TRANSFORMING THE EGYPTIAN AGRO-FOOD SECTOR

Trends

ECES lecture - 14 February 2017

I. MORE PEOPLE, LESS LAND

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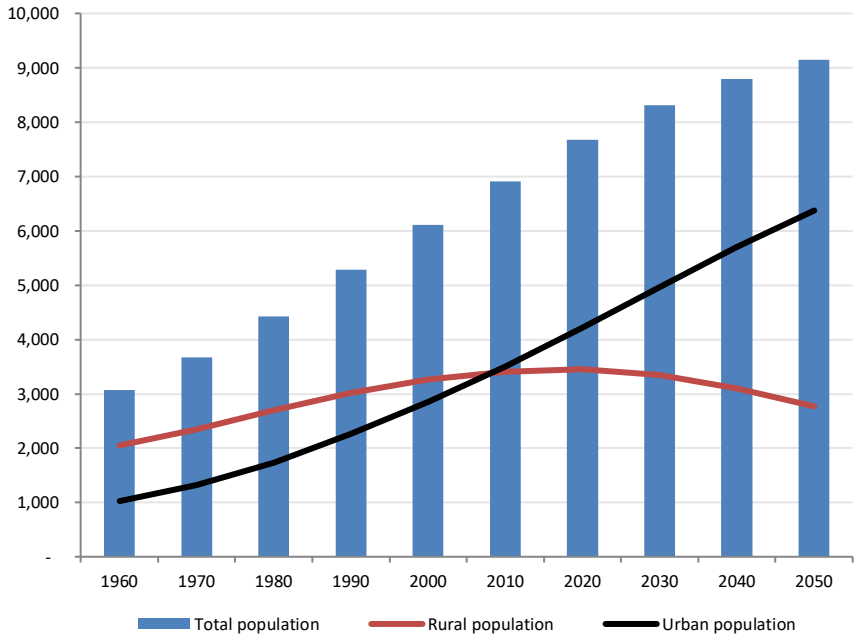
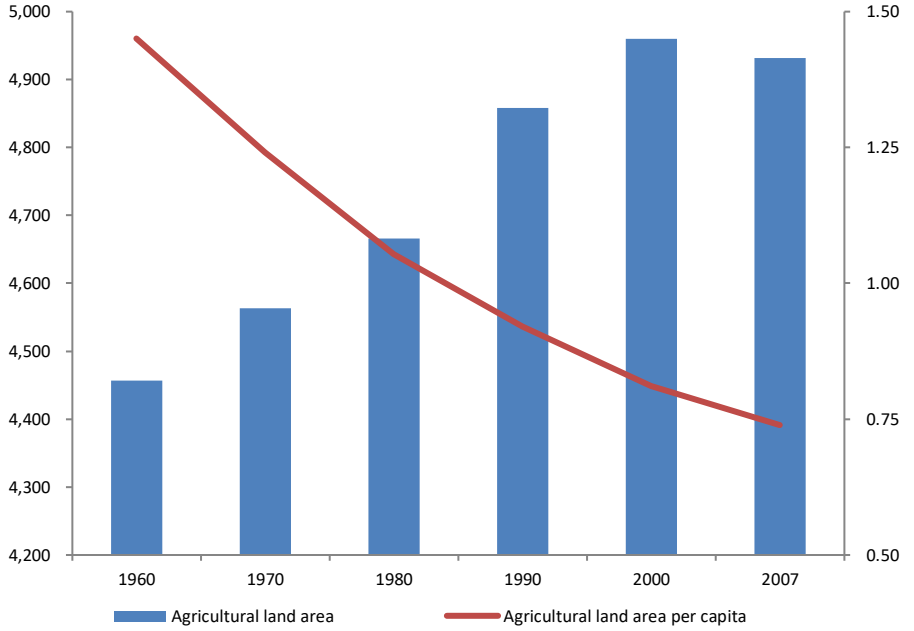
Global population (in millions)



Agricultural land (1,000 ha)



90% of population growth will occur in Sub-Saharan Africa (one billion or 49%) and Asia (900 million or 41%)

Source: FAO Stat, 'Framework for an Inclusive Food Strategy', Rabobank (2012)

2. ECONOMIC GROWTH

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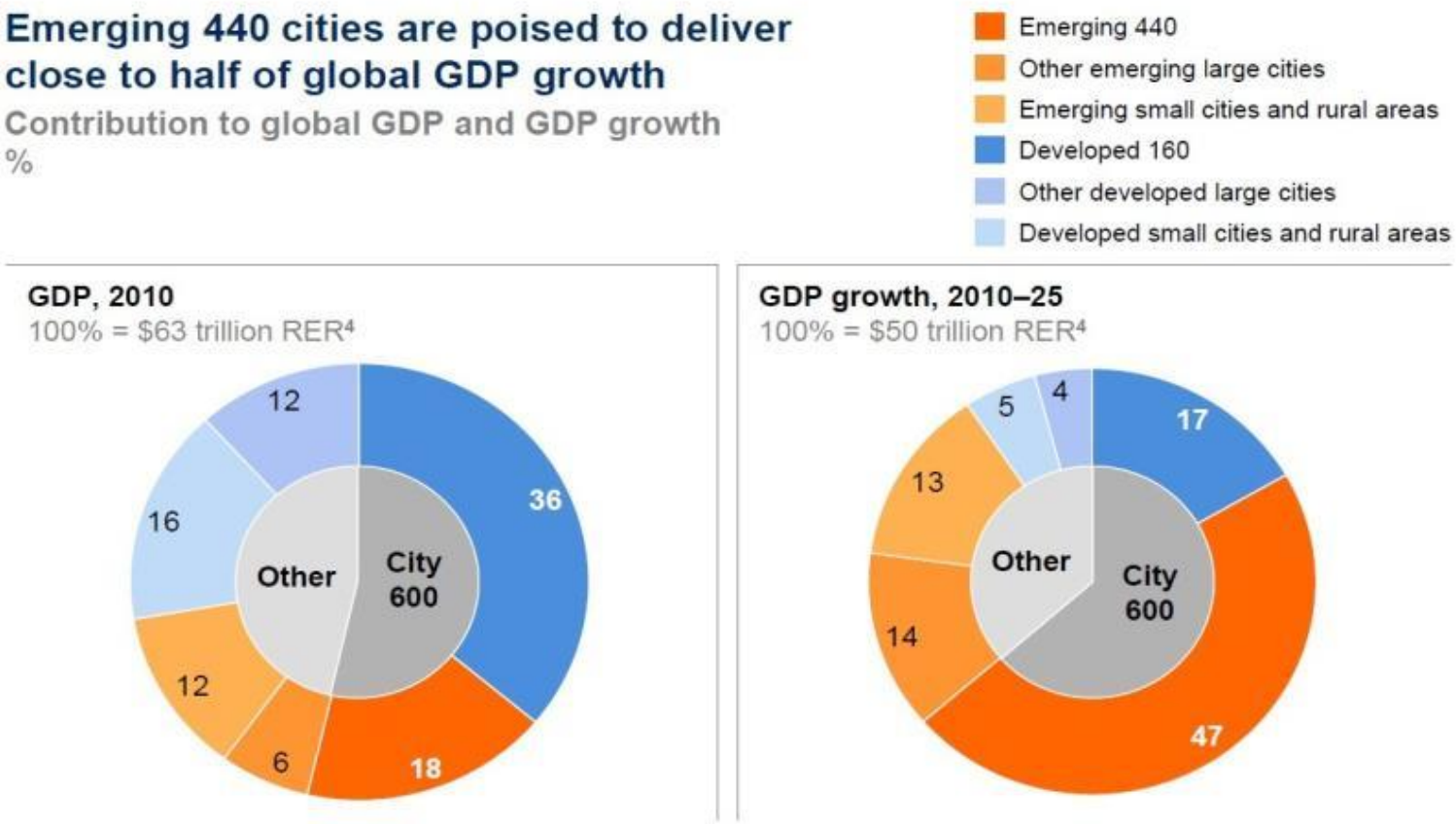
Economic growth (2010-2025) for 75% comes from emerging economies
Economic growth (2010-2025) comes for 82% of large cities



Source: MC Kinsey Global Institute, June 2012

3. MARKET-LED APPROACH

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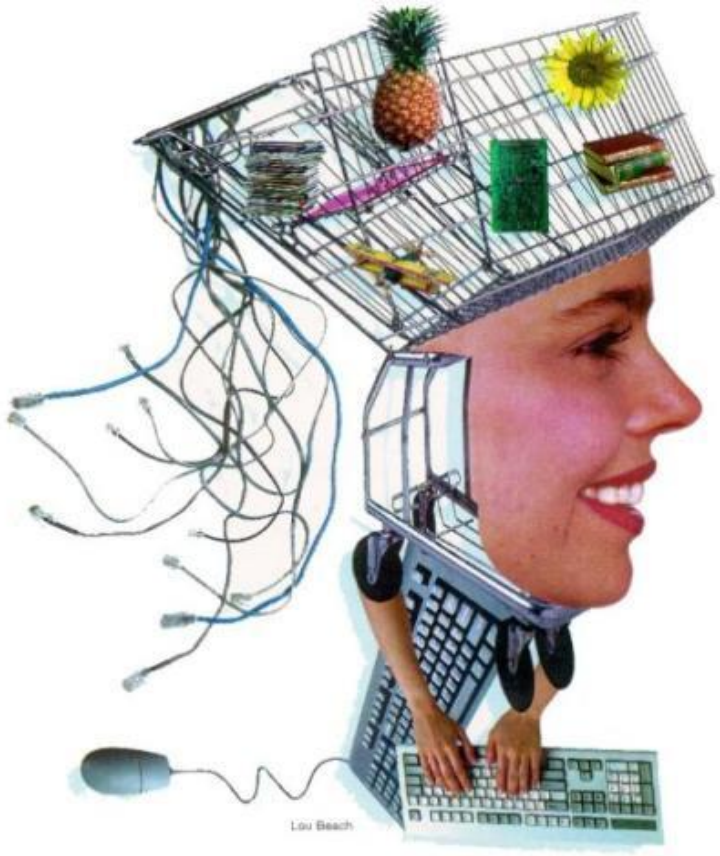

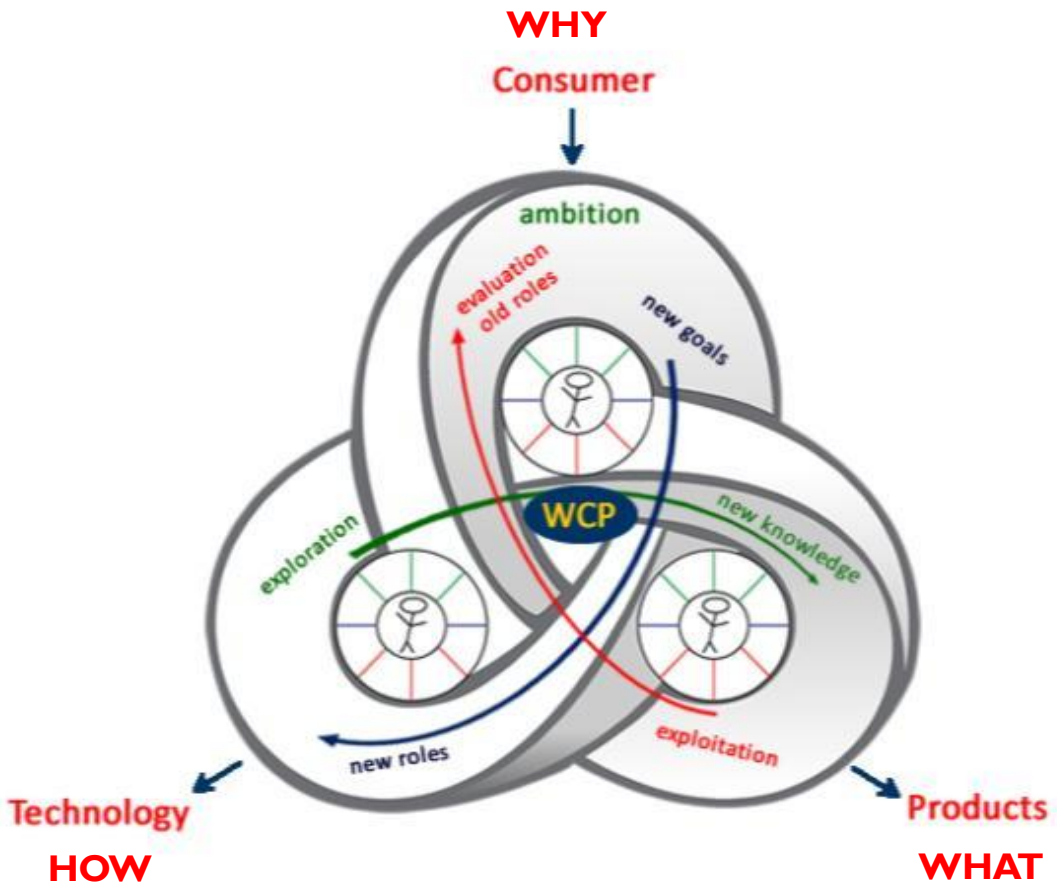

4. DEMAND DIVERSIFICATION

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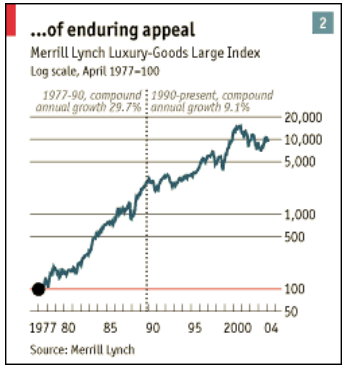
Diversification of demand in Metropoles: from Food to Fashion to Pharmaceuticals

Pharmaceuticals
Functional foods, Pharmaceuticals

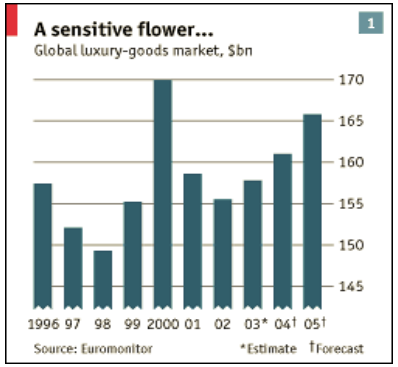
Fashion
Flowers, Flavors, Fragrances

Food
Fodder, Food Crops, Vegetables, Fruits

Energy
Fuel, Fibers



Which is a 100-fold increase between 1977 and 2005



World spending on luxury goods in 2005: US% 165 bln

5. PROCESSING AND PACKAGING

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Enabled Functions:

- Nutrition / Health
- Flavor
- Convenience
- Value
- Variety
- Fun
- Time
- Affordable luxury
- Security and Authenticity
- Quality
- Sustainability and Environment

6. INNOVATIONS FRUIT & VEGETABLE CHAIN

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Fruit and Vegetables Genomics

New varieties, gen manipulation



Cultivating - Harvesting

Drip irrigation, crop rotation in (semi) arid areas - Low damage lifting and handling



Storage and Processing

Optimal storage, conditioning, fresh handling, freezing, heat preservation, dehydration, infusion, pressure preservation, etc.


Packaging and Logistics

Controlled atmosphere, handling automation, ICT

7. SHIFT OF POWER

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Retailers and Food Service

Closest to the consumer, Multi-channel strategy, Vital marketing information, 70 - 80% Buying decisions at P.O.P., Co-marketing

ShopRite
Woolworths the fresh food people
WAL★MART
SPAR
Carrefour
sodexo
KFC
McDonald's
BURGER KING
Pizza Hut

8. FORMALIZATION OF CHAINS

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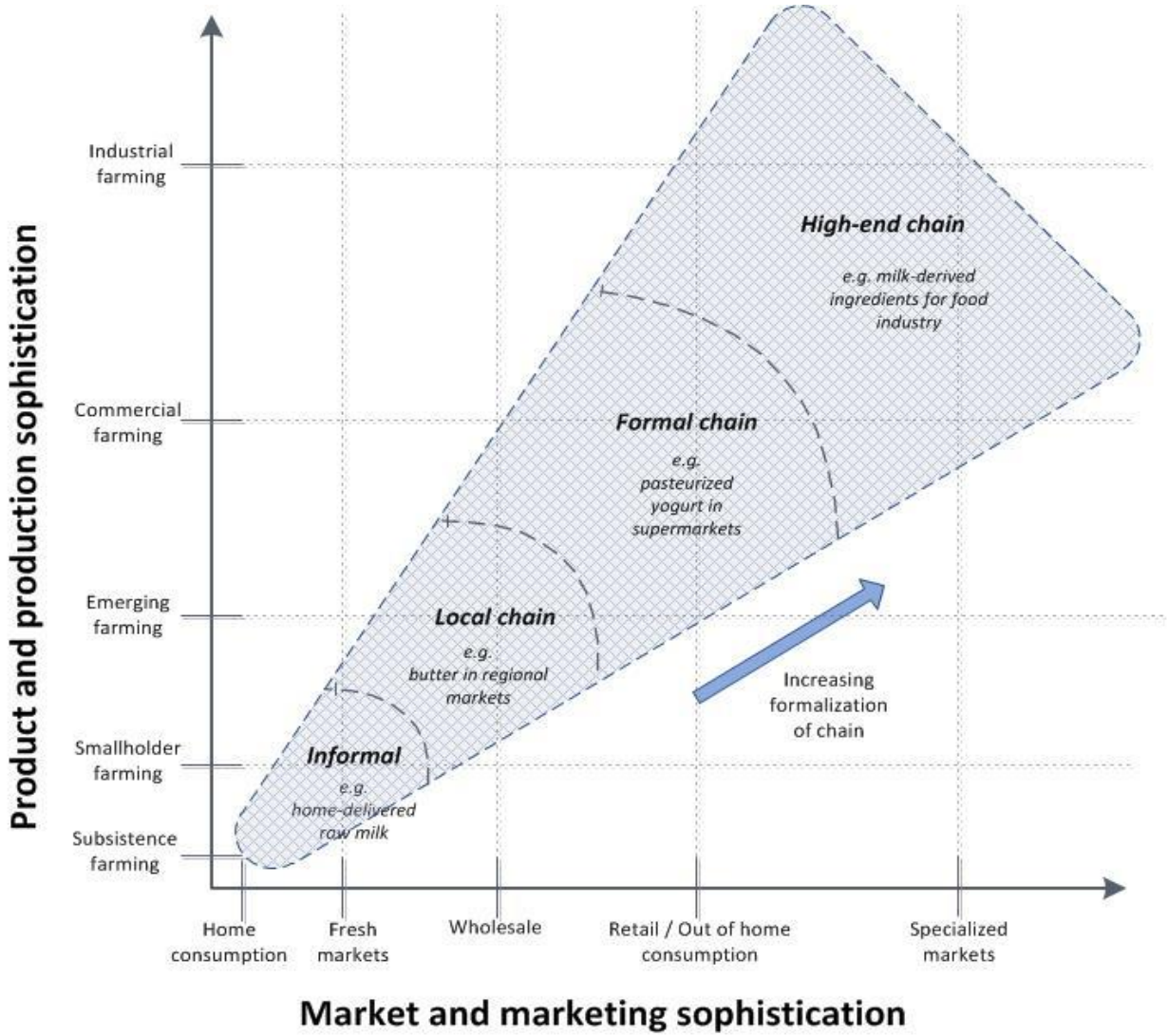

9. AGRO, FOOD & TECHNOLOGY

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- 2nd Largest exporter of Agro-Food **Products**
  EUR 85 billion (13.4% of Dutch GDP)

and

- 3rd Largest exporter of Agro-Food **Technology**
- EUR 17 billion for Technology & Systems

10. DUTCH EXPERT CLUSTER

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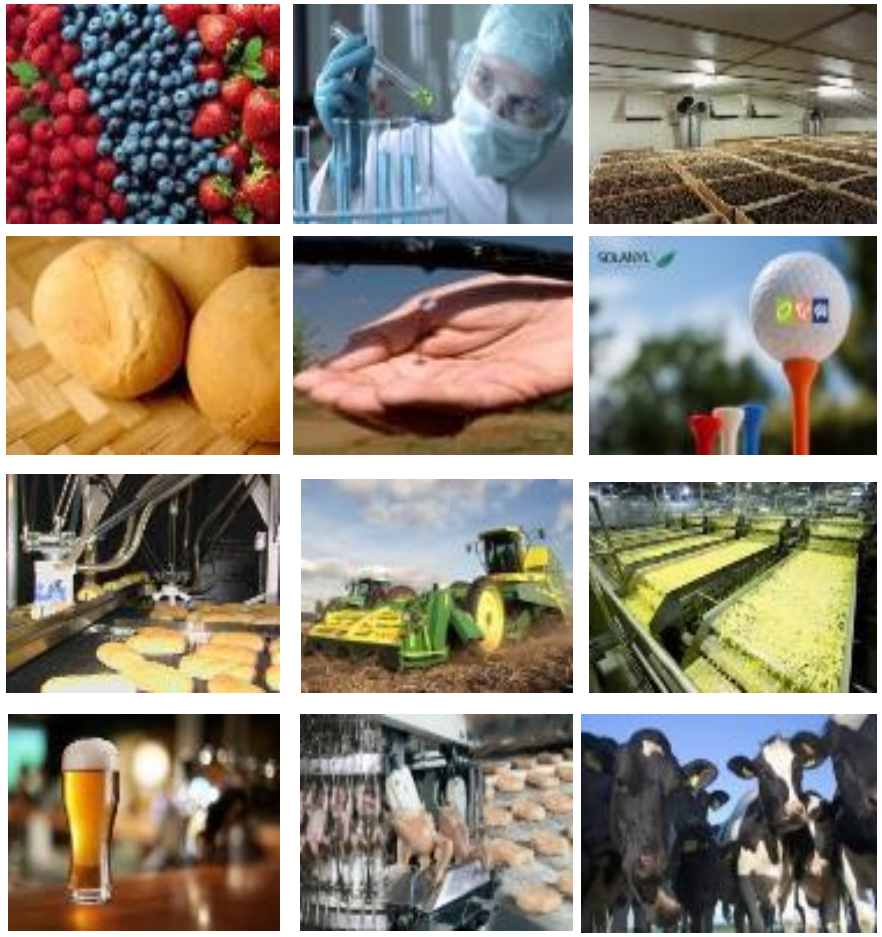
Netherlands Agro, Food & Technology Centre



- Animal Protein
- Bakery
- Biobased Systems
- Cold chain & Logistics
- Confectionery
- Dairy
- Fruits Vegetables
- Horticulture
- Liquid Foods
- Packaging
- Potatoes

TRANSFORMING THE EGYPTIAN AGRO-FOOD SECTOR

Integrated approach for a sustainable agro-food sector with nuclei-incubators and land development

E.C.E.S Lecture - 14 February 2017, Cairo

OUR CHALLENGE

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- Transform food production in Egypt into a **highly efficient, clean and green industry**
- Including: **strategic production planning**, taking into account **ecological issues** (water scarcity, soil quality)
- Including: **new technologies** and development of a **knowledge infrastructure**
- **Sustainable development:**

  Social progress, ecological balance and economic growth

REFLECTION

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WHY – HOW – WHAT

The Car:

Direction from A to B

- Do we know where we are (A)
- Do we know where we want to go (B)
- Do we need a car at all?

AMBITION

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OBJECTIVES

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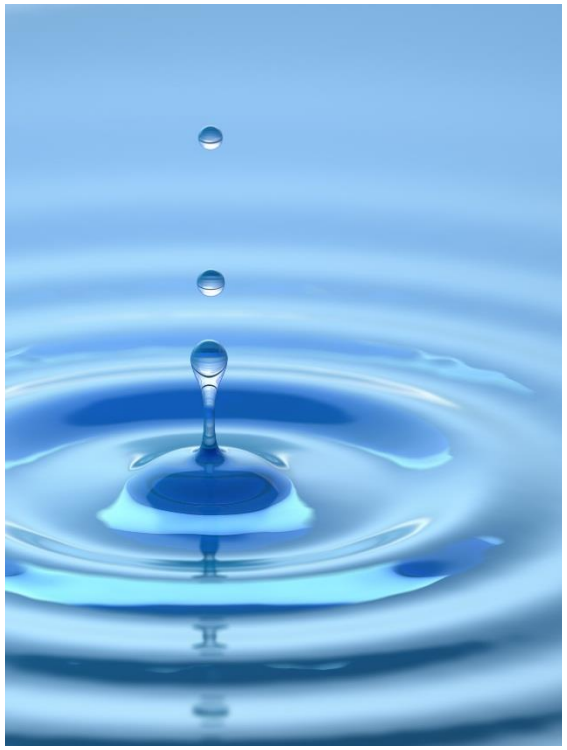
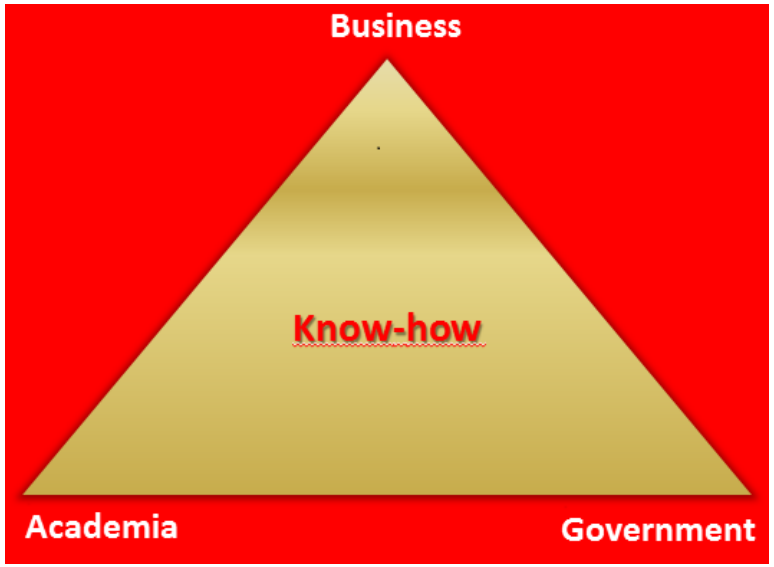


- Develop Showcase
- Business-driven Approach
- Mirror 'Golden Triangle':
- The Netherlands - Egypt
- Developments should spread:

  Wider Effects



(NATIONAL) GOALS

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National Development Plan

- 1 million hectares under production
- 1 million additional jobs in the agricultural sector by 2025

Nuclei Growth Plan

- 10 nuclei sites realized
- 300.000 new smallholders
- 2 million new jobs in agro-processing & logistics by 2025

Strategic Framework

- 3 million new jobs in rural economy by 2025
- Reduction of rural unemployment to less than 20% by 2025

NUCLEI GROWTH PLAN

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1. Revitalising Agriculture and the Agro-Food value chain.
2. Growing the economy and adding national prosperity through land development.
3. Encouraging private-sector investment.
4. Resolving water and energy challenges.
5. Unlocking the potential of SME's, cooperatives and rural enterprises.
6. Effective implementation of higher impact industrialization actions.
7. Reform and boost: the information and communications technology, water and sanitation, and transport infrastructure.

GUIDING PRINCIPLES

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1. One Nucleus per district (10)
2. Enterpreneurial controlled
3. Catalyst around which rural industrialization will take place
4. Partnership between government and private sector stakeholders to ensure access to services (water, energy, transport) and production on the one hand, while developing existing and create new markets to strengthen and expand value chains on the other
5. Supported by government to ensure economic sustainability (10 years)

NUCLEI GROWTH PLAN:
GUIDING PRINCIPLES

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6. Maximise access to markets to all farmers, with bias to emerging farmers and rural communities
7. Maximise the use of high value agricultural land (high production capability)
8. Maximise benefit to existing state land with agricultural potential in the regions where possible
9. Optimize use of existing agro-processing, services and logistics infrastructure, inlclude having availability of water, energy and roads
10. Support growing-towns and revitalization of rural towns, in terms of economic growth, population growth and promote rural urban linkages

1.1 ENABLING FACTORS

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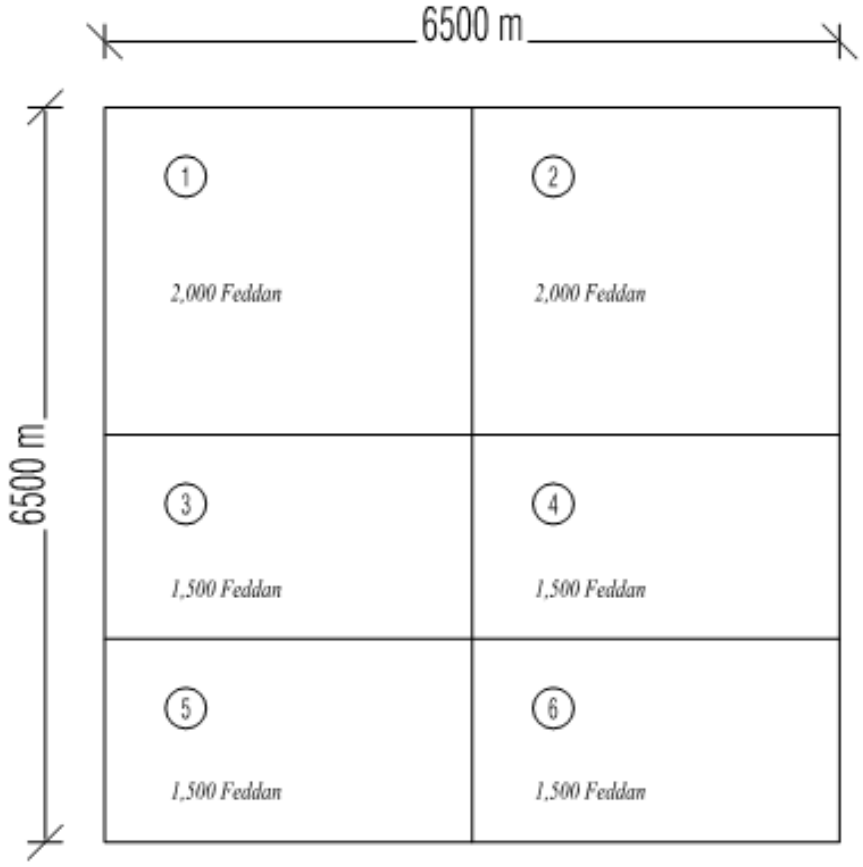
1. Agreeing with, signing of and executing the UPOV agreement.
   Result: level playing field, availability of best primary materials
2. Harmonization of using plant protection and growth stimulating chemicals.
   Result: banning chemicals not allowed in export markets and creating access to these markets.
3. Allowing bio agents to be imported/used in controlled growing conditions.
   Result: access to export markets.
4. Controlled and speedy logistics
   Results: level playing field in post-harvest handling with major colleagues.
5. Dedicated education and training on all levels
   Result: capacity to perform
6. Integrated approach with entrepreneurial "Golden Triangle" facilitating environment.
   Result: drive for "Making the Difference": success

TEMPLATE DEVELOPMENT



4,225 Hectare =~ 10,000 Feddan

1. Eco zone
2. Urban Development
3. Fixed Planting
4. Intensive Cultures
5. Seasonal Crops
6. Various / SME Development

TEMPLATE DETAILS

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- 1.500-2.000 feddan (15-20%) ecological zone:

  Purpose: nature preservation and eco-tourism-leisure.

- 1.500-2.000 feddan (15-20%) urban development:

  Purpose: real estate value creation, housing for 50.000 inhabitants.

- 6.000 feddan (60%) agro, horti and aqua primary production:

  Purpose:

  - 1.500 feddan permanent high density plantings, nurseries, orchards
  - 1.500 feddan open, semi open and closed systems, horticulture
  - 1.500 feddan seasonal crops, crop rotation programs, agriculture
  - 1.500 feddan various: demo & development, animal husbandry, incl. SME's
  - 200-300 feddan (2-3%) Agro-Food Service Center :
    Purpose: conditioning, storage, packing, processing, logistics, R&D product development, consumer friendly outlets, markets, demo's-restaurants.

TEMPLATE DEVELOPMENT

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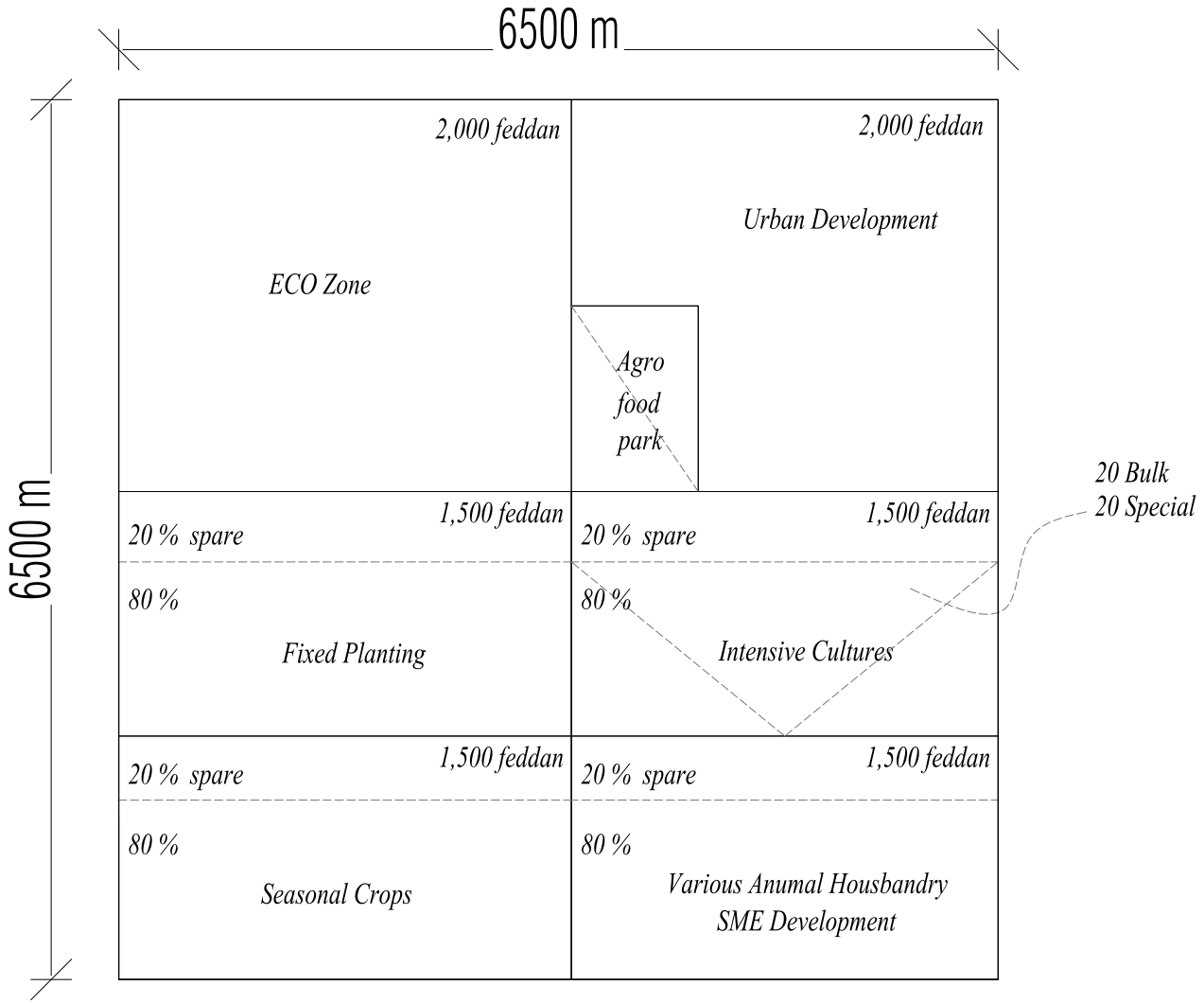

4,225 Hectare =~ 10,000 Feddan

FEASEBILITY
MARKET LED SEARCH

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1. Horticulture, Intensive Cultures
2. Agriculture, Seasonal Cultures
3. Orchards, Fixed plantings
4. Animal husbandry, Aqua Cultures
5. Various incl. SME Development

AGRI FOOD SERVICE CENTER

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1. **Farmer Production Support Unit**

   Rural farmer outreach and capacity building unit for primary production, extension services including mechanization

2. **Agri-Hub**

   Processing, packaging, logistics, equipment hire innovation and training unit

3. **Rural Urban Market Centre**

   - Linking and contracting rural, urban and international markets through contracts
   - Acting as a holding-facility, releasing produce to urban markets based on seasonal trends
   - Providing martket intelligence and information feedback, using latest information and communication technologies

AGRI FOOD SERVICE CENTER

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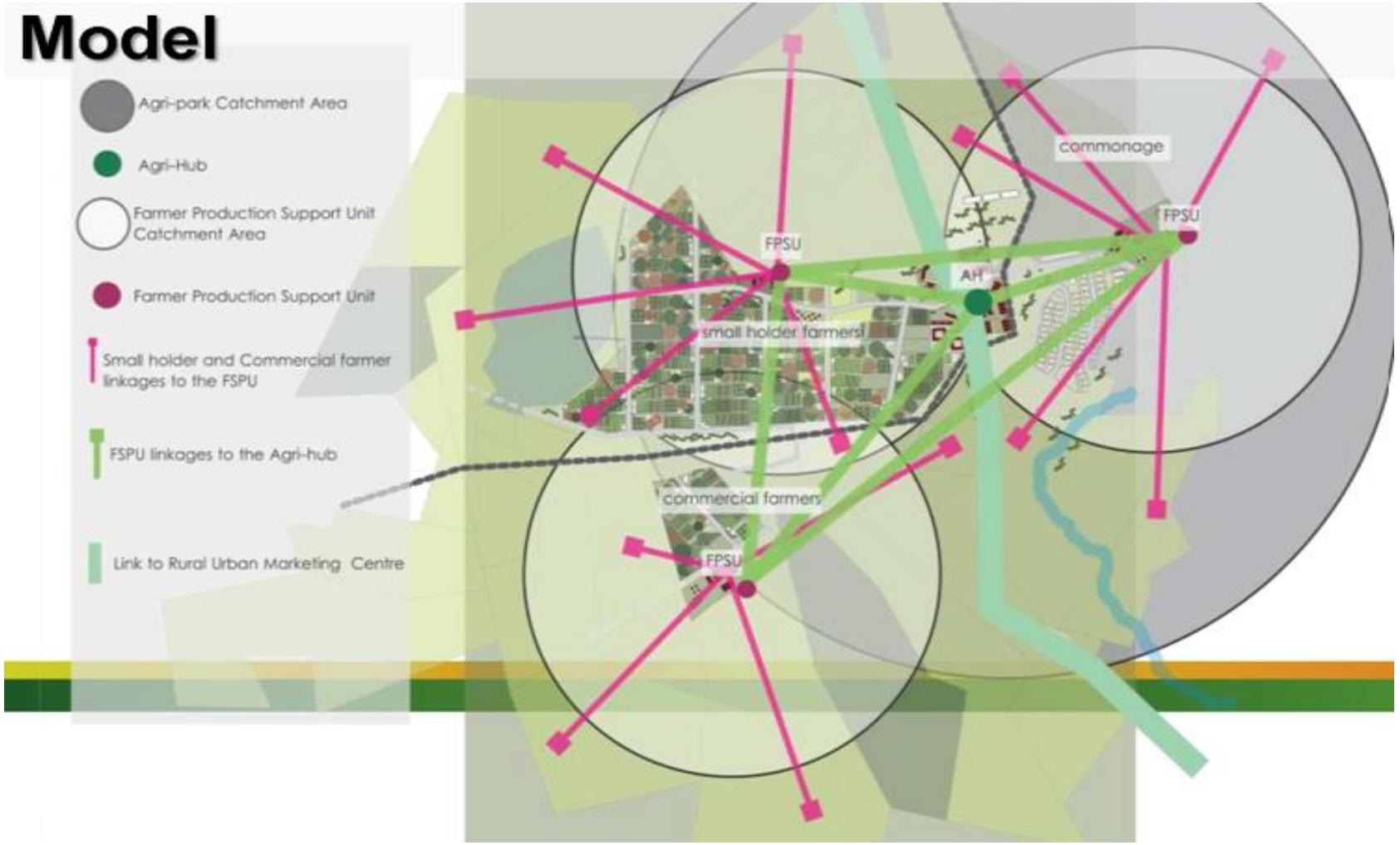

RURAL INNOVATION NETWORK

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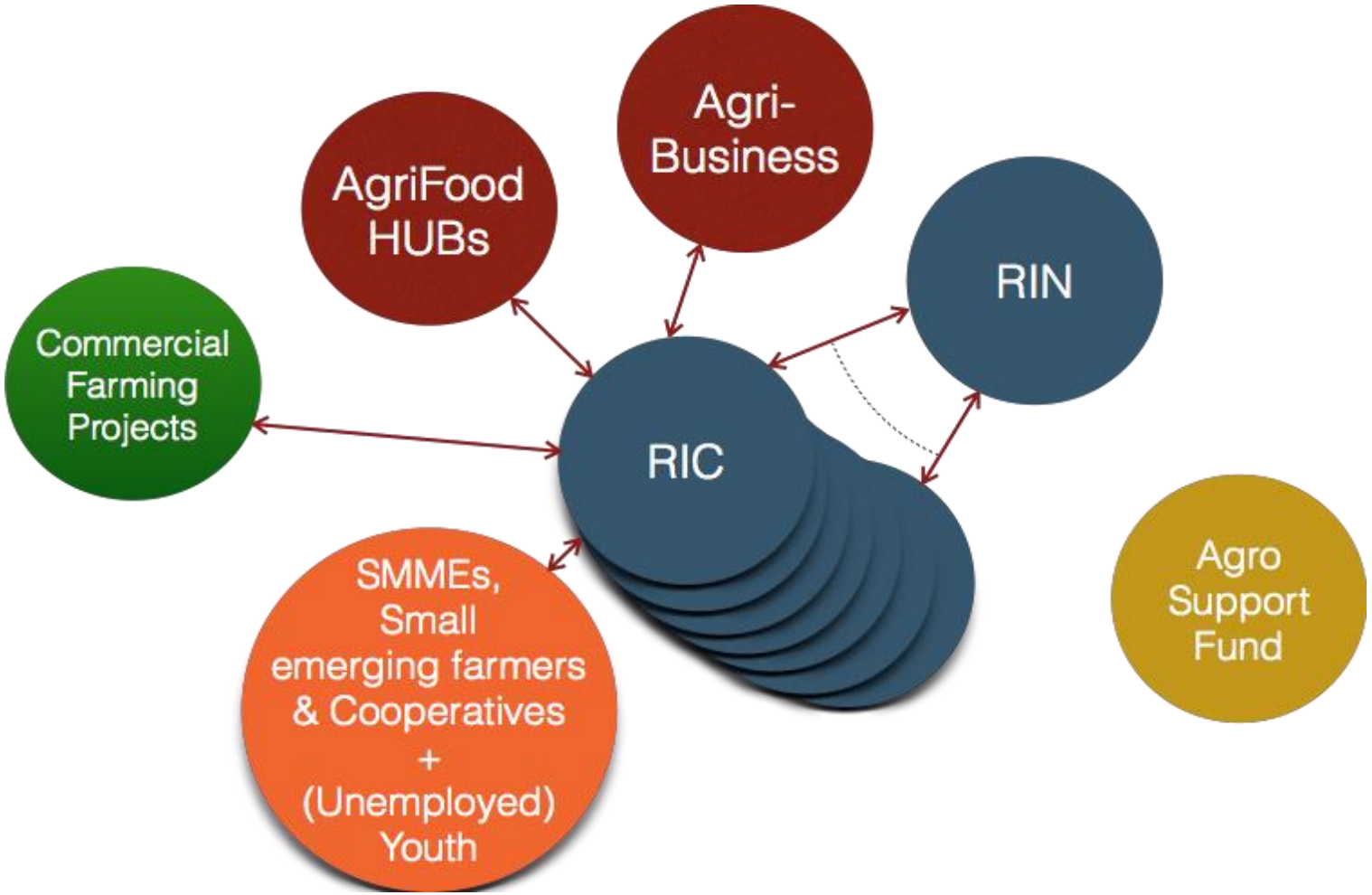

Source: RIN Academi IO (2015)

AGRI FOOD LOGISTICS

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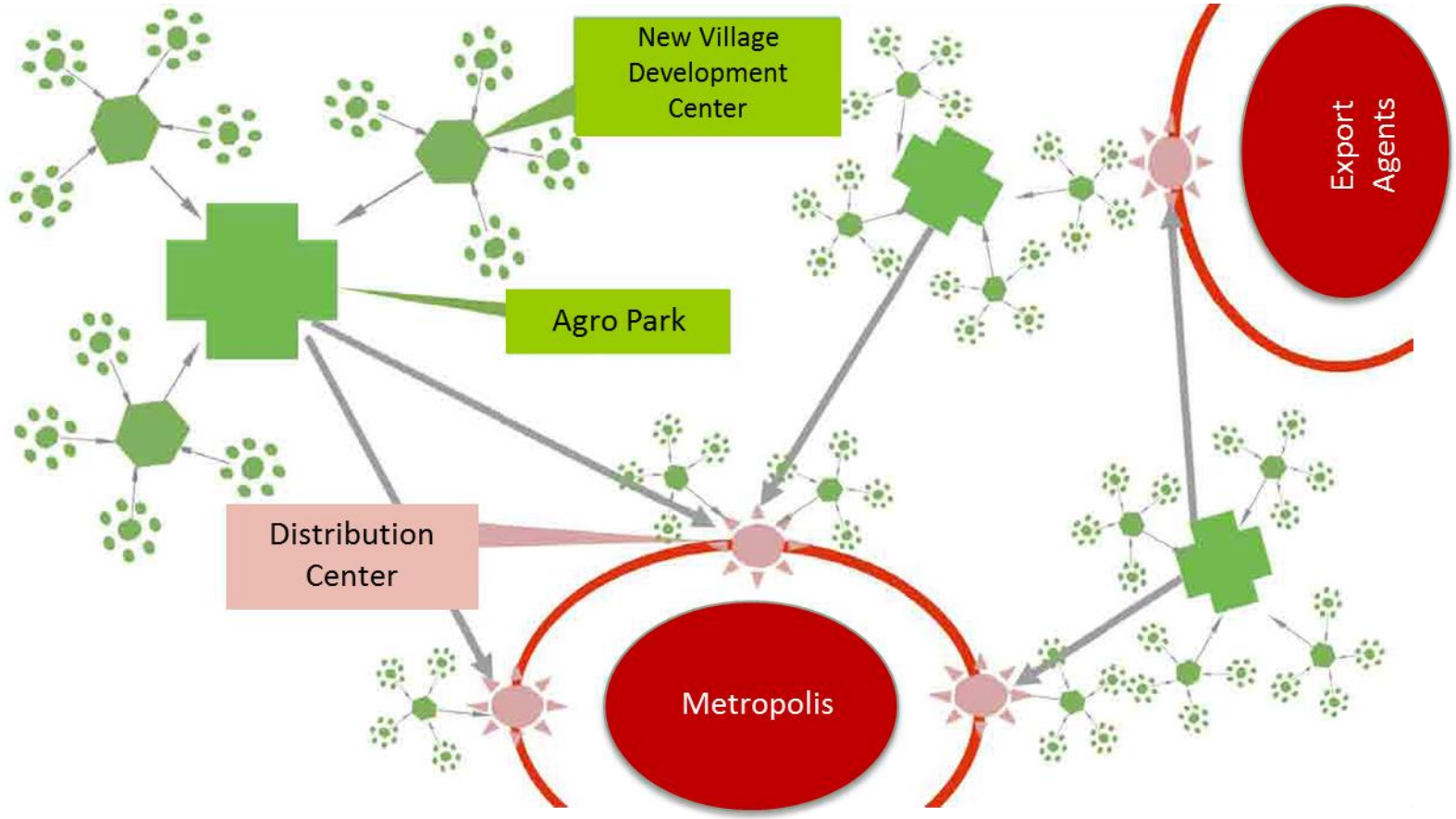

Source: 'Agricultural Eco-Valley, Beijing China, Conceptual Master Plan, DHV – GMV – WUR (2011)

CENTERS OF EXCELLENCE

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Hardware	Orgware	Software
Contextual relationships	Implementation and operation	Knowledge management
Infrastructure	Business planning	R&D
Centers of Excellence	Investment in infrastructure	Team development
Trade facilities	Types of consortia	Management of emotions
Production facilities	**Stakeholders network**	Communicatie
Processing facilities	External relations	Marketing
Industrial ecology	Policy and Politics	Branding
Energy management	Procedures and protocols	Quality management
Landscape and nature	Licences and approval	HRM
Routing	Supply chain management	Education
Design	Project management	**Capacity building**
What can be held	**What can be organised**	**What can be thought and felt**

MASTER PLAN

Master plan

Source: 'Agricultural Eco-Valley, Beijing, China, DHV – GMV – WUR (2011)

AGRI-FOOD NETWORK

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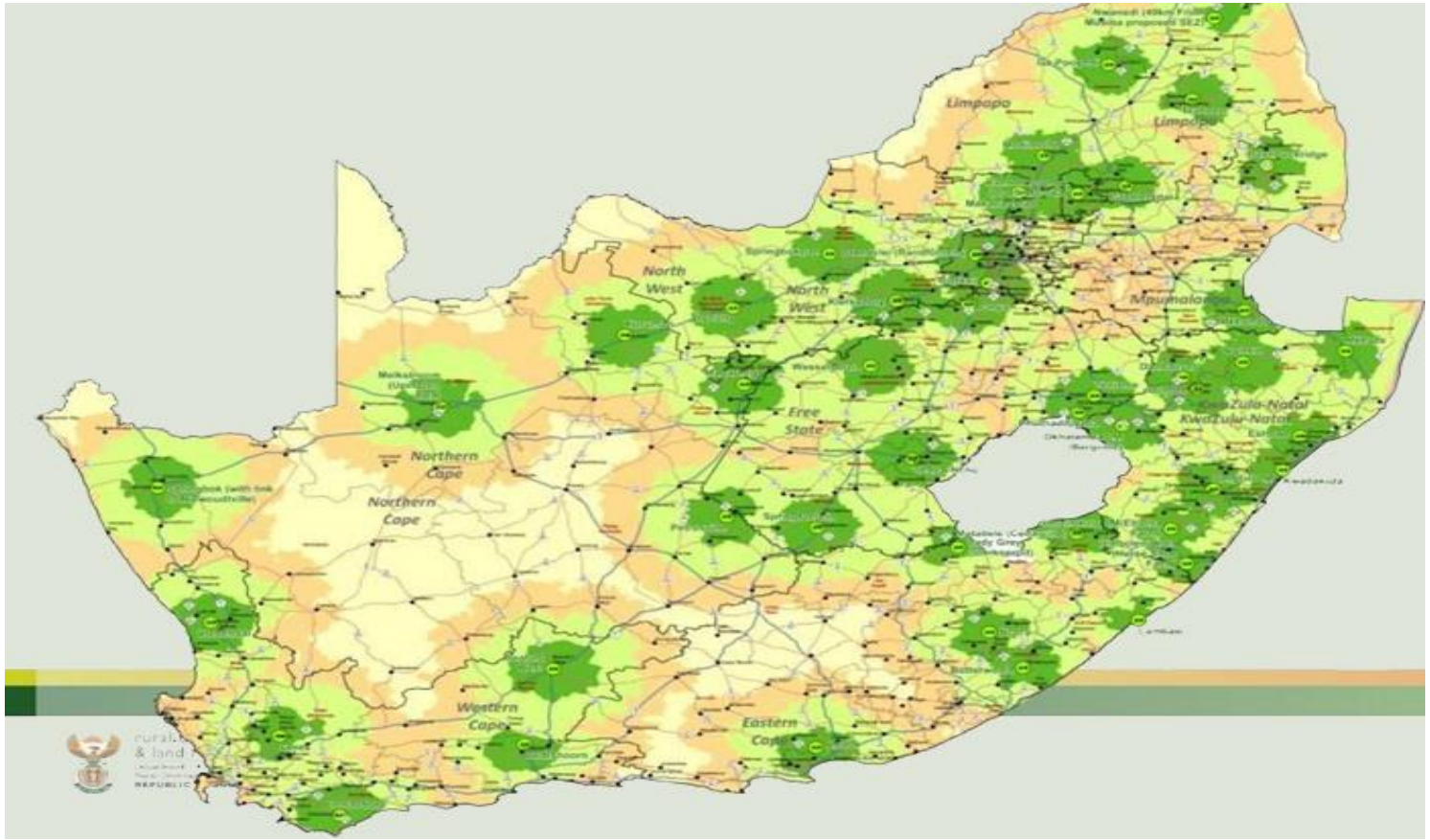

Source: DTI – Agri Parks, R.South Africa (2016)

IMPLEMENTATION

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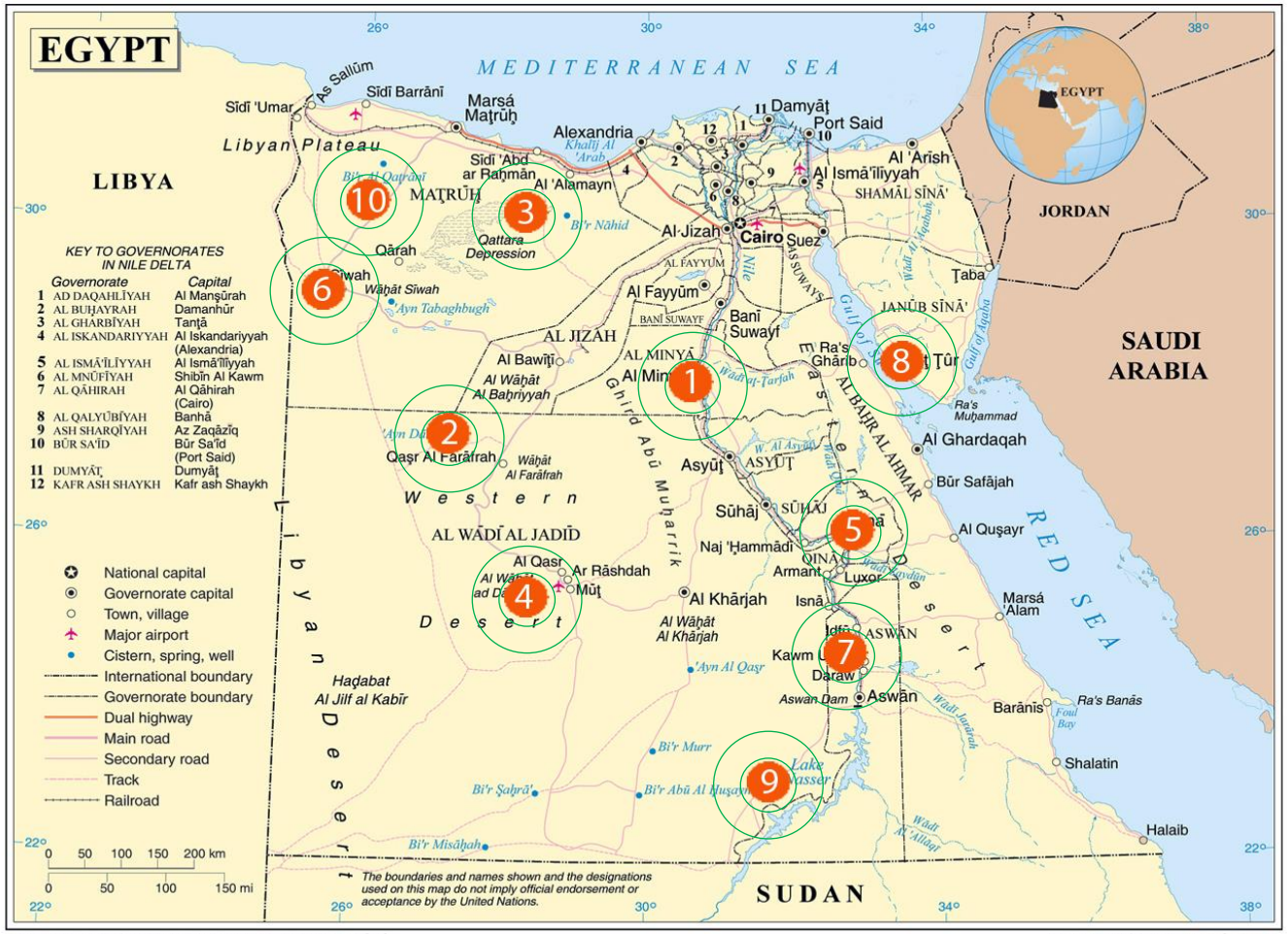
100.000 feddan (40.000 hectare) for horticulture
Linked with 1.5 million (or 1.2 million) feddan spread over 10 locations all over Egypt



July 2011. Adapted from Map No. 3795 Rev. 2 UNITED NATIONS
January 2004. Every effort has been exercised to ensure the accuracy of this map; however, there might be some inconsistencies as administrative boundaries have changed since, and I am not a professional cartographer.

Department of Peacekeeping Operations
Cartographic Section

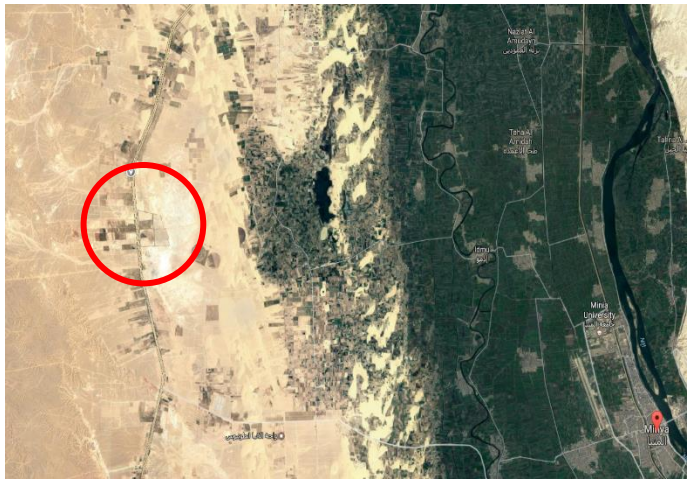
1. West West Menya
2. Farafra
3. Moghra Oasis
4. Al Dakhla (Dakhla Oasis)
5. West Marashda (Qena)
6. East Siwa
7. West Kawn Umbo
8. Al Tor (Sinai)
9. Toshka
10. South East Monkhafad

APPROACH WEST WEST MINYA

Heerhugowaard
The Netherlands

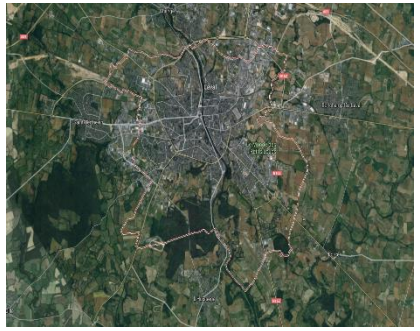
Ermelo
South-Africa

Delano
United States of America



West West Minya

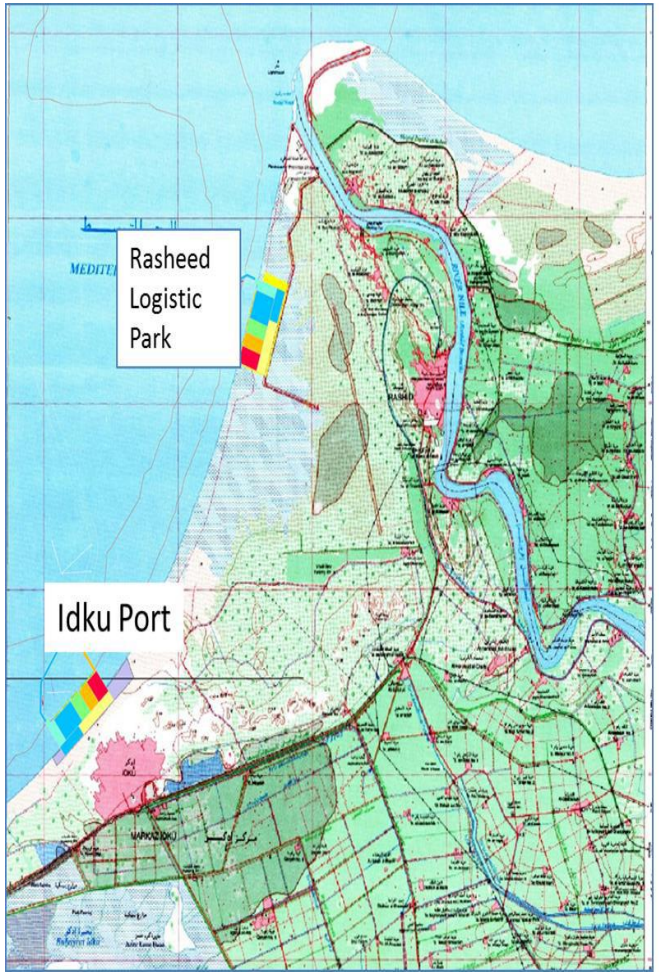
Ceylanpinar
Turkey

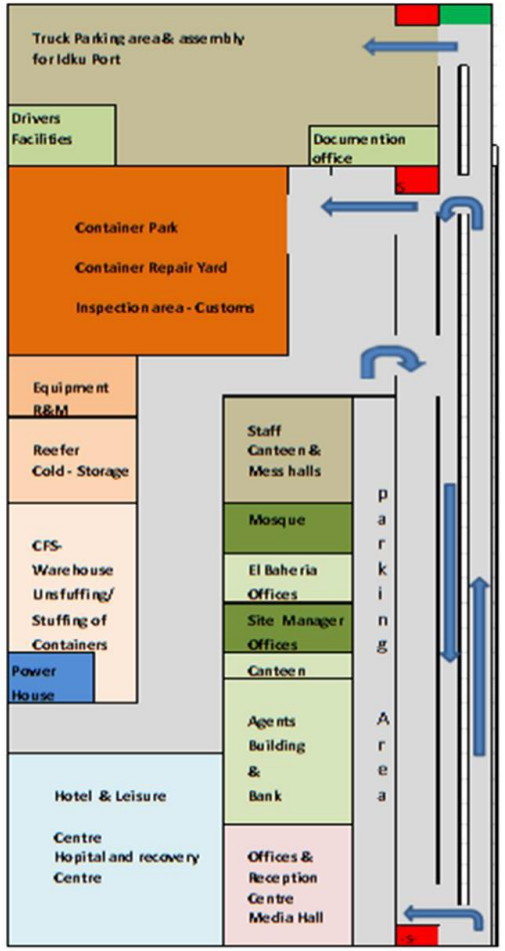


Laval
France

Kiryat Gat
Israel

APPROACH IDKU LOGISTICS





- Truck Parking & Assembly
- Drivers Facilities
- Documentation Office
- Containers Park, Repair Yard
- Inspection Area – Customs
- Equipment R&M
- Reefer Cold Storage
- CPS – Warehouse Containers
- Power House
- Staff Canteen & Mess Halls
- Mosque
- Offices
- Site Manager Offices
- Canteen
- Agents Building & Bank
- Officers & Reception
- Hotel & Leisure & Recovery Centre

STRATEGY TO SUCCESS

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1. **P**eople
2. **P**rofessionals
3. **P**lan
4. **P**ro-active
5. **P**erformance
6. **P**lanet
7. **P**rosperity