 VILLAGE

# Mobile App
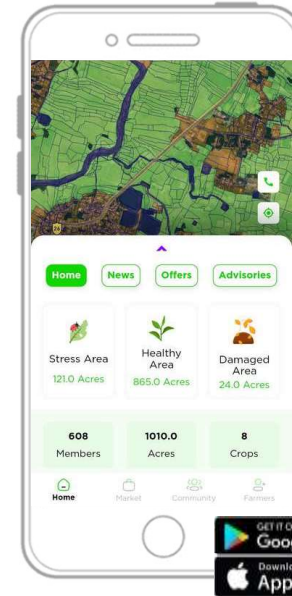


> **Home**
Access Reports, News, Expert Advice, Weather, Offers & Discounts.

> **Market**
Find Mandi Prices, Connect Buyers & Sellers, Avail Loans

> **Member:**
Monitor Farms, Connect with Members, Manage Crop, Plan Input Sales & Purchases

> **Community**
Solve issues via Video calls, Announcements, Broadcast Messaging

> **Digital Shop**
Create Own Shop to Share Product

> **Multi-Lingual**
Available in 6 languages.

**Thanks!**

Do you have any questions?
anand@arya.ag , navneet.rai@arya.ag

www.arya.ag