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A woman with dark hair, wearing an orange hard hat and a yellow safety vest over a grey shirt, is smiling and holding a tablet. She is in an industrial setting with blue machinery and lights in the background.

## Development of industrial parks lessons learned from Agro-Food parks development

D.Tezera  
Shanghai  
July 2023



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# UNIDO at a glance

- Headquarters in **Vienna**,
- liaison offices in political capitals **Brussels Geneva and New York**.
- field network **47** regional hubs, and regional and country offices covering **156 countries**

UNIDO maintains **Investment and Technology Promotion Offices** in nine locations (**Beijing, Bonn, Lagos, Manama, Moscow, Rome, Seoul, Shanghai and Tokyo**).



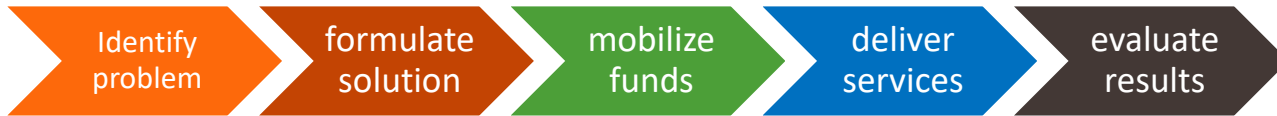
**~1 Billion portfolio and 1000 projects .. 170-200 Million USD/per year**

**171  
Member  
States**

UNIDO employs **2,200**  
staff members and experts from  
139 countries  
43 F and 57 men



# Mode of Operation (technical cooperation)



- Problem is identified (Government request, Field representatives, donors, partners)
- UNIDO experts formulate a technical response (the project) together with the “client” the project document is discussed with donors
- UNIDO executes the project
- During the execution, progress is monitored; after the execution results are assessed, impact measured, lessons elicited



# UNIDO Approach for Agro-Industrial Parks development



**MAXIMIZING IMPACT**  
Leveraging our TC for large scale investment flow partnership

## traditional Project Cycle



**PROJECT DEVELOPMENT / IDENTIFICATION**

- 30-50,000\$
- Resources: UNIDO



**PROJECT PROGRAMME / IMPLEMENTATION**

- 1-5 Mio.\$
- Resources: UNIDO, donors (government, public and private partners)

## New Project Cycle



**PROJECT DEVELOPMENT / IDENTIFICATION**

- 30-50,000\$
- Resources: UNIDO



**PROJECT studies /pre/feasibility/ESIA**

- 1-5 -3.0 Mio.\$:
- UNIDO, donors (government, public and private partners)



Scale Up



**SCALING UP / INVESTMENT**

- 20-400 Mio.\$
- Resources: Development finance institutions, UN system, private sector, bi- and multilateral development partners





## UNIDO and Agro-Industrial Parks

**1980s**



UNIDO has supported  
Member States in  
development of IPs since  
the 1980s

**2023**



16 IAIPs currently supported, at different stages of  
development:

Pooling in-house expertise, partnerships and long-term  
agreements with different partners

**2005**



Since 2005, UNIDO is working with partners in supporting  
IAIPs (AFPs, AIPs, IAIPs , Agropoles, SAPZs...)

**2005-2023**



Continuously gaining experience, and expanding  
partnerships

Supporting several AIPs, offering support in capacity  
building for institutions engaged in AIP development



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# Importance of agriculture and agribusiness for developing countries



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## GLOBAL AGRICULTURAL PRODUCTIVITY

- 50% population,
- 80% export
- 30 to 70% GDP AGRICULTURE VALUE ADDED PER WORKER, SSA (2017)

Developing countries  
USD 336



MIDDLE-INCOME COUNTRIES  
USD 1,060



HIGH-INCOME COUNTRIES  
USD 18,497

WORLD AVERAGE: USD 1,201





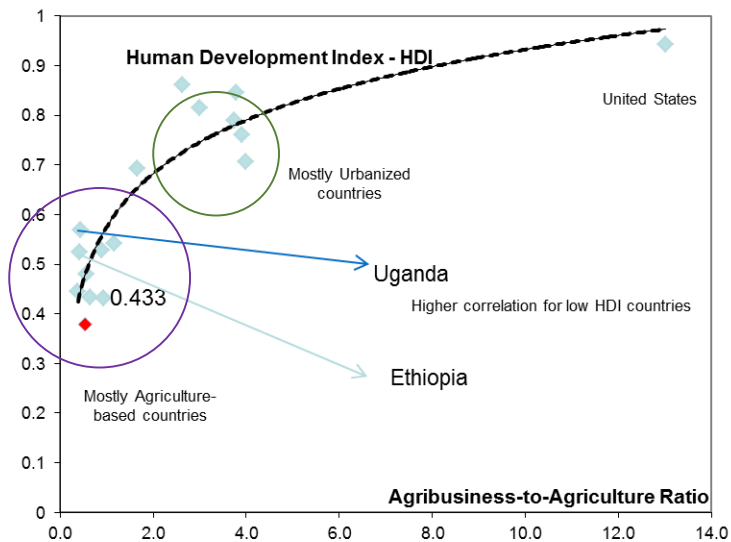


# THE IMPORTANCE OF AGRO-INDUSTRIALIZATION

- ★ Agro-industries provide a critical stepping-stone to industrialization: activities that enable emerging economies to expand their manufacturing potential and industrial output
- ★ A pivotal role to play in the growth of developing countries and economies in transition
- ★ 2030 Agenda for Sustainable Development recognizes the importance of inclusive and sustainable industrialization in meeting urgent development challenges: SDGs: 1, 2, 3, 8, 9, 12, 13, 17



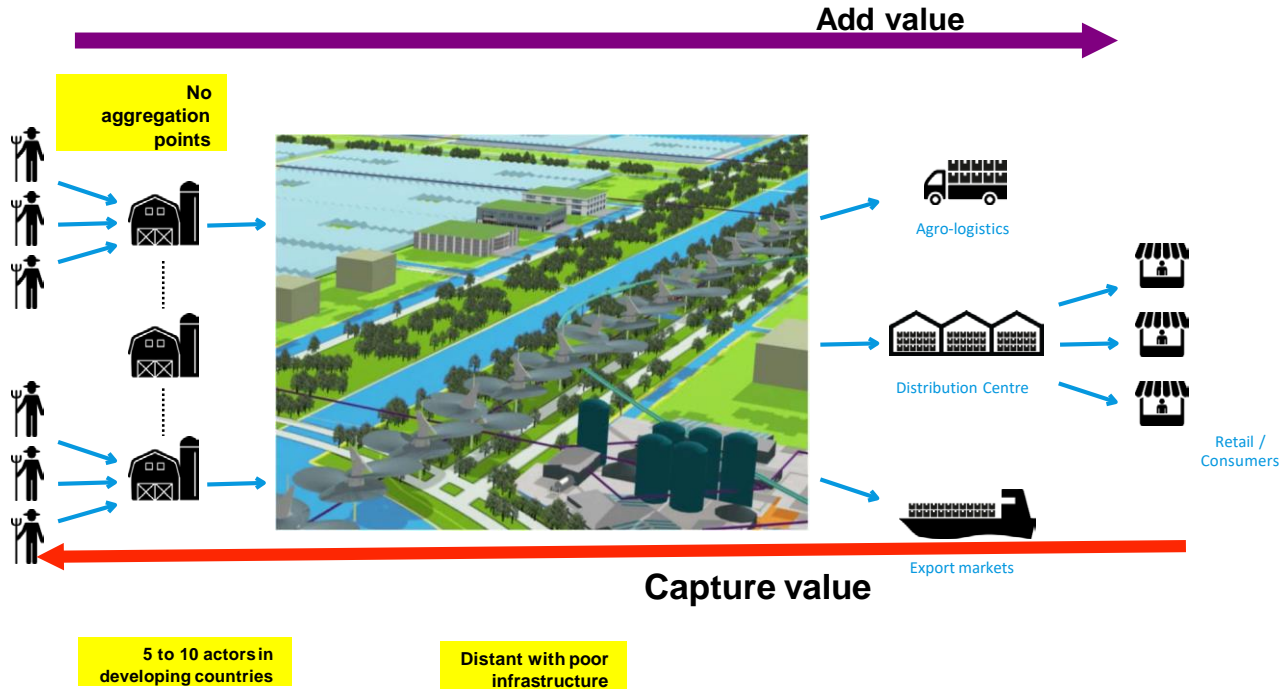
## Importance of Agribusiness



Countries	Agriculture %GDP	Agribusiness % GDP*	Ratio (ab/agr)
South Africa	4	16	4.00
Nigeria	42	16	0.38
Côte d'Ivoire	28	26	0.93
Ethiopia	56	30	0.54
Uganda	41	23	0.56
Kenya	26	23	0.88
Zimbabwe	18	21	1.17
Cameroon	40	17	0.43
Ghana	44	19	0.43
Tanzania	32	21	0.66
USA	1	13	13.00
Brazil	8	30	3.75

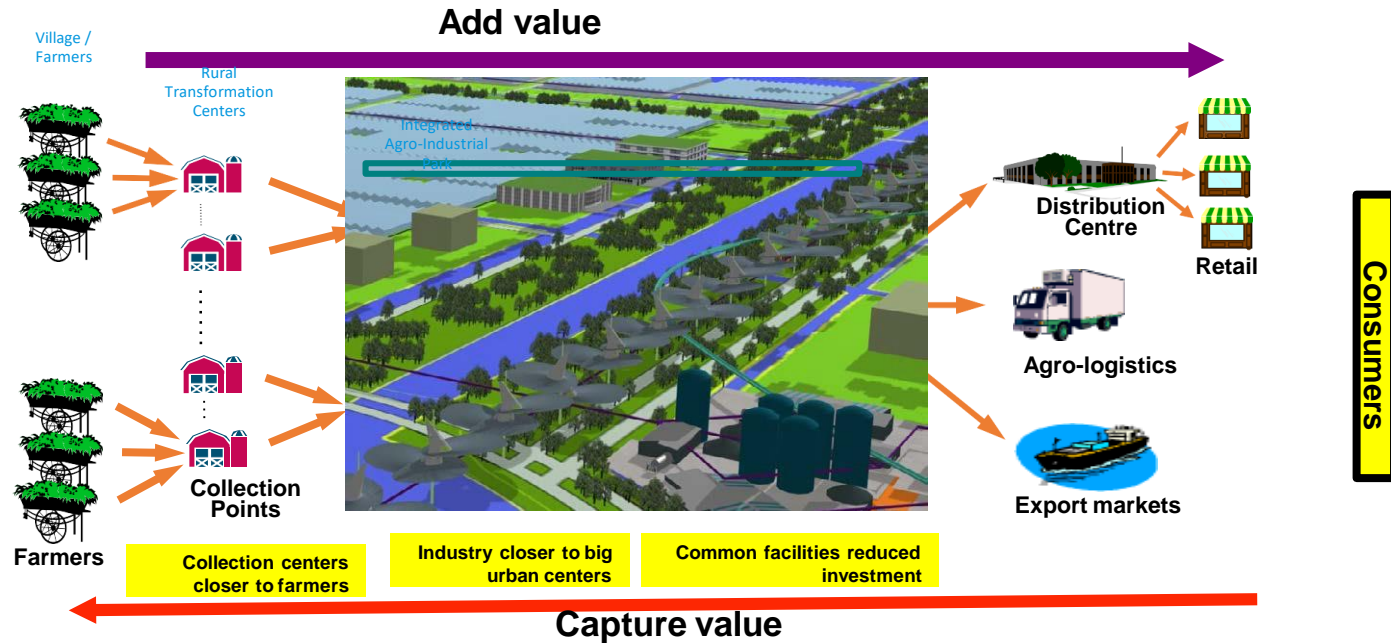
The (AGRB/AGR) is becoming a proxy for measuring the development of a country.

## TRADITIONAL VALUE CHAIN (LESS EFFICIENT)





# COMMERCIAL FOOD SUPPLY CHAIN (COLLECTIVE EFFICIENCY)





## CRITICAL CHALLENGES: AGRICULTURE AND AGRIBUSINESS SECTORS

QUANTITY AND QUALITY OF RAW  
MATERIALS

Prohibitive for investment in the  
sector

HIGH INITIAL INVEST COSTS

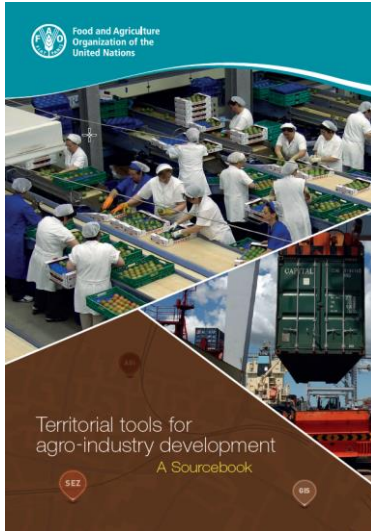
LOW PRODUCTIVITY

WEAK SUPPORT SERVICES

WEAK LOGISTICS AND TRADE  
FACILITATION SYSTEMS



# Can territorial development/AFP's unlock the critical challenges ?





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## What is agro-food park

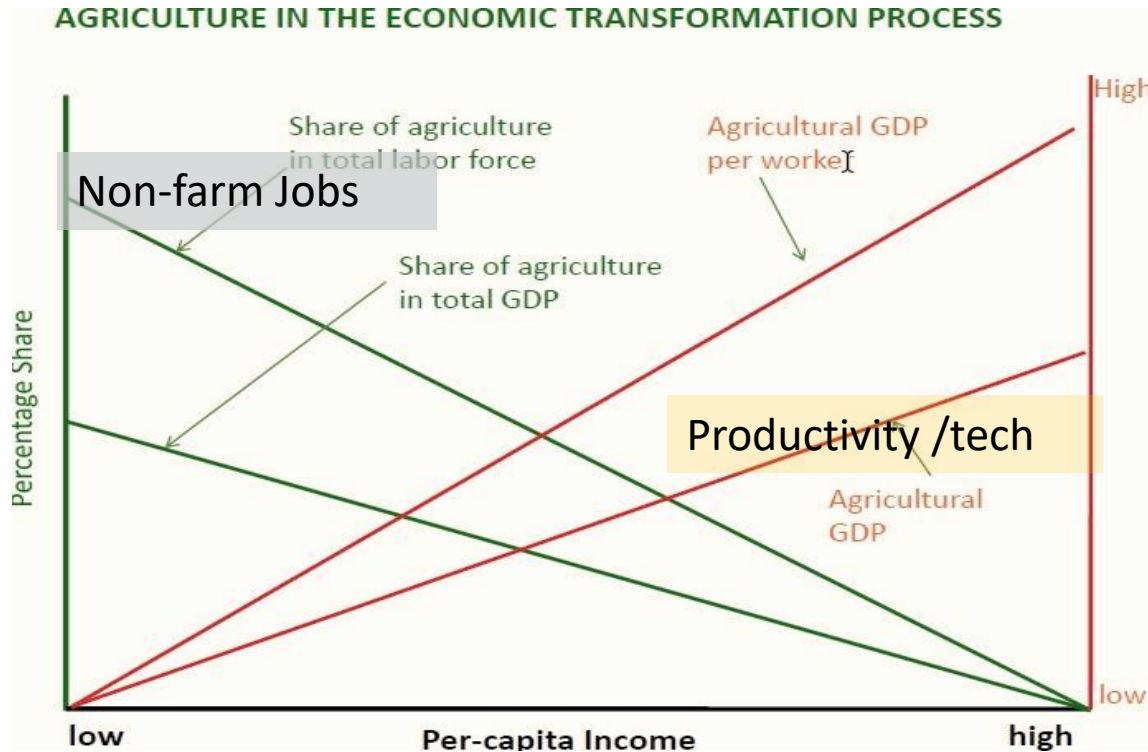
### INTEGRATED AGRO-FOOD PARK

An agribusiness development corridor integrating value chain actors with high-quality infrastructure, logistics and specialized facilities and services to create economies of scale for sustainable market-driven agribusiness development and rural transformation.

**Different than Industrial Zones !!- why?**



# The need for structural transformation



- Off-farm Job creation
- Shift from low productivity to High productivity sectors (Manufacturing and services)
- Increase household income (reduce disguised unemployment)
- Efficient linkages farmers to markets (Local, regional and global)





# Why Agro-food parks?

Create responsible, and sustainable investment opportunities in agriculture and agribusiness



Address infrastructure- and utilities and related issues  
Shared services

Integration of the supply chain allowing efficient flow of produce to industry and market (small holder farmers market access)

- Provide a platform for industry agriculture interaction and trade facilitation year-round (B2B)
  - One stop service

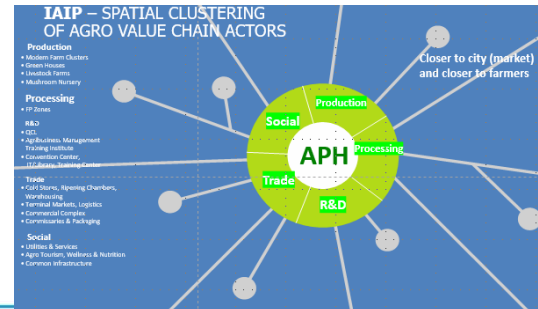
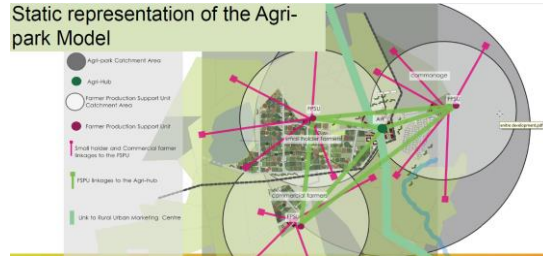
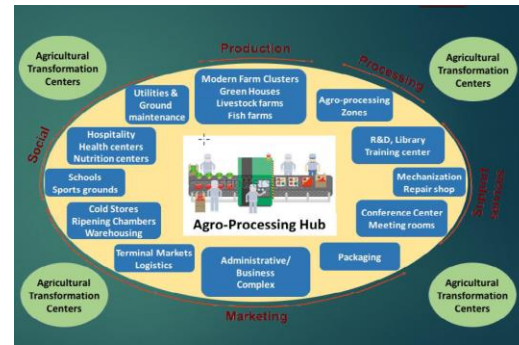
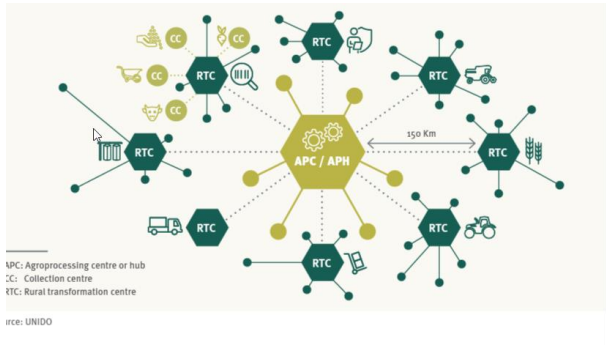
- Provide traders/exporters with market intelligence and information

- Transfer of technology in agriculture and processing

Develop entrepreneurship skills of the farmers  
RURAL/Regional Development



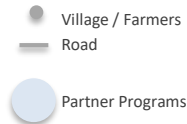
# Agrofood park models



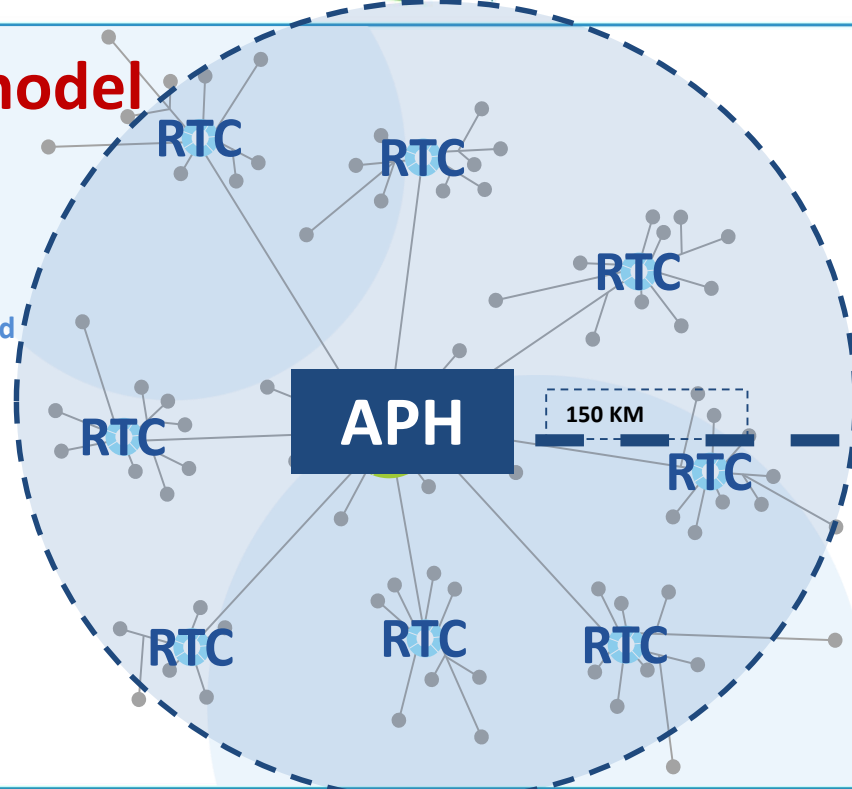


# Unpacking the model

- IAIP connecting rural transformation centers demarcated area of 50-200 KMs radius
- Agribusiness growth corridors
- Rural development
- Modular approach



IAIP = Integrated Agro-Industrial Park  
RTC = Rural Transformation Center





## IAIP – SPATIAL CLUSTERING OF AGRO VALUE CHAIN ACTORS

### Production

Modern Farm Clusters  
Green Houses  
Livestock Farms  
Mushroom Nursery

### Processing

FP Zones

### R&D

QCL  
Agribusiness Management  
Training Institute  
Convention Center  
IT/Library, Training Center

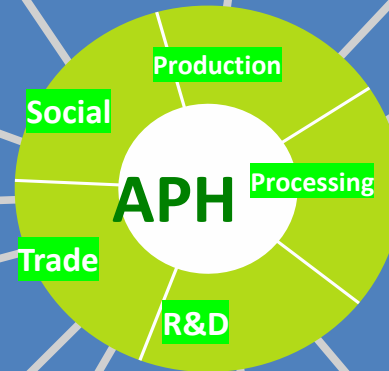
### Trade

Cold Stores, Ripening Chambers,  
Warehousing  
Terminal Markets, Logistics  
Commercial Complex  
Commissaries & Packaging

### Social

Utilities & Services  
Agro Tourism, Wellness & Nutrition  
Common Infrastructure

Closer to city  
(market) and closer  
to farmers





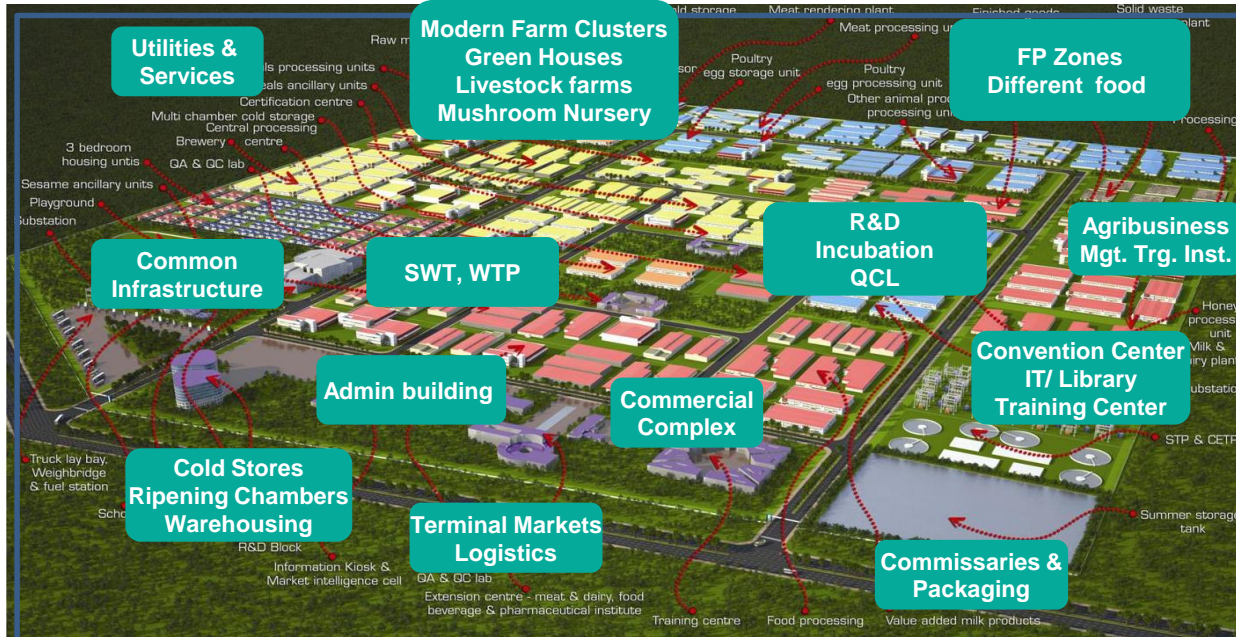
## Typical Agro-processing Hub (APH)



- 276 of 1000 ha
- 40 Kms from City ...
- Modular.
- Horizontal infrastructure
- Rural/urban
- 6 RTCs
- Investment 227 MUS\$
- Total investment 310 MUS\$



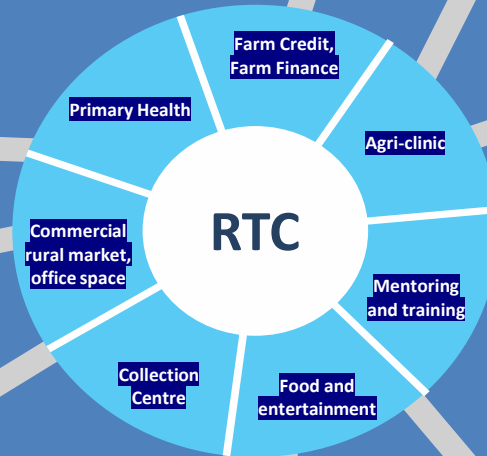
# IAFPs include:





## Rural Transformation Centers (RTC)

Aggregation centers for  
central processing unit  
provide services to farmers





## **RURAL TRANSFORMATION CENTERS PROVIDE SERVICES TO SHFs AND ENTERPRISES**

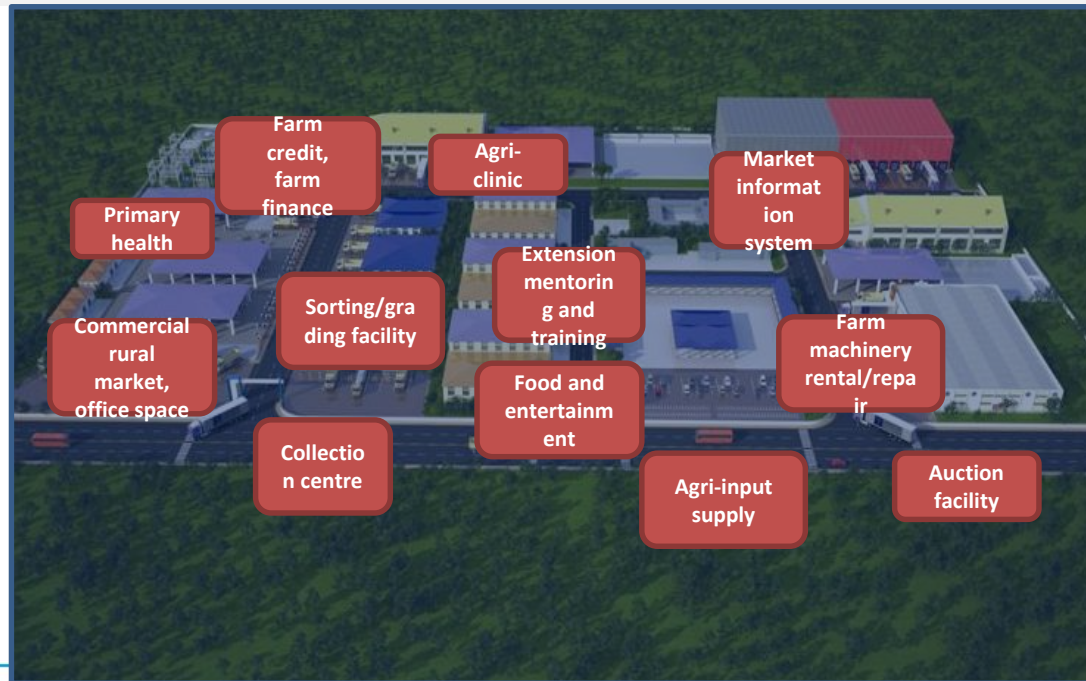
<b>Agricultural input supply control, in terms of quality, quantity and timeous deployment of inputs</b>	<b>Sorting of produce for local and other markets</b>
<b>Extension support and training, using Universities, agricultural graduates and VTCs, Polytechnic ..</b>	<b>Packaging of produce for local markets Local storage</b>
<b>Mechanization support (tractor driving, ploughing, spraying, harvesting etc.)</b>	<b>auction facilities for local markets</b>
<b>Machinery, servicing workshop facilities</b>	<b>Processing for local markets (small scale mills, etc.)</b>
<b>local logistics support, (delivery of farming inputs, harvest transportation to local markets</b>	<b>Transfer of technology in agriculture and processing</b>
<b>primary produce collection aggregation Banking facilities</b>	<b>Fuel (energy center)</b>
<b>Provide Market information on commodity prices (ICT)</b>	<b>Develop entrepreneurship skills in farmers</b>







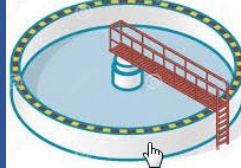






# Typical Rural Transformation Centre



# Zones in IAIPs

<p><b>1. Industrial zone</b></p> 	<p><b>2. Specialized infrastructure zone</b></p> 	<p><b>3. Logistics zone</b></p> 	<p><b>4. Institutional and amenities zone</b></p> 
<p>Focus crop processing units (units, value addition centres, etc.)</p>	<p>Common service centers, quarantine facilities, quality control labs, QA / QC labs, R &amp; D centre, etc.</p>	<p>Loading and unloading yards, transportation hubs, cargo handling centers, procurement centre, etc.</p>	<p>Crèche, knowledge cell, extension center, library, shopping, retail, poly clinic, recreational areas, buildings, etc.</p>
<p><b>5. Multi facility complex utilities</b></p> 	<p><b>6. Residential zone</b></p> 	<p><b>7. Greenery and walkways</b></p> 	
<p>ETP, STP, WTP, SWM, compressor / chiller / boiler networks, electrical substation, etc.</p>	<p>Multi formatted housing, guest houses, etc.</p>		



# BENEFITS OF IAIPS

<b>Creating jobs in more productive sector</b>	<b>Transformation agricultural system</b>
Parks absorbing the over-supply of labor in the agricultural sector along the VC	From supply driven to demand driven
<b>Clustering of farms</b>	<b>One-stop-shop services reduce</b>
Private sector lead extension and capacity building contract farming (fragmentation)	Reduce bureaucratic red tapes
<b>Reduce initial investment and operational cost</b>	<b>Reduce rural urban migration</b>
Infrastructure and shared services	Create a favorable condition/opportunities for rural youth
<b>Environmental and social sustainability</b>	<b>SMEs development</b>
Common waste treatment plant/industrial symbiosis, capture value from waste.by-product	Support the SME development linkages with the investors in the park



## Some Investment areas/private sector

Agriculture input sector	Agri engineering	Agri industry and food processing	Capacity building, skill development & training	Agri logistics	Others
Agri input, agri chemicals, organic fertilizers and organic pesticides	Green house manufacturing	Agro based industry	Hi-tech and biotechnology based agriculture and research	Handling of perishable and non-perishable commodities	Agri and rural financing
Irrigation sector – micro irrigation	Energy supply and management for processing and storage parks and RTCs	Tissue culture	Agri education & knowledge hub	Transportation and warehousing solutions	Agri tourism
Hi-tech and precision agriculture and horticulture	Farm mechanization, conveying, transport and storage facilities	Food technology & food engineering, food processing	Soil, water and nutrient testing	Bulk material handling and conveyor systems	Renewable energy
Bio energy, soil conservation, plant growth regulators and micro nutrients	Field handling and storage systems	Fruits and vegetables processing	Dissemination of market information data	People transportation from and within development nodes	IT application in water resources, irrigation, agriculture
Seeds, greenhouse cultivation		Grain processing	Agri portal, agri clinics		Crop insurance





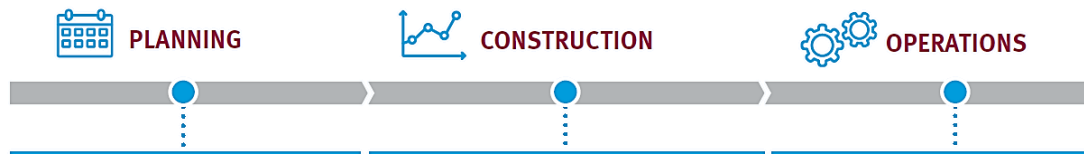
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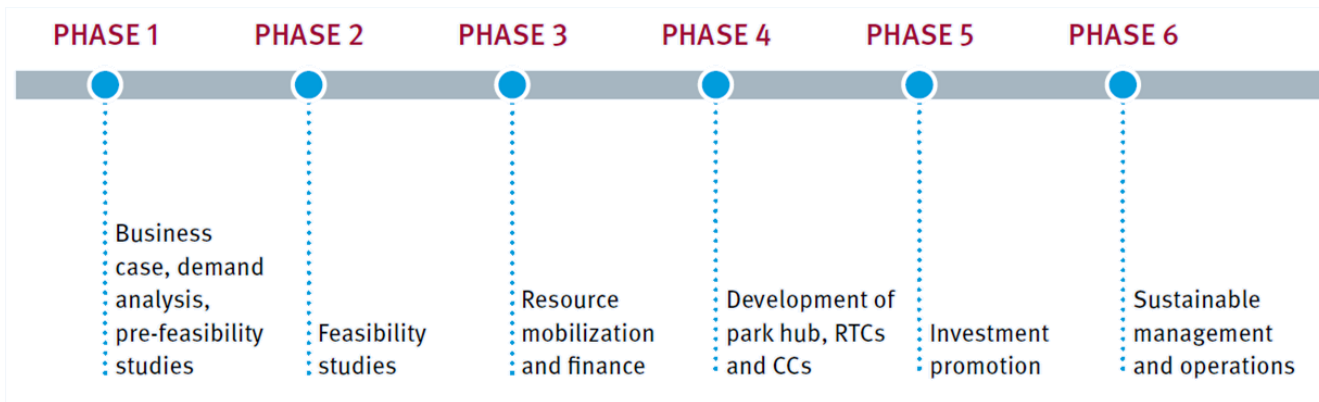
# **INTEGRATED AGRO-FOOD PARK: PLANNING**

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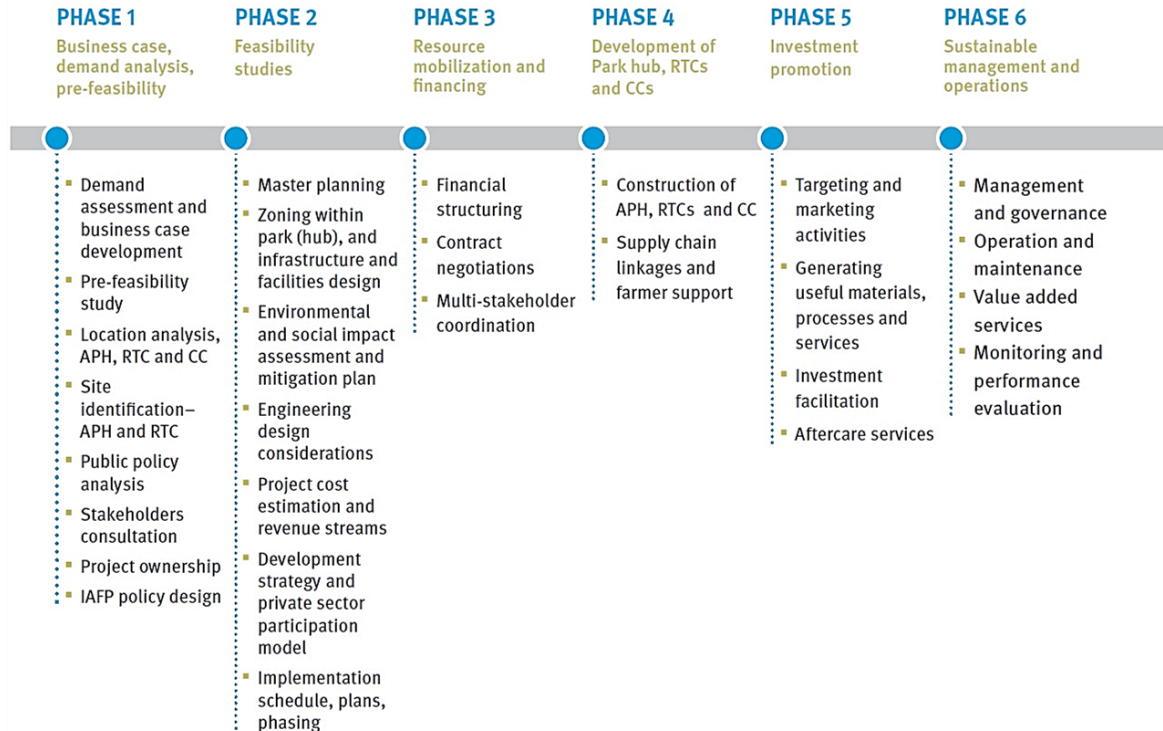
## IAFP PLANNING (7-10 YEARS)



## PLANNING PHASES



## PLANNING PHASES: DETAILS





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## PROJECT OWNERSHIP

- Project structuring and establishment / **identification of special purpose vehicle**
- Governance & management structure of the development of IAIP
- Legal framework and governance structure of the IAIP
- Land access and rights/usage mapping in IAIP including legal implications
- Management of common facilities, mobilization of resources
- Leasing prices of developed land
- Propose level of government assistance
- Scope for public-private participation for commercial operation
- Implementation and subsequent operations of the project







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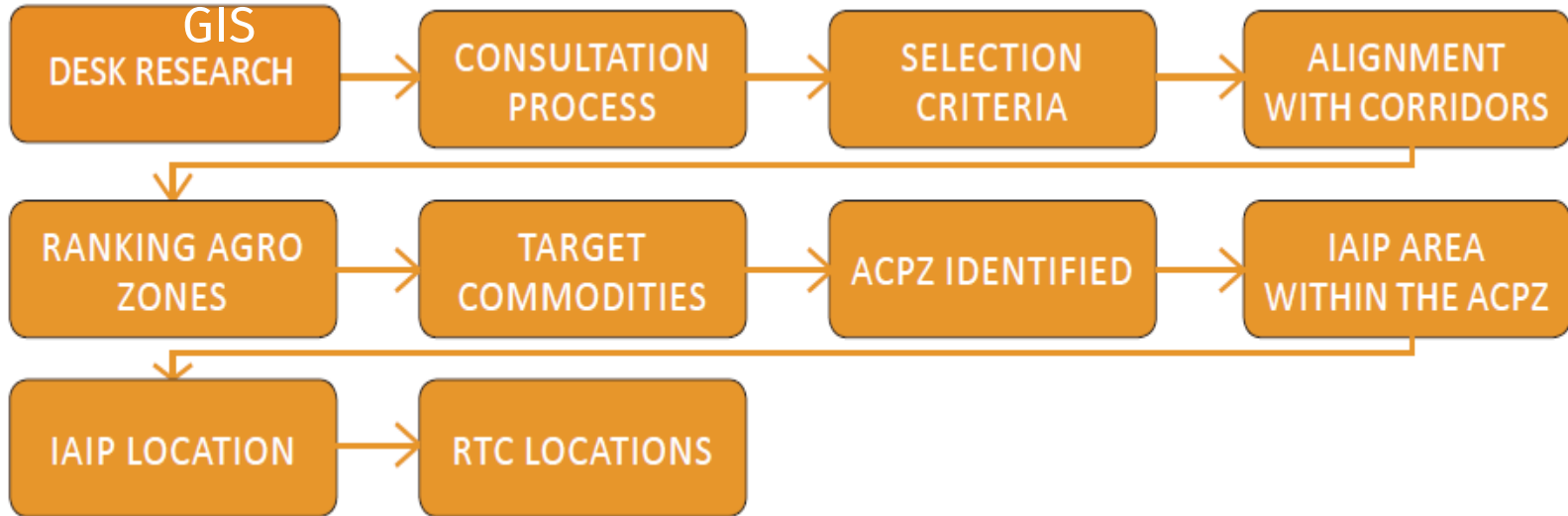
## PHASE 1: PRE-FEASIBILITY STUDY

- Identifying and prioritizing potential agro-industrial sectors
- Presenting performance and growth projection for the identified sectors over the short, medium and long terms
- Understanding and analyzing approved government growth engines and enablers
- Analyzing the macroeconomic scenario through the export performance thereby indicating the livelihood activities carried out
- Considering the attractiveness of the value chain from linkage aspects
- Considering the attractiveness of the value chain from regional settings
- Studying the vision, project profiles, business plans, strategy documents and other findings





## ACPZ area /site selection process





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## PHASE 2: FEASIBILITY STUDIES

- Contains different interrelated stages analyses
- Master planning
- Infrastructure and facilities design: water, roads, water supply and treatment power, social, environmental specialized agro-infrastructure, etc.
- Environmental and social assessment... and mitigation plan
- Project costs (APH and RTCs): phase-wise, within, linking the facilities
- Phase-wise revenue streams/revenue generation
- Means of finance
- Implementation schedule, implementation plan, phasing, etc.





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## PHASE 2: FEASIBILITY STUDIES

### MASTER PLANNING

- Land use mix: industrial plots for the identified target sectors, focus crops and other crops, social amenities, general infrastructure, specialized and specific infrastructure, road, open and green space
- Requirements of various public utilities and external infrastructure
- Evolve phasing of the project (modular)
- Compliance to various planning norms and guidelines
- Land use patterns
- Layout general infrastructure and support facilities
- Saleable/leasable area calculations



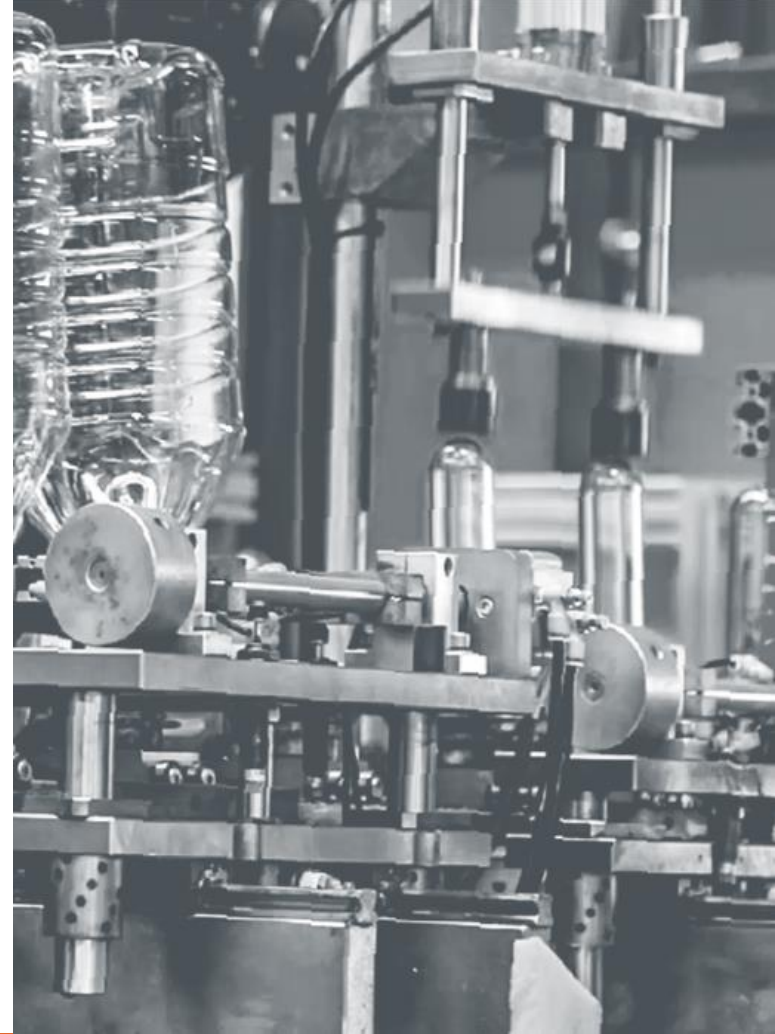


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## PHASE 2: FEASIBILITY STUDIES

### ENGINEERING DESIGN CONSIDERATIONS

- Internal road: different categories and network
- Water supply, treatment and network
- Sewerage system – collection, treatment and recycling + drainage
- Power supply and distribution
- Utilities mapping and schematic plans
- Social infrastructure: schools, polyclinic etc.
- Specialized agri infrastructure
- Environmental infrastructure and green infrastructure





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## PHASE 2: FEASIBILITY STUDIES

### VALUE CHAIN ASSESSMENT | ANALYSIS OF ATTRACTIVENESS

- Important to country
- Indicators: GDP growth potential, employment potential.
- Attractive industry
- Long-term supply and demand, Profit margins.
- Competitive advantage
- Cost curve/quality relative to competitors.
- Potential for short-term impact
- Identifiable likely partners, identifiable bottlenecks, surmountable capability gaps / policy constraints.





## PHASE 2: FEASIBILITY STUDIES

### LOCATION ANALYSIS →

- Closer to farmers and to consumers
- Study of GIS data of the influence area within the procurement zone
- Development of selection criteria for location
- Compliance evaluation to criteria
- Connectivity in terms of road, highway, sea port & airport
- Exploration of market opportunities (non-tariff barriers)
- RTC location selection
- RTC: raw material aggregation and feeder to APH

- Demarcation crops procurement zone
- Land status assessment in terms of availability, time required for the acquisition, challenges in acquisition
- Distance from nearest highway, airport, urban settlement, port, etc.
- Physical features assessment – size and shape, topography, soil conditions, accessibility etc.
- Infrastructure availability – Industrial power and network, water for industrial use
- Business considerations – facilities, supporting business environment etc.



## PHASE 2: FEASIBILITY STUDIES

### **PUBLIC POLICY ANALYSIS**



- What is the typical business model for private sector-led IAIP in other countries ?
- How have these IAIP performed financially?
- Identify specific cases where supportive Government policies/subsidies and tax concessions/incentives helped in industrial growth and catalyzed industrial investments in a particular country
- How have IAIPs in general, and specifically private sector investment in agro-processing units impacted these economies?
- What is the outlook for private sector participation in IAIP in these countries?
- Reviewing the government's commitment to agro-industrial development by assessing policy framework



- Support rendered to private sector and producers by Government services
- Analyze the interaction and institutional framework between various actors in the agribusiness value chain
- Skill development strategies, bridging the skill gaps in agro-industrialization to integrate with IAIP
- Identify the potential opportunities with key donors / development partners
- Analyze the degree of organization of producers
- Industrial policies or strategies of national, state and local governments





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## PHASE 3: FINANCES

- Mobilize resources
- Loan facilitation
- Budget allocation
- Deliverables:
  - Financial plan + PPP facilitation





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## PHASE 4: DEVELOP / CONSTRUCT

- Horizontal & vertical infrastructure development
- Proper phasing of the construction work
- Vertical infrastructure in the form of ready-built factories will better enable the marketing of the IAIP to target firms (shades)
- Common infrastructure; connectivity and external infra.
- RTC common development and specialized infra., incl. RTCs and Collection Centres, etc.
- The Special Purpose Vehicle (SPV) of the IAIP does the process of transferring the developed land





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## PHASE 5: ATTRACT INVESTMENT

- Drafting project promotion strategy and preparation of marketing collaterals
- Project promotional activities - Investor meets, B2B meets etc.
- Country partnership, marketing agency/innovative technology & know how supplier – Tie up (FDI)
- Preparation of project profiles and investment memorandum for APH and RTC for green field/acquisition and joint venture





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## PHASE 6: OPERATE AND MANAGE

- Production commencement
- Aftercare
- Measure performance
- One-stop shop service





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# UNIDO's VALUE ADDED





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## UNIDO VALUE ADDED

### PLANNING AND ENGAGEMENT CHALLENGES

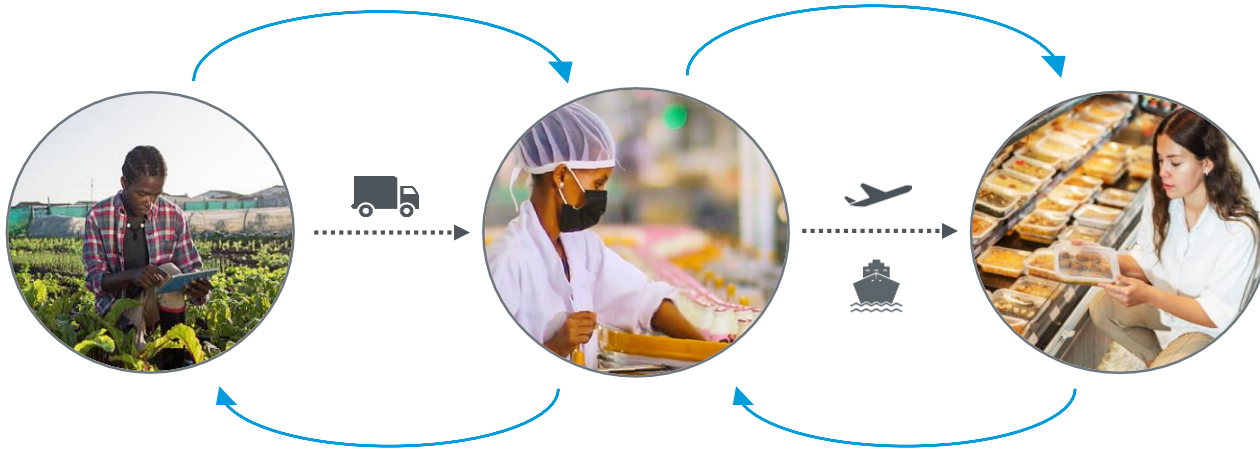
- Industrial park planning and development is a complex process
- Multiple steps in sequence and simultaneous, comprising multiple actors domestic and international
- **Requires multi-disciplinary team (financial, agricultural, policy, different specialized engineering, environmental experts value chain; marketing etc.)**





## UNIDO VALUE ADDED

### PLANNING AND ENGAGEMENT CHALLENGES



- 1 Complex backward and forward linkages; linking millions of farmers to regional and global value chains
- 2 Physical infrastructure, food safety, quality infrastructure, food standards, extension services, packaging, logistics, business services, etc.
- 3 Info on production specifications, extension services, etc.



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# CONCLUDING REMARKS

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## IAIPS UNLOCK CRITICAL CONSTRAINTS OF AGRO-INDUSTRIALIZATION

### CHALLENGE

- Weak infrastructure
- Inadequate and costly input supply
- Finance
- High initial investment cost
- Facilitation/policy
- Weak service provision (public and private)
- High PHL/wastage
- High operation costs



### UNIDO'S PARTNERSHIP SOLUTION

- PPP
- Private sector (industries) linkage/contract/out-growers
- DFIs, IFIs, commercial banks/dev. banks
- Shared facilities
- Targeted incentives
- One stop services
- Reduced PHL/v. ch. integr./competitiveness
- Shared services



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## SUSTAINABLE / GREEN INFRASTRUCTURE

- Power supply and street lighting with energy efficient fittings
- Extensive water harvesting and recharge
- Modernized water treatment plant, decentralized treatment system
- Water distribution network
- Multi piping wastewater conveyance system
- Wastewater treatment facilities and extensive recycling
- Decentralized solid waste collection, transportation and treatment facilities and recovery system and urbanized agro and horticulture applications





## LESSONS LEARNED – WHAT HAS NOT WORKED WELL

### 1. PUBLIC SECTOR-DRIVEN APPROACHES

- Subsidized or over-designed facilities and services.
- Political influence on site selection
- Poor maintenance, services and investment promotion

### 2. INADEQUATE INSTITUTIONAL INFRASTRUCTURE

- Too many agencies involved in regulations.
- Lack of authority in regulatory body and weak intra-government collaboration
- Insufficient long-term capital/funding
- Industrial Park Authority owns, operates and regulates zone facilities

### 3. UNCOMPETITIVE POLICIES

- Restricted access to domestic market
- Competition on the basis on incentives, rather than facilitation of services
- Industrial Park authorities often non-autonomous, inflexible, and focused on regulation
- Poor social/labor and environmental policies



## LESSONS LEARNED – WHAT HAS NOT WORKED WELL

### 4. NO INTEGRATED DEVELOPMENT APPROACH

- Limited provision of off-site infrastructure
- Limited linkages with the rest of economy
- Limited or no demand analysis
- Related and non-related industries and drawbacks of this
- Poor locations away from business and urban centers (growth pole politics)

### 5. LIMITED FOCUS ON BUSINESS ENVIRONMENT

- Limited effort to introduce better investment climate policies
- Complex investment approval procedure
- Cumbersome customs procedures
- Excessive monitoring/reporting requirements



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Thank You !!