Horticulture Supply Chains
Global Trends

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Key Drivers of Change

01
Demographics
- Growing world population
- Urbanization
- Rise of African and Asian middle class

02
Environment
- Climate change
- Regenerative farming

03
Marketing
- Health and wellness
- Product origin
- E-commerce

Horticulture Supply Chains - Global Trends

Production

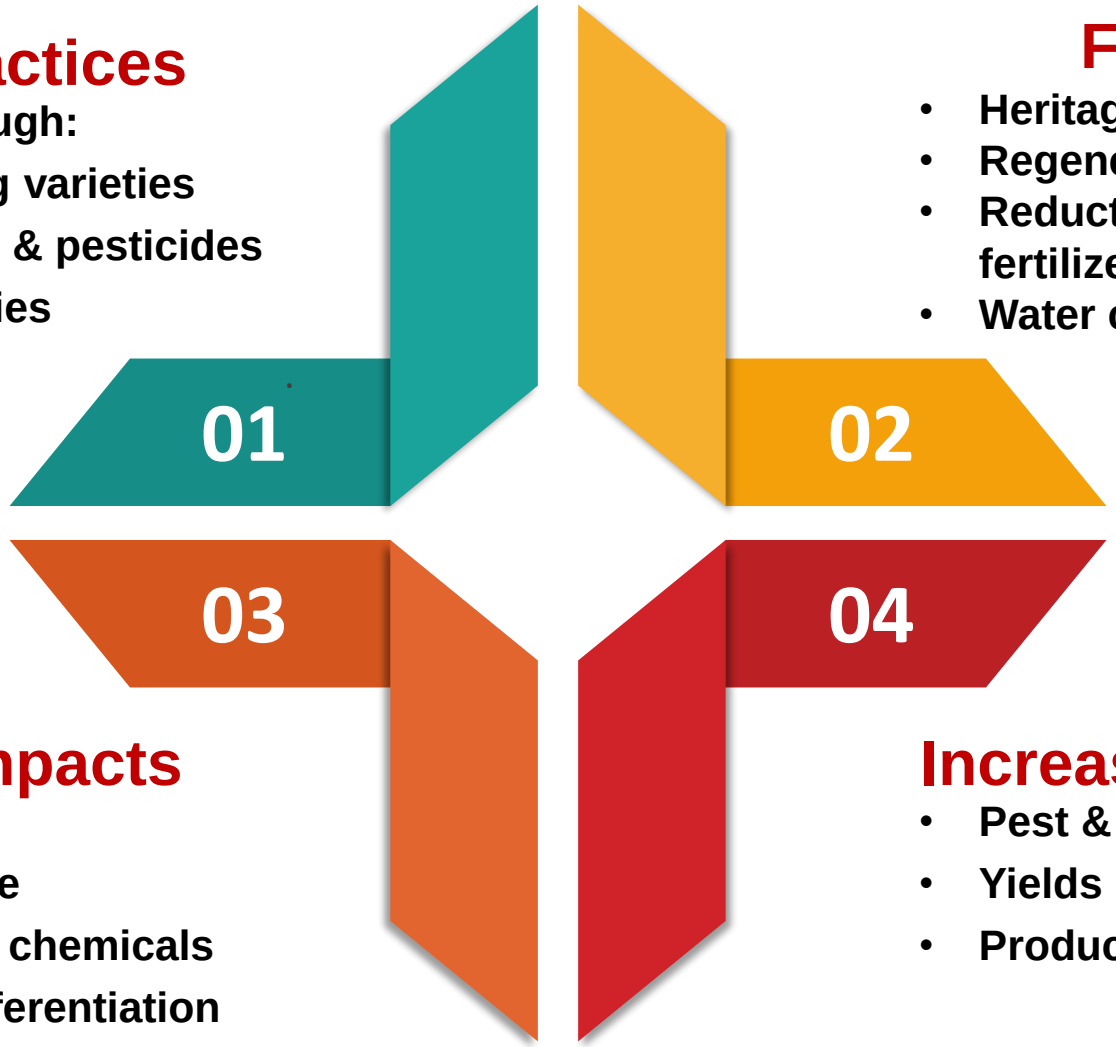
Current Practices

Increasing yields through:

- Use of high yielding varieties
- Inorganic fertilizers & pesticides
- Higher plant densities

Future Trends

- Heritage varieties
- Regenerative farming techniques
- Reduction in use inorganic fertilizers & pesticides
- Water conservation



Negative Impacts

- Soil degradation
- Excessive water use
- Increase in harmful chemicals
- Lack of product differentiation

Increase Crop Monitoring For

- Pest & disease problems
- Yields & harvest schedules
- Product quality

Farm to Market

CURRENT

- Poor Supply and Demand Match
- Long Transit Times
- High Shrinkage
- Excessive Use of Plastics
- Un-coordinated Logistics
- Poor Transparency along the chain
- Variable Product Quality
- No overall responsibility of product
- Consumer has limited involvement
- High Carbon Footprint

FUTURE

- Pick and pack to order
- Reduced transit times = reduced losses
- Bio-degradable / recycle packaging
- Low energy logistics
- Product quality matched consumer needs
- Shared and collaborative responsibility for product
- Consumer directly involved in product choice

Future Producer

Responsible For Data On

- Field location
- Growing conditions (soil, weather)
- Production management (use of fertilizers, pesticides)
- Varieties
- Yields
- Harvest schedules

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Analyses Data On

- Market demand
- Consumer preferences

Future Logistics

Received Data On

01

- Product origin and destination
- Optimum product handling and storage

Adds Data On

02

- Delivery time
- Transit time
- Transit temperatures and humidity

Marketing

Retailer has:

- Full transparency on product specifications and delivery
- Can adapt orders and organize promotions

Consumer scans QR Code to get real time information on:

- Harvest time, age and remaining shelf life
- Available varieties
- Quality characteristics, colour, brix, shape, aroma etc.

Supply Chain Management

- Provides real time data:
- Humidity
- Weight loss
- Location
- Nutritional and sensor qualities

Industry 4 “The Internet of Things”

- Accurate traceability
- Food safety
- Verifies contract terms

Blockchain Technology

MAGNET

MAHARASHTRA AGRICULTURE NETWORK

A Project jointly funded by the Government of Maharashtra & the ADB Grant Thornton Bharat LLP is working as project implementation support consultant

MAGNET aims to improve the competitiveness of horticulture value chains in domestic and international markets

PRESENTATION TEMPLATE

MAGNET

A Transformational Agent

Production

SMART Irrigation Systems

Drones for P & D control & yield surveillance

Precision Agriculture: soil testing, minimum tillage

Evaporative coolers

Processing

Optical graders

Modified atmosphere packaging

Pre-cooling with solar cool stores & CoolBot

Pomegranate & custard apple processing

Solar fruit driers

Logistics

Ice-batteries

Digital Supply chain management

Farmer Owned & Funded

Data on:
- GAP
- Maturity
- Harvest time

Data On:
- Pick-up from orchard
- Delivery to ship
- Shipping schedules
- Humidity & temp. profile during transport

Data On:
- Out-turn quality
- Shelf life
- Consumer reaction
- Competitors

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- New varieties
- Post-harvest
- Orchard management

Data On:
- Quality
- Residue
- Product tracing
- Grades
- Storage conditions

Data On:
- Ethic trade
- Workers welfare
- Environment

THANK YOU