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EXECUTIVE SUMMARY

BACKGROUND

Agriculture is a vital sector for Nigeria's economy and holds immense untapped potential. Not only is it pivotal to the achievement of Nigeria's Vision 20:2020 – becoming one of the world's 20 largest economies by 2020 – but it also finds itself at a turning point today. The agro-based and agro-food processing industry in Nigeria is increasingly seen as a potential driving force for the growth of Nigerian rural economy.

Within this context, the Federal Ministry of Agriculture and Rural Development (FMARD) devised the Agriculture Transformation Agenda (ATA), aiming to reduce Nigeria's food import dependency by increasing its self-sufficiency and export capacity.

As part of this agenda, the FMARD established multiple staple crop processing zones (SCPZs) to attract private investors in setting up food processing plants in strategically identified locations. SCPZs aim to reduce post-harvest losses, add value to locally produced foods, facilitate linkages between farmers and industry and, ultimately, generate employment and income for farmers, in turn contributing to Nigeria's overall economic growth.

PARTNERSHIPS

The FMARD requested technical assistance from the United Nations Industrial Development Organization (UNIDO) in achieving the objectives of the ATA. More specifically, it asked UNIDO to lead the preparation and formulation of master plans for the implementation of SCPZs and assess their feasibility in an initial set of six geo-political locations in the country. The FMARD provided UNIDO with funding of USD 1.4 million in view of achieving these objectives.

UNIDO, together with the Mahindra Consulting Engineers Limited (MACE), India, finalized six master plans for the establishment of SCPZs in Nigeria. In order to develop the infrastructure of the SCPZs, UNIDO – in collaboration with the government of Nigeria (GoN) – mobilized USD 152 million in funding from the African Development Bank (AfDB). Additionally, the World Bank (WB) has committed USD 100 million for the development of infrastructures in these zones. The GoN has also committed USD 200 million in financial support.

Location and focus crops of initial set of six staple crop processing zones (SCPZs)

Location	State	Focus crop/sector
Initial stage – 6 SCPZs		
Badeggi cluster	Niger	Rice
Agbadu – Alape cluster	Kogi	Cassava
Adani – Omor clusters	Enugu - Anambra	Rice
Gafan cluster	Kano	Rice, tomato, sorghum
Okorolo cluster with strategic linkages fish landing centres (FLC) in Bonny Island, Okorolo & Oyorokoto, fishing terminal at Borokiri and mariculture zone in Oyorokoto	Rivers	Fisheries
Imota (Rice), Araga (Cassava, Vegetables) and Ketu-Ereyun (Fish processing corridor) with strategic linkages to Kirikiri fisheries lighter terminal – 1 & 2, mariculture zone in Lagos Lagoon, Gulf of Guinea and international fish market in Epe	Lagos	Fisheries, rice, cassava, vegetables
Subsequent stage – 8 SCPZs		
Gassol cluster	Taraba	Rice
Ambrussa – Binji cluster	Kebbi/Sokoto	Rice
Biu cluster	Borno	Sorghum
Ebedebiri cluster	Bayelsa	Fisheries
Makurdi cluster	Benue	Citrus
Oban cluster	Cross River	Pineapple
Ososa cluster	Ogun	Cassava
Shao cluster	Kwara	Cassava

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT (ISID)

The inclusive and sustainable industrial development (ISID) model is implemented in the form of an integrated Agribusiness Investment Region (ABIR). Detailed master plans were developed for the proposed ABIR and SCPZs at identified locations. Furthermore, staple crop processing zones (SCPZ) are equipped with state of the art infrastructure facilities and mechanisms to facilitate backward and forward linkages.

This initiative is coined as *"InnoAgro Nigeria"*, the Sustainable Agribusiness Initiative.

InnoAgro Nigeria
Sustainable Agribusiness Initiative

Study coverage areas

This document outlines the conceptualization and salient features of integrated ABIR and SCPZ modeled on ISID principles with farmer centric and investor friendly approach.

NEED FOR SCPZ

NIGERIA'S AGRICULTURE AND ALLIED SECTORS – OPPORTUNITIES AND CHALLENGES

Agriculture currently accounts for approximately 42 percent of Nigeria's gross domestic product (GDP) and employs two thirds of the entire labour force, while the oil and gas industries account for only 13 percent of the country's GDP.

During the 1960s, the agricultural sector was the most prominent in Nigeria in terms of contributions to domestic production, employment and foreign exchange earnings. Nigeria was the world's leading producer of cocoa, groundnut, oil-palm, cassava and cotton. It accounted for 42 percent of global groundnut production, 38 percent of cassava, 27 percent of oil-palm, 18 percent of cocoa and 1.4 percent of cotton production. Three decades later, the situation is relatively the same, except that these food crops are no longer the principal foreign exchange earners, a function now taken over by oil.

Nigeria's decline in agricultural production can be attributed to very low usage rates of agricultural inputs and low mechanization intensity with only 0.8 percent of arable land irrigated. The agriculture sector has undergone considerable structural changes over the years.

Growth in the agricultural sector has not kept pace with the needs and expectations of the nation. Over the past 20 years, value added per capita in agriculture has risen by less than 1 percent annually. Food production has generally not kept pace with population growth, resulting in rising levels of food imports and a decline in national food self-sufficiency.

Crop production in Nigeria is led by cereal, root and tuber crops. While the country has made some progress over the years meeting its domestic needs for sorghum, millet and, to some extent, maize and cowpeas, it falls short in terms of rice and wheat which, as a result, continue to be imported. However, production of root and tuber crops has met domestic needs and the surpluses are currently being exported.

Nigeria's agricultural sector comprises four sub-sectors: crops, livestock, fisheries and forestry. Crops contribute about 85 percent of agricultural GDP, with livestock production contributing 10 percent, fisheries 4 percent and forestry 1 percent respectively. The crops and livestock sub-sectors have maintained their shares in recent years, fisheries has expanded while the forestry sector has shrunk in size.

Nigeria has vast opportunities for agricultural development which can be utilized with the introduction of best practices to address and overcome the lingering global food crisis. Nigeria's advantages include: vast arable land; a population of about 140 million which guarantees a food market; favourable agro-climatic conditions for sustained year round agricultural production; and the availability of an export market.

Nigerian agriculture is characterized by considerable regional and crop diversity. The country is blessed with abundant land and water resources along with a diverse and rich vegetation capable of supporting a large population of livestock. More specifically, Nigeria has: 79 million hectares of arable land; 267.7 billion cubic metres of irrigation water; 14 million hectares of surface water; and 57.9 billion cubic metres of underground water. Nigeria's agricultural sector offers significant potential for increased economic growth, however, this potential has yet to be unlocked. Since agriculture forms the resource base for a number of agro-based industries and agro-services, it is not viewed as farming alone, but

as a holistic value chain, which includes farming, wholesaling, warehousing (including logistics), processing and retail.

It is increasingly evident that a vibrant agribusiness sector is essential to be able to augment farm gate prices and, in turn, increase farmers' income levels, reduce wastage, ensure food security and generate more employment opportunities. However, for the agricultural sector to be able to reach its full potential, it requires substantial changes in terms of technology, markets, institutions and policy.

The supply-driven system needs to transform into a demand-driven system. This transformation applies to the entire value chain: from primary production to transportation and processing, all the way to the final delivery of food crops or products to wholesale and consumer markets. All value chain actors have the potential to increase profits: farmers, intermediate traders, processing industries, wholesale and retail organizations, exporters, service providers and financial institutions.

The use of new and relevant technologies will help improve productivity at both the cultivation and post-harvest stages, resulting in better value addition for consumers. Competitive and efficient marketing arrangements would lead to higher value realization. Appropriate institutional arrangements will create an enabling environment to improve productivity through better value realization and value addition possibilities.

The National Technical Working Group (NTWG) on agriculture and food security was set up under the Nigeria Vision 20:2020 to articulate a vision and strategy for the agricultural sector. The NTWG developed the conceptual framework needed to implement a sustained national agricultural development strategy and identified the primary pivots for agricultural growth and development with the necessary interventions needed to optimize the sector's the vast resources and potential.

The Nigeria Vision 20:2020, outlines the strategic vision for agriculture as follows: "A technology driven agricultural sector that is profitable, sustainable and meets the socio-economic aspirations of the nation", to be achieved by:

i. Securing its food and feeding the nation
ii. An enhanced generation of national and social wealth through greater exports and import substitution
iii. An enhanced capacity for value addition leading to industrialization and employment opportunities
iv. Efficient utilization of available agricultural resources
v. An enhanced development and dissemination of appropriate and efficient technologies for rapid adoption

AGRICULTURAL TRANSFORMATION AGENDA

The GoN considers the development of agriculture and its allied sectors as a means to accelerate the country's GDP growth and enable farmers to earn higher incomes and ensure food security. With this in view, FMARD has devised a paradigm shift in the agricultural sector through the Agricultural Transformation Agenda (ATA – Nigeria) programme. ATA-Nigeria was designed to restore the agricultural sector; while playing a key role in promoting other subsectors where Nigeria has a comparative advantage over other countries.

The ATA includes the following:

I. Focusing on agriculture as a business instead of a developmental project
II. Utilizing the transformation of the agricultural sector to create jobs

and wealth while ensuring food security

III. Focusing on value chains where Nigeria has comparative advantage
IV. Sharp focus on the development of youth and women

SCPZ INITIATIVE

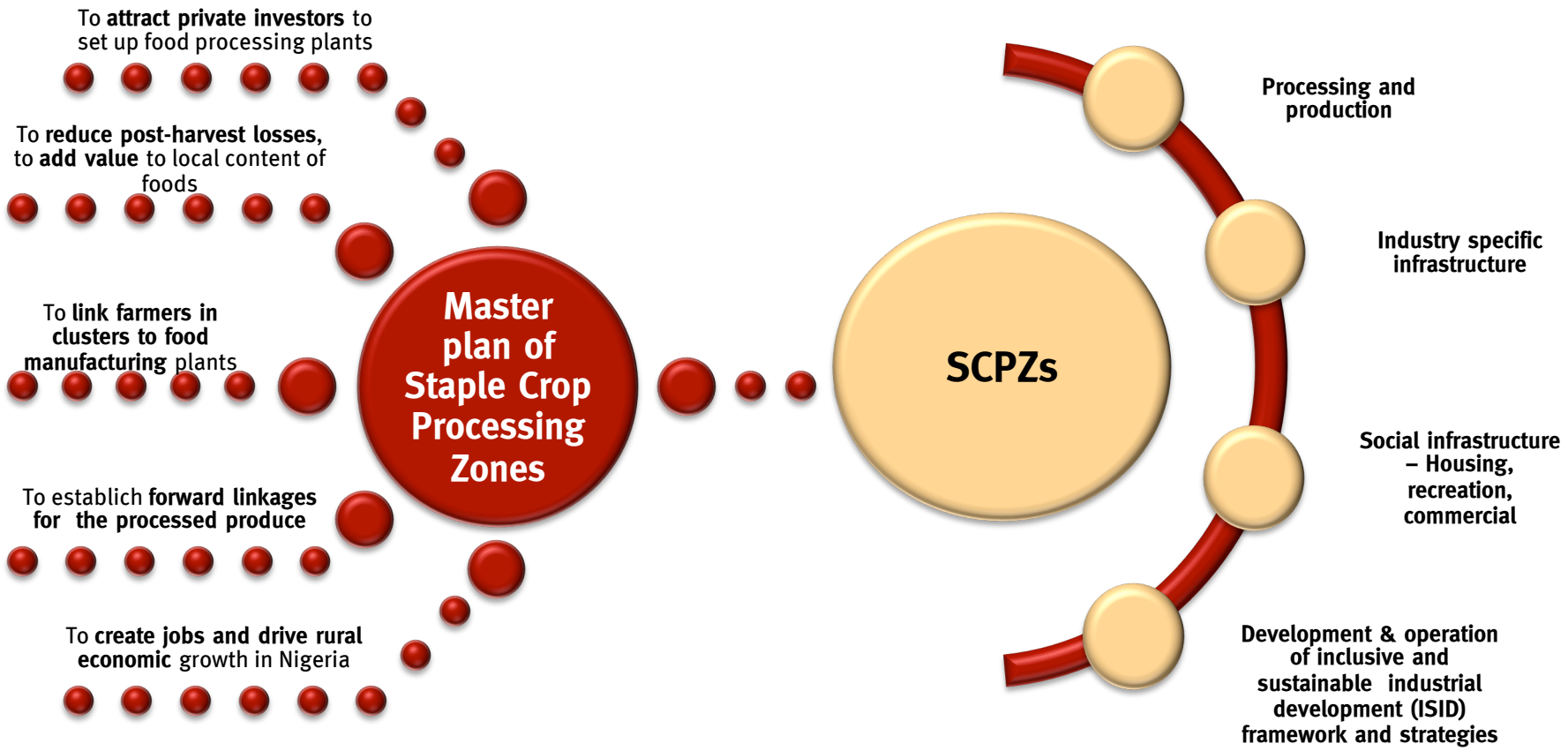
The ATA includes the creation of SCPZs at strategic locations in Nigeria. These zones are strategic arrangements for processing and preserving the agricultural commodities in order to prevent wastage.

SCPZs are aimed at attracting private sector agribusinesses to establish processing plants in zones of high food production, in order to process raw materials into food products.

The GoN will formulate appropriate fiscal investment and infrastructure policies for setting up the SCPZs.

In the initial phase, SCPZs will be established for those agricultural commodities where Nigeria has a comparative advantage over other countries. For instance, in the production of rice, cassava, sorghum, maize, soya beans, oil palm, cocoa, lam, cotton, onion, tomato, livestock and fish.

SCPZ aim and elements

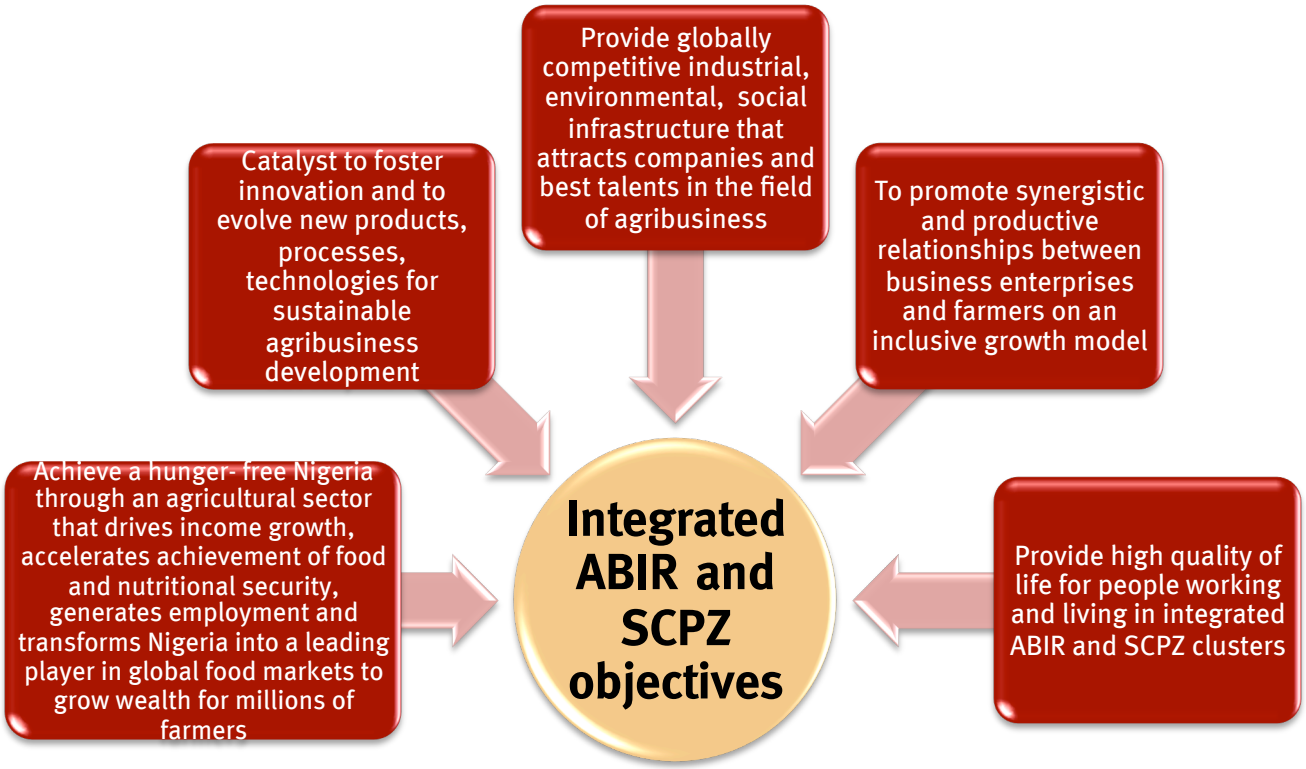


CONCEPTUALIZATION OF INTEGRATED ABIR AND SCPZ

OBJECTIVES OF INTEGRATED ABIR AND SCPZs

The primary objective of the integrated ABIR and SCPZs is to devise a world class agro ecosystem where farmers, growers, processors, marketing institutions, exporters, research institutions, academic institutions, industrial bodies and governments are engaged in sustainable agribusiness development. The objectives will be achieved through well-devised enablers.

Objectives of integrated ABIR and SCPZ



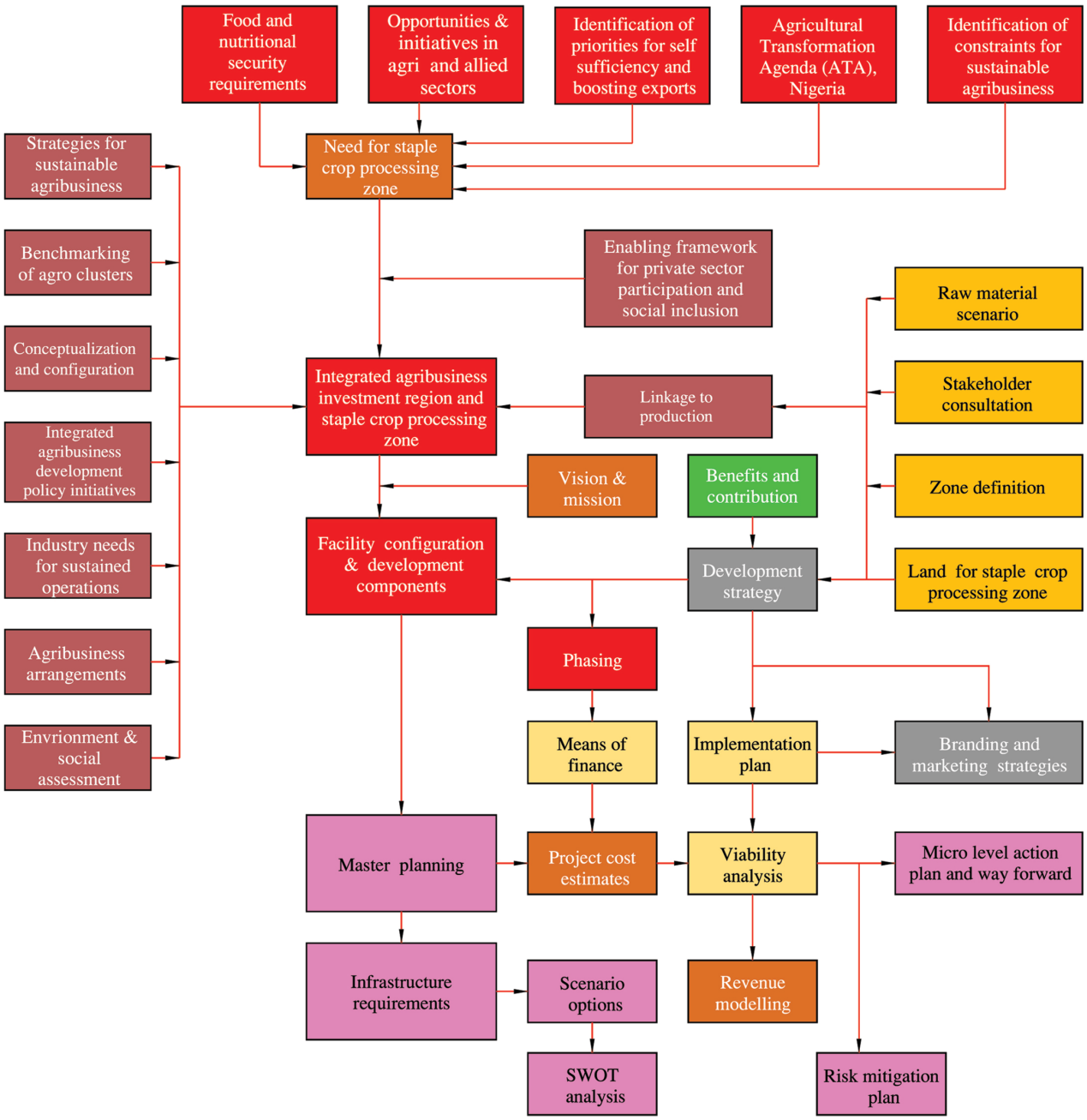
Integrated ABIR and SCPZ objective enablers

Create vibrant large size agro clusters with an efficient and effective business environment	Establish a premier class business hub, internationally renowned for its infrastructure and creative energy – preferred home to national/ international companies for partnering and networking	Deli innovative solutions and nurture skills
Focus development and attain leadership on a global platform in the sustainable agro clusters domain	Better utilization and value-addition of agricultural produce	Create multi-formatted industrial developed land, built up space for business, residential and commercial space with excellent state of the art infrastructure facilities
Create the critical infrastructure to fill the gaps in the supply chain from farm to consumer	Specialized agri-infrastructure facilities at an affordable cost structure	Minimizing wastage at all stages in the food processing chain by deveing of infrastructure for storage, transportation and processing of agro-produce.
Induction of modern technology into agriculture and food processing industries	Provide an intellectually stimulating environment through which professionals from academia, industry, boutique firms, incubators and research laboratories can collaborate on projects of business, government, societal, commercial and national significance	Produce professionals in different sectors with different skills, who will be capable of innovating, creating and harnessing both local and global best practices for solving problems of local and national interest in the field of agribusiness
Create vibrant linkanges with industry, academia, R&D institutions and market nationally and globally through dynamic knowledge networks	Encouraging R&D in food processing for product and process development	Providing policy support, promotional initiatives and facilities to promote value added exports

METHODOLOGY FOR ISID

Developing the methodology for integrated ABIR and SCPZs based on ISID principles was a holistic process involving: extensive field work; site visits; exhaustive stakeholder consultations; agriculture and allied sector analysis; evolving the ISID model; engineering and infrastructure planning; investment and business strategy formulating; and developing appropriate models and mechanism for inclusiveness, partnerships and sustainability.

Methodology for integrated ABIR and SCPZs modelled on ISID principles



CONCEPTUALIZATION OF INTEGRATED ABIR AND SCPZs

Agribusiness investment regions (ABIRs) are, by definition, large delineated regions that provide conducive environment and infrastructure for agribusiness. The state of the art agri-industrial, environmental, physical and social infrastructure will be established in the integrated ABIR and SCPZs with adequate transport connectivity (i.e. airports, seaports,

highways and rail networks). An ABIR includes the following components: open area production zones; controlled environment growing, precision farming; knowledge hubs and research facilities; rural hubs; agri-infrastructure; collection centres; primary processing hubs; social infrastructure; agri-marketing infrastructure and others. This entails developing agribusiness zones with strong backward and forward linkages, knowledge hubs, research and development (R&D) institutions and supporting universities, social infrastructure (e.g. integrated townships), healthcare, educational infrastructure, agro tourism infrastructure, destination development, etc.

The agro processing zones (SCPZs in this case) have state of the art infrastructure, including basic infrastructure such as site grading, roads, power, water, communications, drainage, sewerage, sewage treatment plants, effluent treatment plants, storm water drains, rain water harvesting, and fire fighting. SCPZs also include specialized infrastructure such as auction halls, cold storages, quarantine facilities, quality control labs, quality certification centres, raw material storage, controlled and modified atmospheric storage, central processing centres, etc.

A systematic approach was adopted in formulating and developing a master plan for the six SCPZ clusters, with an underlying concept of ISID on a partnership model.

The growth of the agro and food processing sector is essential in meeting the ATA objectives of ensuring food security, generating jobs for Nigerian youth, establishing value chains in areas where Nigeria has comparative advantages and changing the perception on agriculture as a business initiative, rather than a mere developmental project.

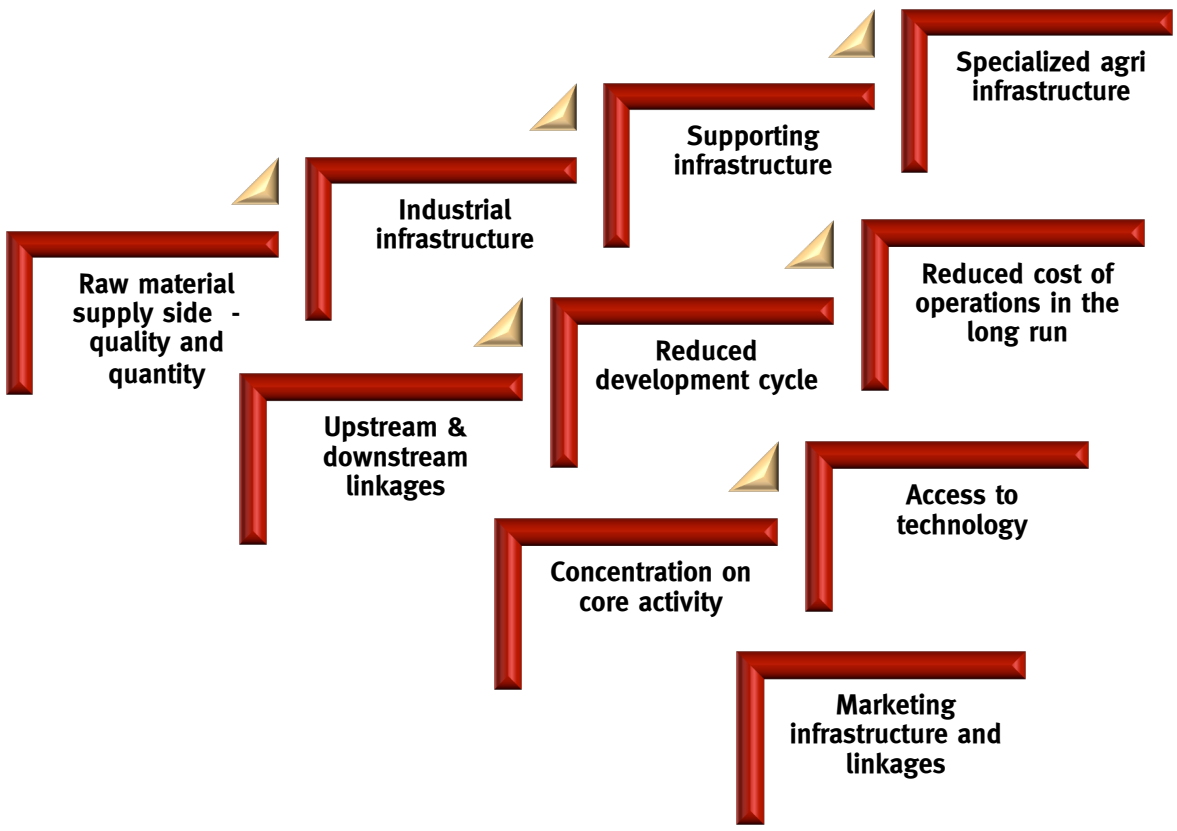
The availability of and access to infrastructure are prerequisites for attracting inward investments into a country. Agro-based cluster development helps attract investments by addressing infrastructure bottlenecks. Indeed, international agro-based clusters have proven successful in transforming regional profiles.

Agro-based cluster development leverages on existing regional and logistics networks, hence the clusters need to be aligned along major transport routes. Further, this alignment also needs to be integrated with existing agribusiness regions and assimilate to Greenfield and Brownfield development.

The potential for agribusiness development is varied across Nigeria. The country's inherent strengths such as the availability of natural resources, raw materials and skill differ from one region to another. Moreover, significant imbalances can be observed in the availability of agri, industrial, environmental, physical and social infrastructure.

The existing agri and allied infrastructure is inadequate for sustaining the envisaged growth, in terms of domestic demand, agro production, agri-industrial output, business volumes, exports and social development. This infrastructure inadequacy is a major constraint to Nigeria's economic growth. A development model for sustainable agribusiness needs to effectively address this priority constraint.

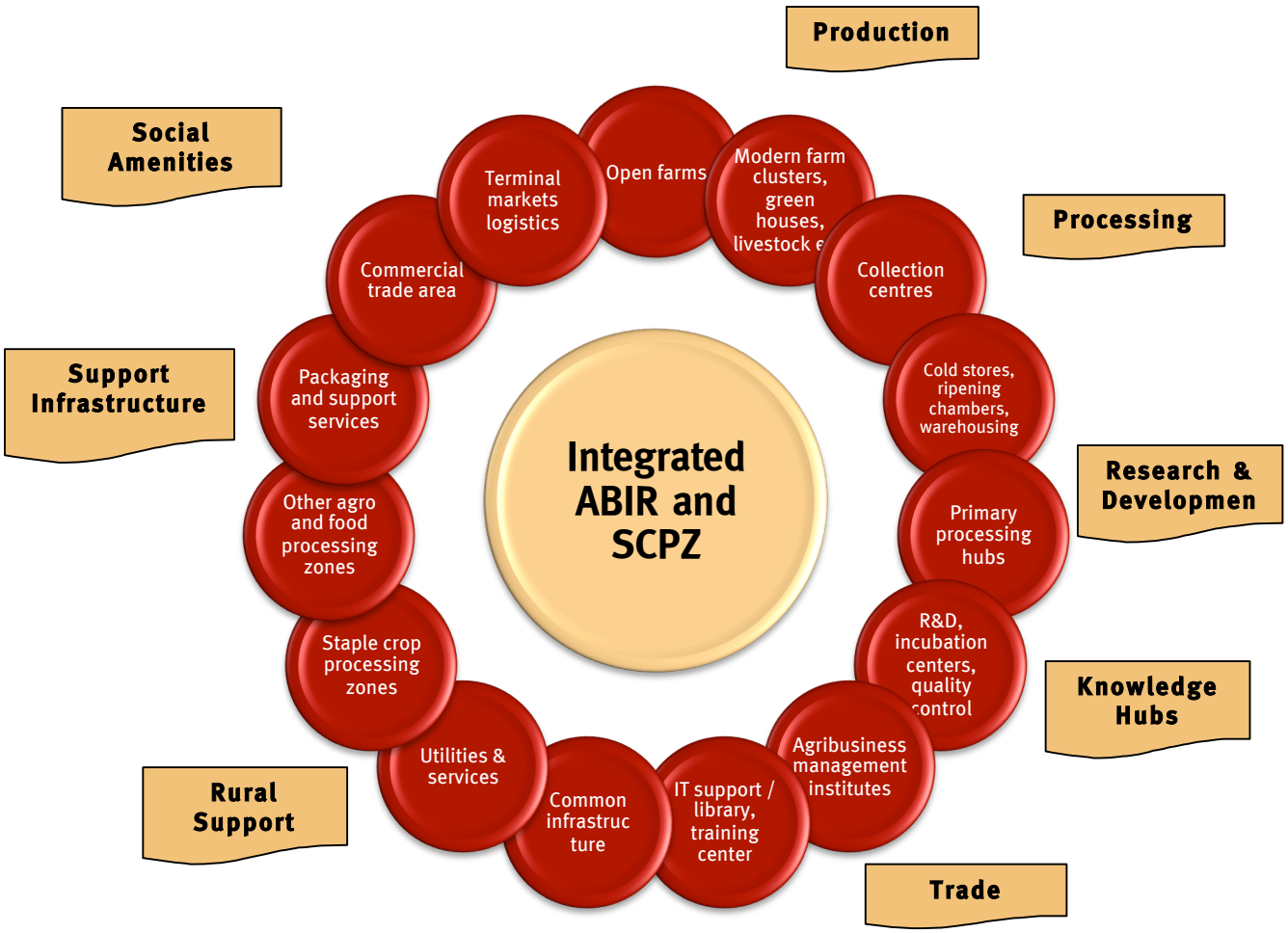
Project related significant factors for investment decision-making



The concept of developing an integrated agri and food processing industrial hub encompasses the entire range of agri and allied sectors with linkages to production zones and with state of the art infrastructure facilities. This, in turn, creates a conducive environment for addressing project related requirement for companies engaged in agri inputs, hi-tech greenhouse cultivation, staple crop processing, other agro commodities processing, food processing, and in agri engineering and allied areas.

Integrated ABIR and SCPZ encompasse agri and allied sectors in a holistic manner

Integrated ABIR and SCPZ concept plan – A cluster approach for holistic ISID in agribusiness



The enabling environment in the integrated ABIR and SCPZ would allow the occupants to focus exclusively on precision farming, hi-tech cultivation, preservation, processing, research, technology development and innovation in a safe, secure, aesthetic and professional setting.

The integrated ABIR and SCPZ will be positioned as an integrated industrial and business hub and will work with regional research partners, companies and entrepreneurs to facilitate and undertake clustering, commercialization and incubation activities. The integrated ABIR and SCPZ will also participate in any wider regional innovation systems where benefits can accrue through the collaboration of local innovation and incubated ventures.

The integrated ABIR and SCPZ will act as a platform to facilitate this engagement and collaboration with domain experts, stakeholders, key participants and will lead innovation in the field of agribusiness.

The integrated ABIR and SCPZ clusters will also promote a mind-set change at grassroots levels, encouraging people in education, business, government, non-governmental organizations (NGOs) and those involved in urban and rural development to engage in innovative activities and co-shape a national innovation strategy.

The *InnoAgro Nigeria*, the integrated ABIR and SCPZ initiative, initiated by the GoN for achieving sustainable development of agri and

allied sectors, aims to achieve balanced regional development and inclusive growth. It strongly emphasizes inclusive growth and agriculture as a business initiative. The integrated ABIR and SCPZ initiative will thus become a key component of ATA Nigeria.

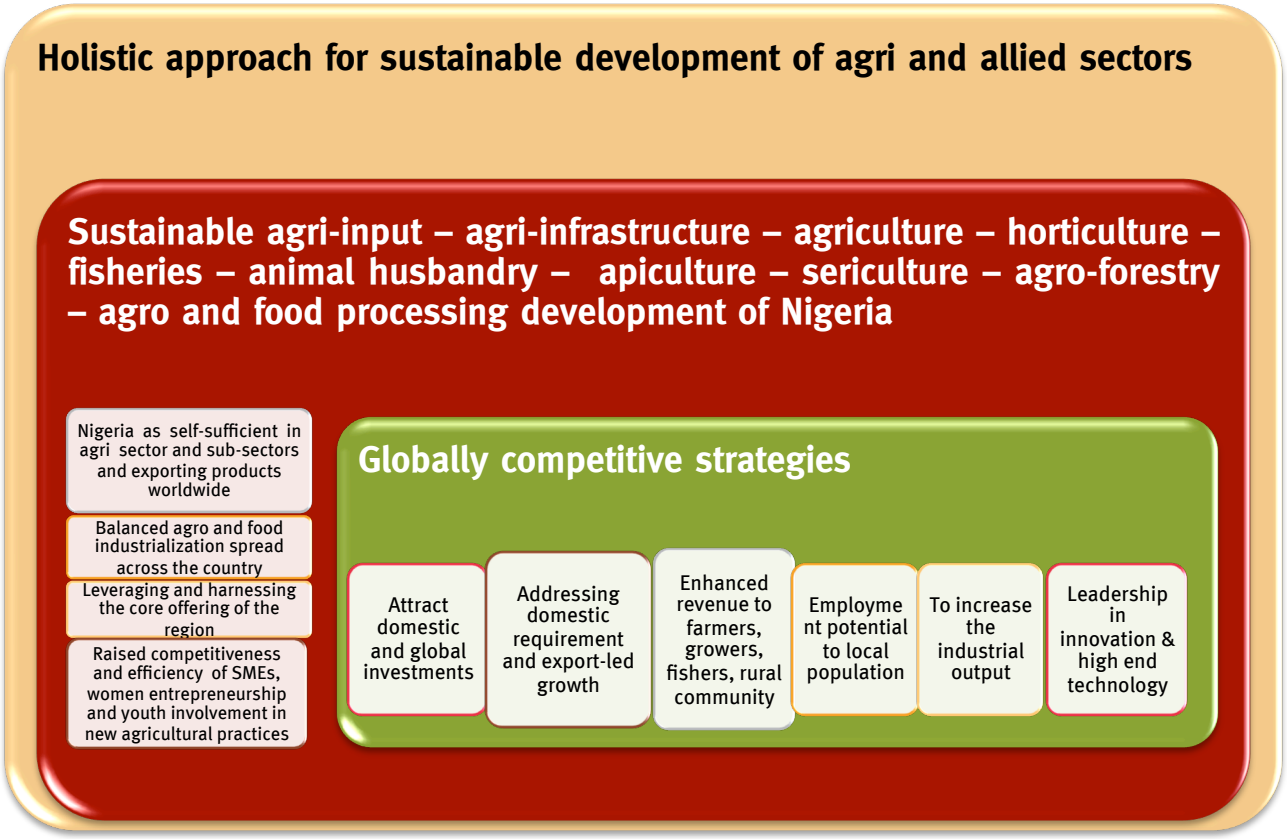
Some of the key drivers for the success of the integrated ABIR and SCPZ include: international benchmarking of products; expertise in the integration of agri production and processing; solid infrastructure; cost effective delivery; right-sector selection and focused marketing.

The comprehensive planning, development, operation and management guidance needs to incorporate key issues such as: delineation of the production; effective linkages between production and processing; zoning within SCPZ; country partnership; backward and forward linkages; general infrastructure; specialized infrastructure; project structuring; financing; connecting with market needs, research priorities; industry-academia relationship; strategic linkages; measuring performance and efficacy; and developing a world class cluster image.

Environmental sustainability, phytosanitary and hygienic considerations and food safety standards are also key considerations in the development of a strategy.

Furthermore, integrated ABIR and SCPZ will adopt globally competitive strategies.

Globally competitive strategies of integrated ABIR and SCPZ



SCPZ MASTER PLAN AND INFRASTRUCTURE ENGINEERING

STUDY OF AGRO AND ALLIED SECTOR POTENTIAL FOR NIGERIA AND THE REGION

The detailed analysis of the agro and allied sector potential of Nigeria and the concerned regions reveals unlimited opportunities for value addition and for the scope of establishing large-scale agri-initiatives in the region. The value chain analysis is done through two different approaches. In the first approach, detailed sector and sub-sector wise value chain opportunities are mapped. In the second approach, the value chain opportunities are studied based on the product's movement chain from farm to consumer markets.

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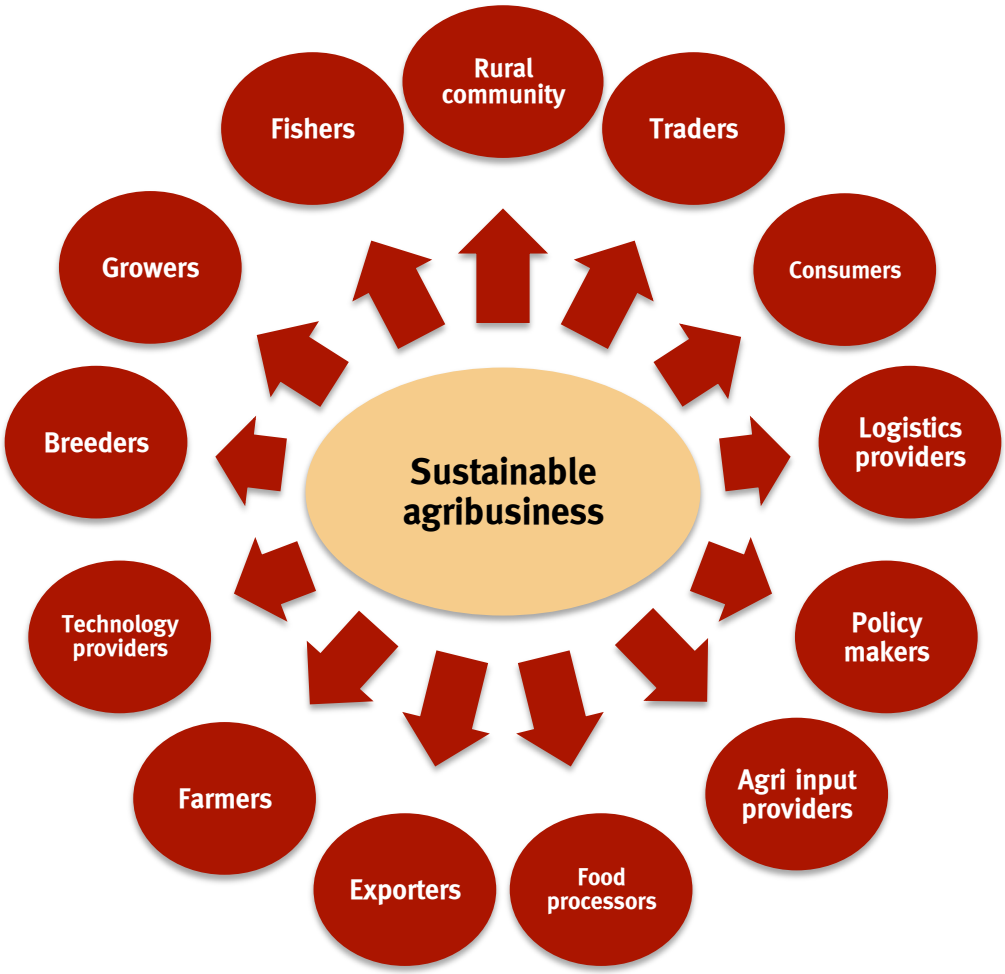
InnoAgro Nigeria
Sustainable Agribusiness Initiative

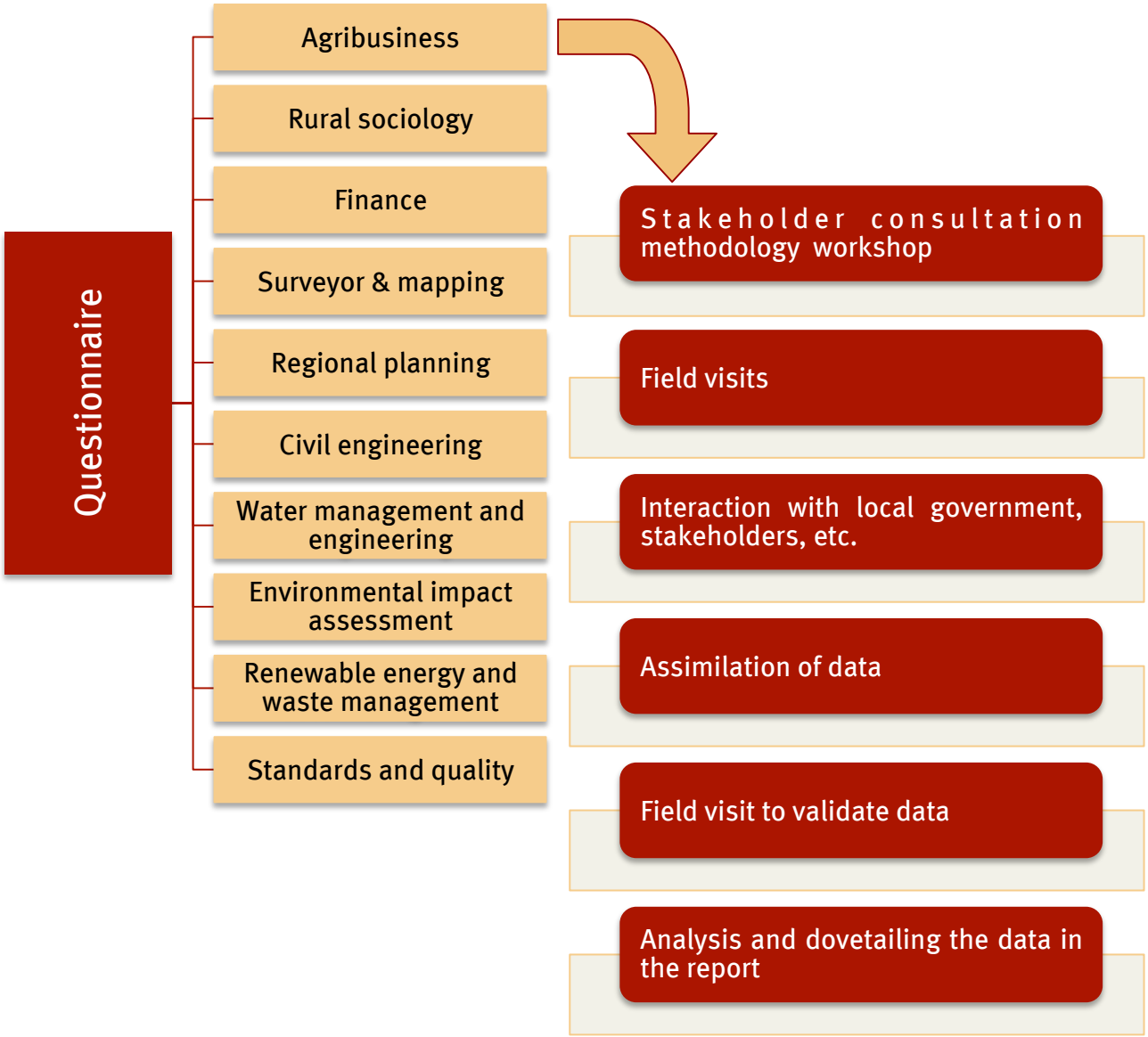
- Agri input
- Irrigation and water management
- Agri engineering
- Hi-tech cultivation under controlled climatic conditions
- Post-harvest infrastructure
- Food technology, food engineering and processing
- Hi-tech and biotechnology based agriculture & research
- Modern product storage - grain silo storage and modern silo complex
- Modern terminal markets
- Fishing harbour and fish landing centre - high level of hygiene standards meeting EU, HACCP and other norms
- Agro horti tourism zones

The successful development of integrated ABIR and SCPZ will largely depend on the active engagement of all stakeholders including: farmers or farmers' organizations, input suppliers, warehouse operators, buyers, traders and trading companies. An extensive stakeholder consultation programme was conducted at all the identified integrated ABIR and SCPZ locations.



In order to have an in-depth stakeholder consultation process and to capture the complete requirements and suggestions of all the stakeholders in the entire value chain, UNIDO hired Nigerian national experts, in addition to international consultants. The detailed questionnaire for the various stakeholders covers important areas such as agribusiness, rural sociology, finance, surveyor and mapping, regional planning, civil engineering, water management and engineering, environmental impact assessment, renewable energy and waste management, standards and quality, duty factoring, the project concept, as well as regional and sector specific issues.

Stakeholder consultation methodology



During the programme, stakeholders were provided information about the aims and objectives of proposed plans and programmes, attracting investment, business promotion, and benefits that could be accrued by the farmers, rural community, fishermen, traders, exporters, processers and other participants.

The outcome of the stakeholder consultation process was highly successful in terms of information, understanding the requirements, proactive participation, responses and suggestions.

DETAILED ANALYSIS FOR LAND SELECTION OF THE SCPZS

The importance of identifying suitable land for the project can be appreciated by the fact that the identified land should be able to support the development by virtue of its physical features and complement the successful development and sustained operation of integrated ABIR and SCPZ.

The identification and assessment of land suitability is based on a structured approach where the key parameters for each critical success factors are identified and assigned a weighting. The identified critical success factors influencing land selection are:

- Current status of land ownership
- Connectivity
- Physical features
- Infrastructure availability
- Environmental and social considerations
- Business considerations

Assessment criteria for land selection

S. No.	Critical success factor (CSF)	CSF importance (%)	Parameters to evaluate the CSF	Weight assigned (%)
1	Status	30%	Land identification	5%
			Tenure	5%
			Land acquisition	5%
			Land price	15%
2	Connectivity	25%	Resource availability with specific reference to agro and allied sector	5%
			Nearest rail head and its distance from the identified site	5%
			Distance from nearest federal expressway / state highway	5%
			Nearest airport and its distance from the identified site	2%
			Nearest sea port and its distance from the identified site	5%
			Nearest urban settlement and its distance from the identified site	3%
3	Physical features	20%	Size & shape	5%
			Topography	5%
			Soil conditions	5%
			Accessibility	5%
4	Infrastructure availability	10%	Industrial power & network	5%
			Water for industrial use	4%
			Sewerage disposal & storm water disposal point	1%
5	Environment and social considerations	13%	Environment regulations	5%
			Building regulations	4%
			Surrounding areas	4%
6	Business considerations	2%	Presence of competing facilities	1%
			Supporting business environment	1%
		100%		100%

Based on the compliance of the site, each parameter is allotted a score and a composite score is compiled to assert the suitability of the site in undertaking the proposed development. The composite score of each site determines whether it is the ideal location for establishing the proposed integrated ABIR and SCPZ, or not.

STUDY OF AGRO AND ALLIED SECTOR POTENTIAL AROUND THE SCPZS INCLUDING THE EXISTING LAND USE

It is imperative to prepare an indicative 'thematic' map showing the areas and features that could influence the development of integrated ABIR and SCPZ. Existing land uses become one of the most important considerations in deciding future land use requirements. Reviewing and evaluating the land use within the influence zone is one of the most important tasks in determining the physical plan and, ultimately, the characteristics of the development and quality of facilities proposed within the core area. Land use options must be carefully analyzed to insure new uses are supportive and complementary to the existing land use patterns in the area. The relationship between uses such as agricultural, industrial, residential, commercial, institutional, educational and recreational, and the expanse and intensity of each use, directly impacts the characteristics of the proposed development.

A structured methodology is adopted for the demarcation of a physical boundary of integrated ABIR and SCPZ. The existing land use patterns of the influence area are analyzed by looking at the following features:

- Administrative boundaries
- Major cities, towns/villages
- Settlements in the influence zone
- Industries
- Federal Highway, major roads and minor roads, railway lines, airport, sea port etc.
- General topography
- Hydrology - rivers, streams and water bodies
- Land use – agriculture, wetlands, barren, other forms of land classification, etc.
- Mixed vegetation, scattered shrubs
- Forest area
- Areas with striking features such as hills/cliffs
- Institutes
- Location of power source
- Location of water source

IDENTIFICATION OF AN EFFECTIVE ZONE OF PROCUREMENT FOR STAPLE CROP AND OTHER CROPS

The effective zone of procurement is a function of net marketable surplus, quantities that are likely to be processed in the SCPZ, costs of procurement and transportation costs. The various procurement sub-zones are likely to have different competitiveness in terms of supply to the SCPZ. In addition, the legal issues of procuring commodities from other jurisdiction need to be considered.

Various sub-zones are categorized within the procurement zone, in terms of its competitiveness as a feeder zone to the SCPZ. The effective zone of procurement is analysed in the context of legal issues such as state boundaries and the establishment of collection centres and primary processing hubs.

In general, the effective procurement zone is considered as a 30 km radius. However, effective zones of procurement are restricted to state boundaries for administrative purposes, unless otherwise

specifically declared through appropriate instruments by the competent authorities.

MASTER PLANNING OF THE SCPZs

- ***Planning principles and objectives***

The aim is to develop SCPZs with state-of-the art infrastructure facilities and professional management to attract and support investments in agro and allied sectors.

Certain planning objectives and principles were envisioned in order to implement the SCPZ and to promote a new 'industrial' cluster image in Nigeria, as well as to develop confidence for foreign and local investors to undertake the development of the project and subsequent operation of their businesses.

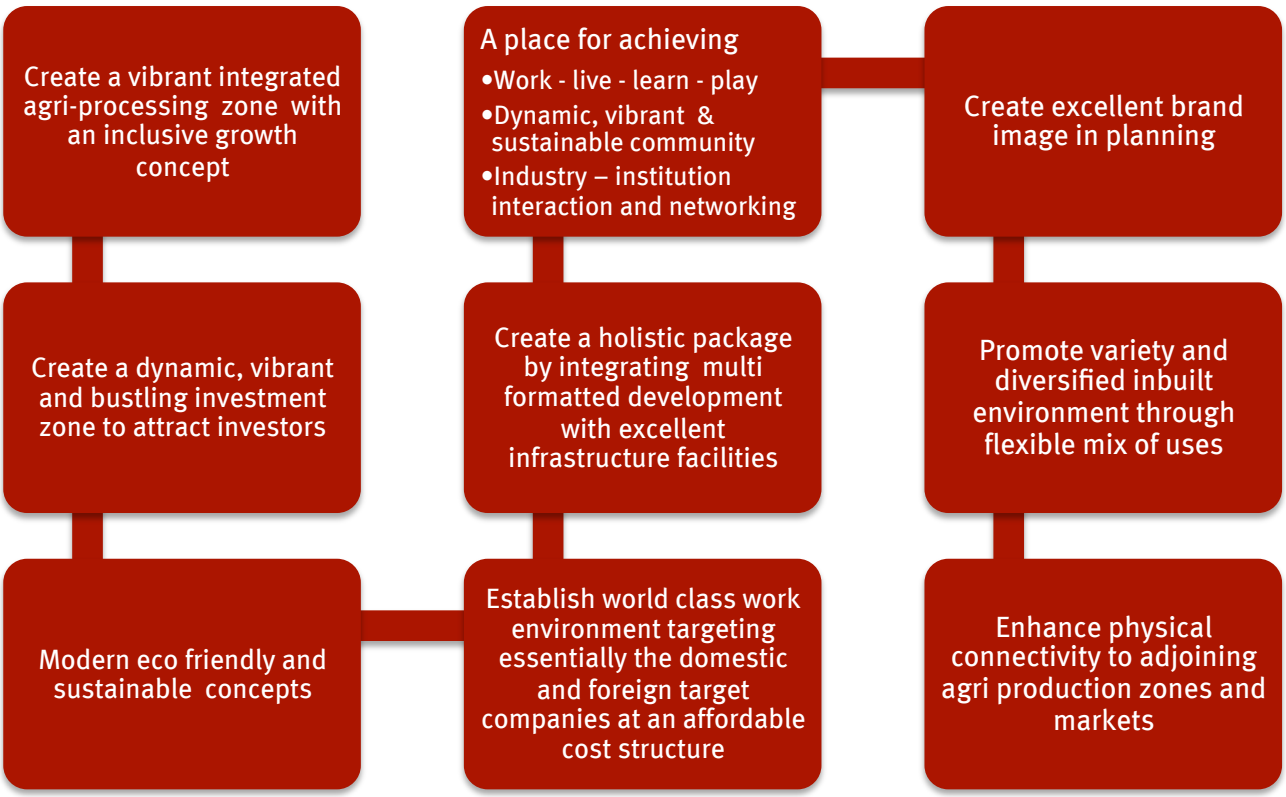
Planning principles and objectives

- Laying down broad policies and directions for growth
- Propose a set of planning standards to be adopted
- Designate broad land use distribution of the whole site
- Evolve land use mix – industrial plots for the identified staple crop and other crops, social amenities, general infrastructure, specialized & specific infrastructure, road, open & green space, etc.
- Position the zone to accommodate various types of target industries and to ensure compatibility
- Provide an integrated infrastructure system network to support the development
- Develop requirements of various public utilities
- Evolve phasing of the project
- Compliance to various planning norms & guidelines of FRN and state government

Planning concept

Planning concepts are defined to develop the SCPZ as a "sustainable-holistic-smart intelligent-eco-agri-processing zone".

SCPZ planning concepts



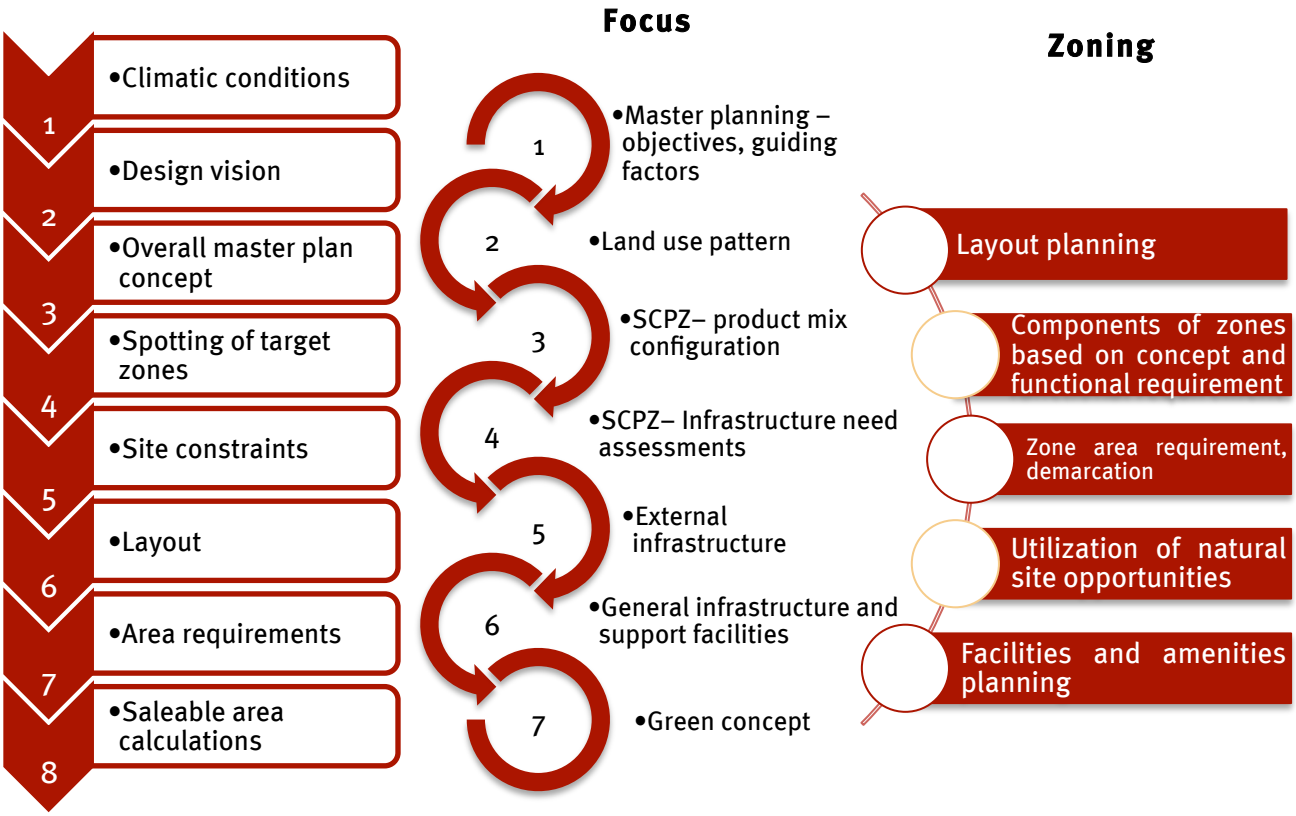
SCPZ planning considerations

Each zone within the SCPZ is planned to be dedicated to the specific sub-sector and would be a self-sufficient unit in terms of facilities, ability to attract investors and revenue generation.

Social and commercial amenities are also planned to provide convenience to visitors as well as to the working population within the SCPZ. The project is to be housed in a lush green environment and, accordingly, landscaping and greenery are planned.

Land use and layout	○ The whole area is suitably divided into a number of identified activity centres of different sizes. ○ The layout is developed with complete understanding of the phasing program.
Constraints and core offering of the site	○ Site-specific constraints are fully respected and mitigation measures are fully taken into consideration. ○ Leverages the core and supplementary offering of the site
Social amenities	○ The master plan takes into account planning for services and amenities ○ Provision is made for sustainable social amenities
Lack of enforcement / control on land use and growth of unapproved housing / layouts	○ Well-conceived SCPZ implementation framework is suggested.
Non uniform distribution / concentration of industrial growth pockets	○ A structured industrial zoning in terms of raw material, effluent generation, pollution level category, end product distribution etc.,
Shortage of skilled / trained manpower	○ Provision for training centres, skill development centres, educational and employability improvement centres
Conservation of ground water & surface water resources	○ Sustainable infrastructure planning ○ Eco friendly concepts and environment sustainability ○ Water conservation schemes ○ Recycling and reuse options
Transportation	○ Provision for logistic hub for both raw material and finished product ○ Appropriate road network including the approach roads to production zones
Environmental management	○ Adherence to pollution control norms & standards, ○ Control over, storage and handling of industrial waste ○ Common effluent treatment

Master planning considerations



- ***SCPZ land use pattern***

The land use pattern of the SCPZ is determined considering the land requirement for various processing units, logistics requirements, research, post harvest infrastructure, education and knowledge hubs, capacity development, skill development, agribusiness management, residential facilities, schools as well as various social amenities.

Adequate green space including pocket parks is provided within the SCPZ and along zone boundaries.

Description of SCPZ zones, product mix and facility configuration

Industrial zone	•Staple crop processing units (anchor and other target units), staple crop ancilliary units, other products processing units (anchor and other target units), other products ancillliary units, value addition centres, etc.
Specialized agri infrastructure zone	•Grading and packing halls, common service centers, primary processing centers, quarantine facilities, quality control labs, QA / QC labs, R & D centre, etc.,
Logistics zone	•Loading and unloading yards, packaging halls, transportation hubs, cargo handling centers, raw material collection and storage halls, finished goods storage, packing and labelling, procurement centre, etc.,
Institutional and amenities zone	•Play school for toddlers, crèche, schools, coaching centre, knowledge cell, marketing intelligence, library, shopping, retail, poly clinic, recreational areas, parks, play grounds, administrative buildings, etc.
Multi facility complex, utilities	•ETP, STP, WTP, SWM, compressor / chiller / boiler networks, gas distribution (provision is made in case gas linkage is available in future), sewer network, communication network, street lighting, wastewater network, electrical substation, etc.,
Residential zone	•Multi formatted housing, guest houses, etc.
Greenery and walkways	•Green belt along the boundary, lawns and parks, tree plantation along the proposed roads, internal walkways etc.,

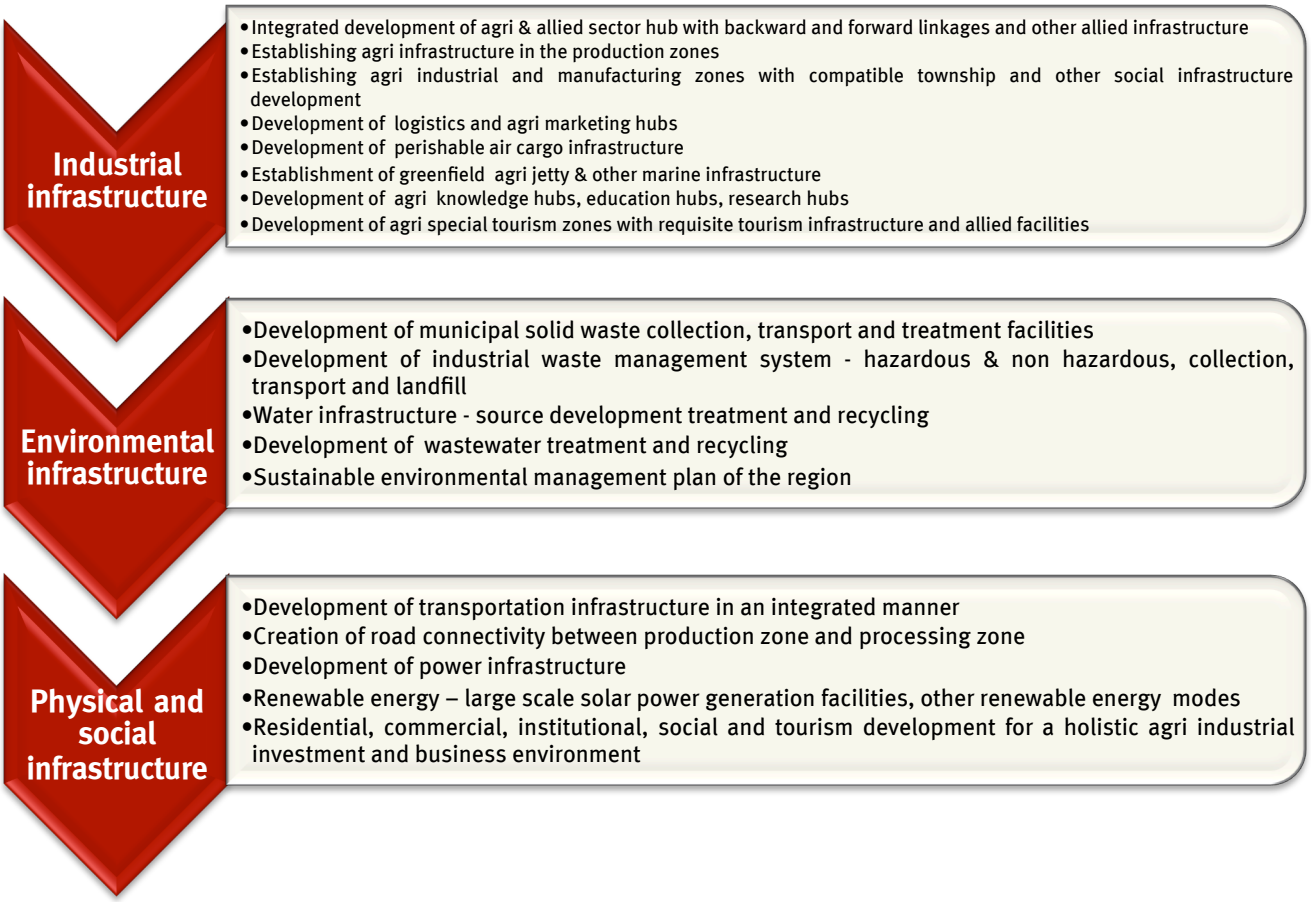
- ***Phasing of SCPZ development***

SCPZ development is configured in a phased manner, which has multiple benefits: factoring land off-take, flexibility for the project development company to mobilize resources and capacity to incorporate changes in the development cycle due to any major parameters affecting the project dynamics.

INFRASTRUCTURE AND FACILITIES

The objectives of providing industrial, environmental, physical and social infrastructure is to fill the gaps in the agri supply chain from farm to the end consumer.

Infrastructure objectives



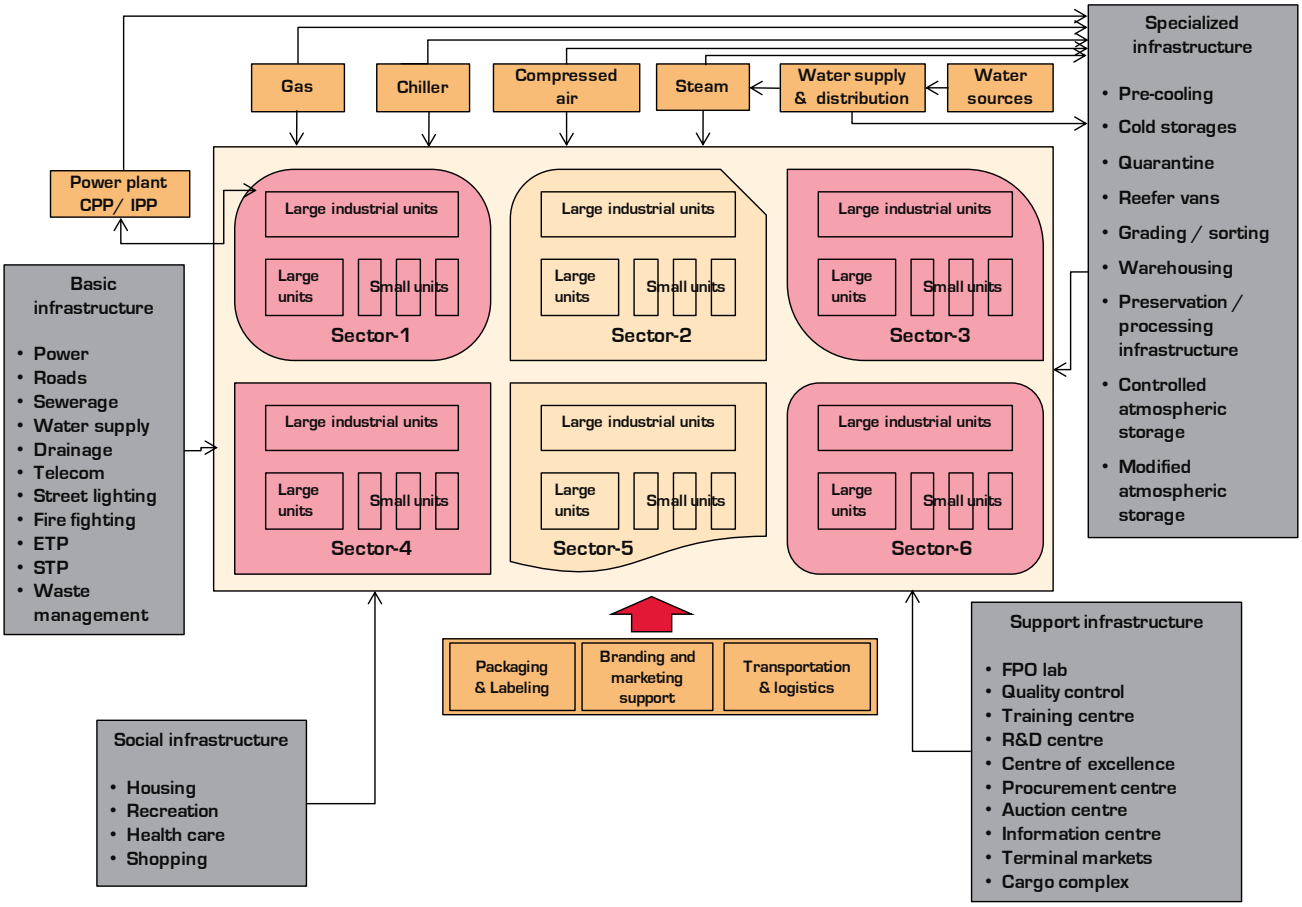
Infrastructure is a crucial requirement for the sustainable operation of the SCPZ. Infrastructure requirements are categorized as follows:

1) Infrastructure within SCPZ
2) Specialized agri-infrastructure in the ABIR
3) External connectivity and offsite infrastructure for SCPZ.

- ***Infrastructure and facilities within the SCPZ***

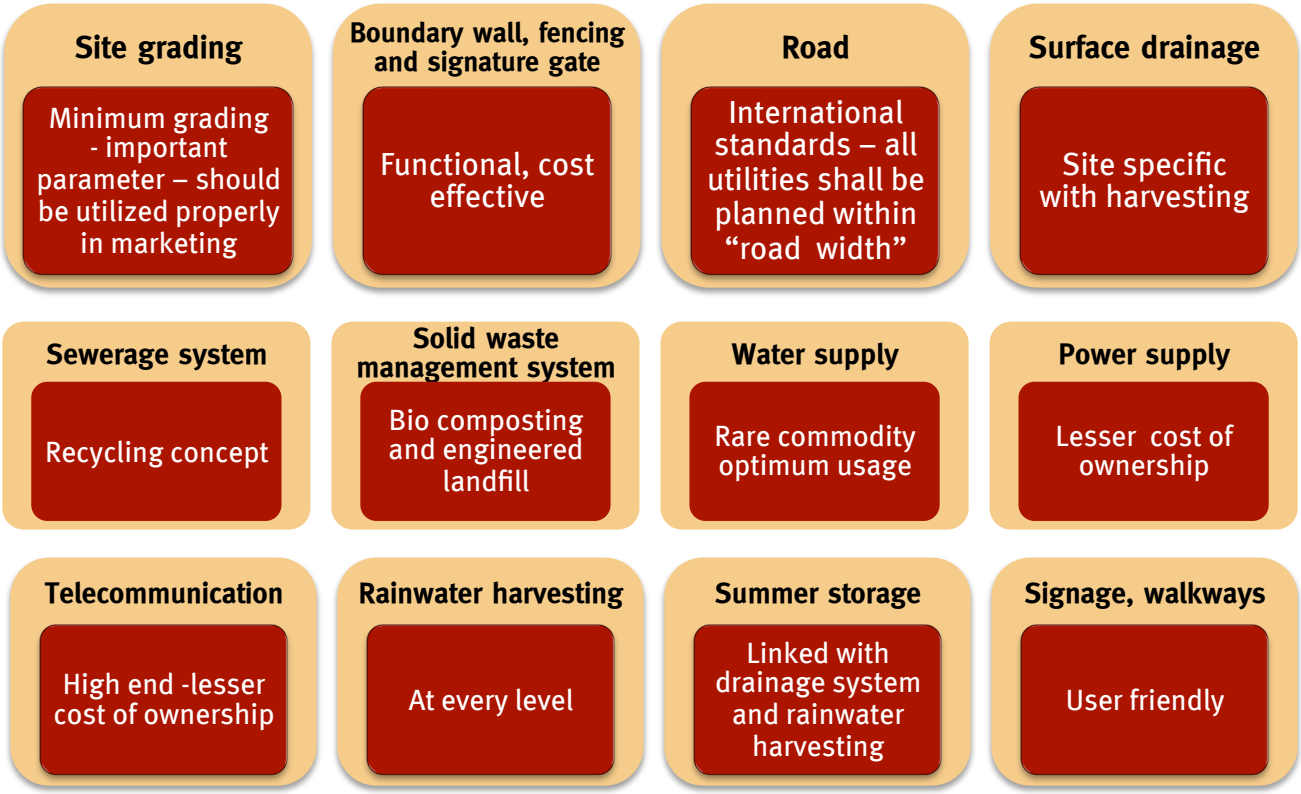
All the necessary infrastructure facilities are designed to create an optimal ambience and environment.

Schematic description of the SCPZ land use format and infrastructure



- Site grading
- Boundary wall and fencing
- Road, surface drainage with cross drainage works
- Sewerage network, STP and treated water distribution
- Gas distribution network
- Solid waste management
- Water treatment plant & supply
- Power supply
- Dedicated sub-station with feeder station and backup power for critical areas
- Uninterrupted power supply with 100% power backup
- Wi-fi connection and telecommunication
- Rainwater harvesting
- Summer storage & sustainability infrastructure
- Signage, walkways
- Street lighting interspersed with conventional & eco friendly solar power systems
- Dedicated security system
- Fire detection & fire fighting systems in critical areas
- Effluent treatment system

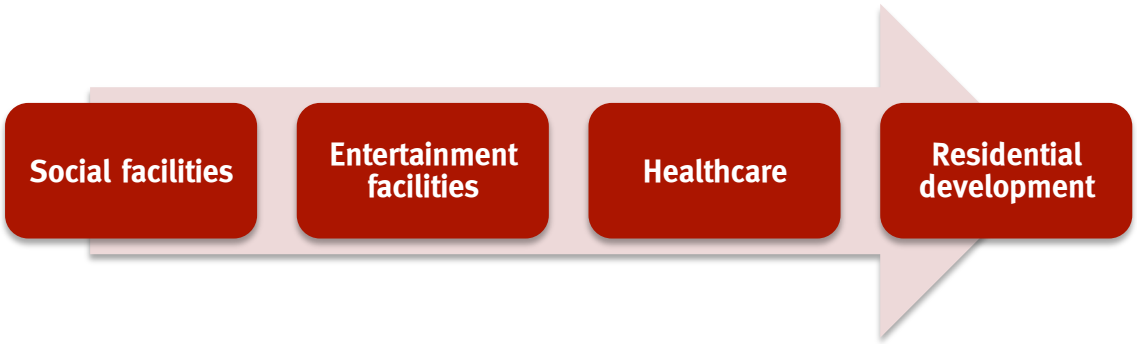
Sustainable infrastructure facilities – functional, cost effective and environment friendly system



Development of the SCPZ is driven by a strong foundation of sustainability, built right in the conceptualization stage itself. The sustainable elements conceived in the concept plan include: the use of eco friendly materials, recyclable materials, avoidance of toxic chemicals, usage of environmental friendly products, waste minimization technologies, scientific treatment of waste and energy recovery possibilities to reduce power consumption.

Social infrastructure is planned to provide the necessary support for the occupant industries in the SCPZ.

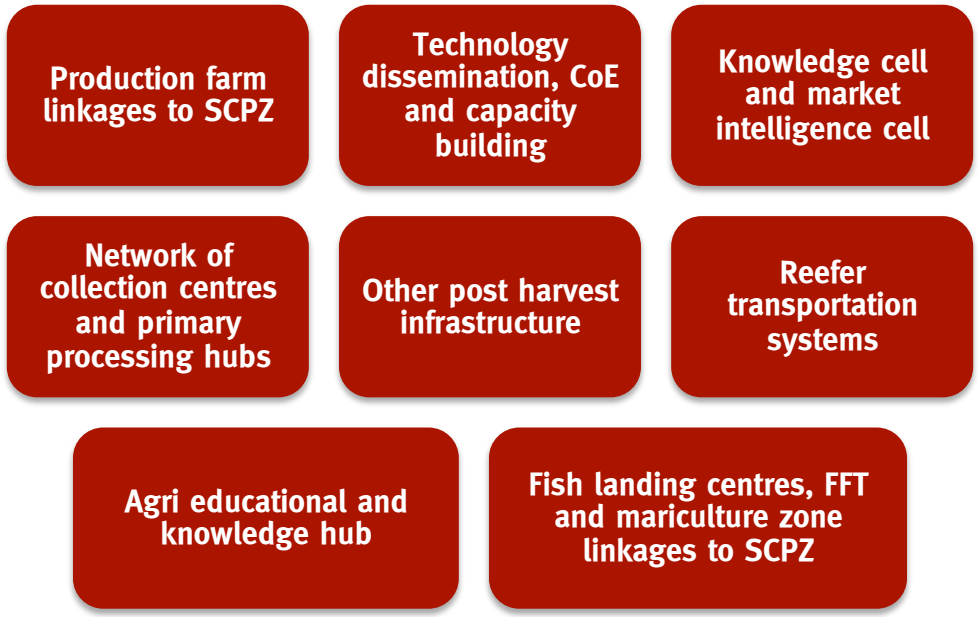
Social infrastructure



- ***Specialized infrastructure within ABIR***

Specialized infrastructure facilities are planned for integrated ABIR and SCPZs to develop a sustainable supply-chains linking farmers to processing centres as well as markets, both domestic and foreign.

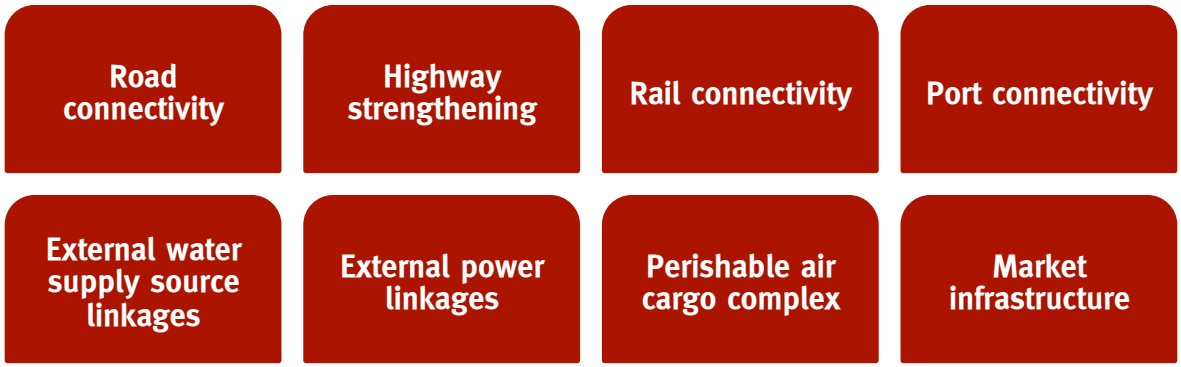
Specialized agri-infrastructure



- ***External connectivity and off-site infrastructure for SCPZs***

External infrastructure is planned to facilitate connectivity and forward and backward linkages necessary for the operations.

External connectivity and off-site infrastructure

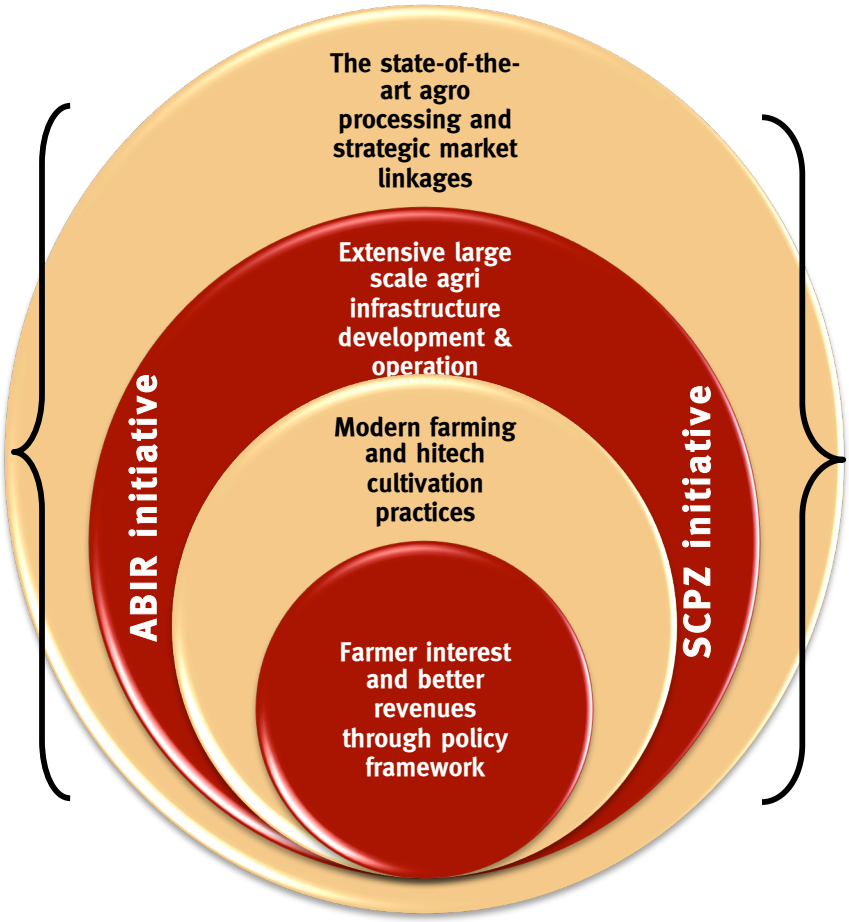


ISID MODEL OF INTEGRATED ABIR AND SCPZS

APPROACH TOWARDS ACHIEVING ISID

The integrated ABIR and SCPZ cluster development aims at achieving balanced regional development by leveraging the opportunities in a sustainable manner which was hitherto either unexploited or not utilized to their potential. This would necessitate development of manufacturing and agribusiness zones along a cluster model, harnessing the skill sets of the region, all supported by a competitive industrial, environmental, physical and social infrastructure. The development of integrated ABIR and SCPZ would yield the desired results in terms of regional economic and social development without endangering its ecology.

Sustainable inclusive growth development

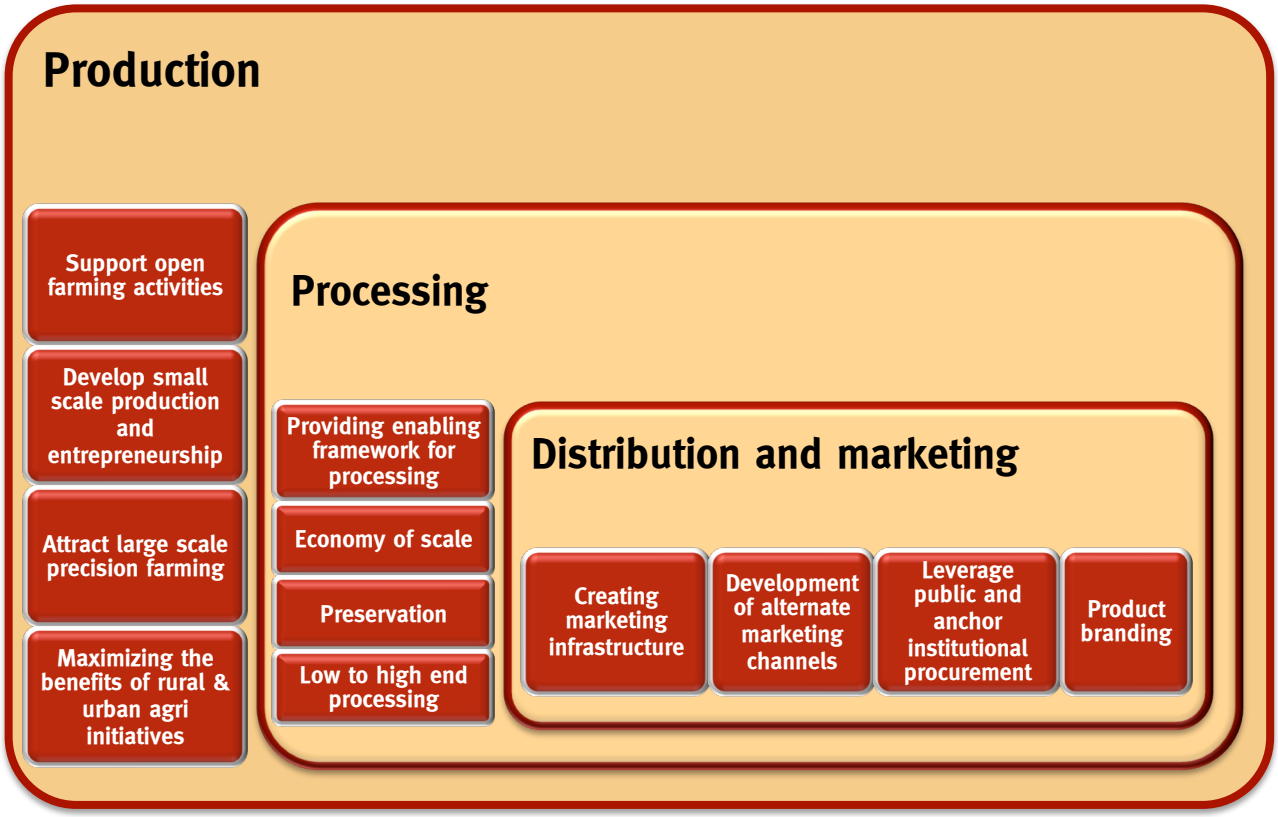


The integrated ABIR and SCPZ aims to bring together farmers, processors and retailers, and link agricultural production to the market so as to ensure maximization of value addition, minimization of waste and increases in farmers' income.

The integrated ABIR and SCPZs would essentially be a confluence of enabling nodes, the development of which would supplement and complement the core objectives of sustainable agribusiness. The enabling nodes would cover a horizon of activities necessary to propel the conceived development of agro and allied sectors in the country.

The integrated ABIR and SCPZ will focus on the strategic linkages with farmers, industries and other reputable institutes or organizations in Nigeria and abroad.

Production to market; strategic linkages with social inclusion – end to end approach



The integrated ABIR and SCPZ enables the development of agro and allied business in a sustainable manner, in a way that ensures rural prosperity, better returns to the farming community, together with improved technological tools and private sector driven industrial investments.

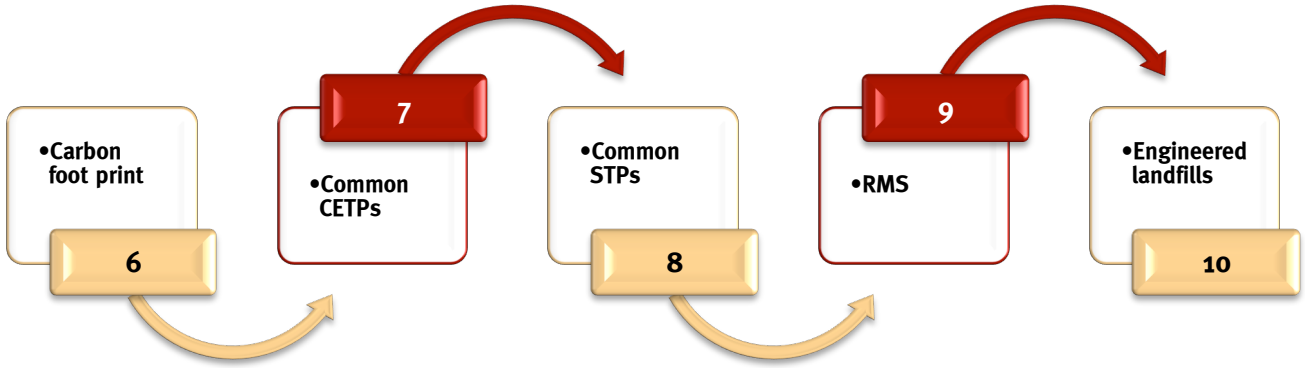
Integrated ABIR and SCPZ – A superior class agri and food processing hub with state of the art infrastructure facilities

Focus	Enablers	Linkages	Facilitators
• Sustainable agricultural practices • Staple crop processing companies • Agri and food companies – end to end • Full sector coverage across agri and allied sectors • Enabling agro eco system	• State-of-the-art facilities for sustainable staple crop production and processing • State of the art infrastructure for other agro commodities production and processing • Residential, social and commercial infrastructure • Industrial, environmental, physical and social infrastructure	• Linkages with production and processing • Linkages with industries, academia, research, government and other end users • Networking with international, national and state level agencies for technology, investment and marketing of produce	• Augment government initiatives in agri and food processing sector • Promote international collaboration • Organize interactive beneficial meetings, B2B, at the state, national and international level

CRITICAL SUCCESS FACTORS FOR INTEGRATED ABIR AND SCPZ

Nigeria's varied agro ecological zones, knowledge base, ATA initiative, abundant raw material resources, unlimited opportunities in the agro and food processing sector have the potential to bestow great benefits on agribusiness companies, government, people and the environment. The decision to establish integrated ABIR and SCPZ clusters in Nigeria at strategic locations is essentially an expression of the ambition to derive benefits from the country's ecosystem to the agribusiness stakeholders, including rural communities.

The critical factors required for the success of the proposed integrated ABIR and SCPZ in terms of adequate size, brand positioning and partnering, administration and GoN support are analysed.



SOCIAL SUSTAINABILITY

- ***Project affected people (PAP)***

  During site selection process it was ensured that there are no settlements, farming lands and livelihood elements within the designated SCPZ boundary. However, during the implementation stage, the quantification of the project affected people, if required needs to be taken up.

- ***Agribusiness analysis and contract arrangements (inclusiveness)***

  A holistic approach is conceived for an inclusive model for agribusiness analysis and contract arrangements. This includes evolving Integrated Agribusiness Development Policy, development of specialized agri infrastructure in rural and catchment areas, promoting sustainable agricultural activities and legal framework for raw material procurement.

  Integrated Agribusiness Development Policy 2013

  In an initiative to create an inclusive sustainable agribusiness, a farmer centric and investor friendly Integrated Agribusiness Development Policy 2013 (draft) was conceived to give impetus for the development of integrated ABIR and SCPZ across the country.

  This policy forms the foundation for implementing a constructive integrated ABIR and SCPZ, apart from providing a well-defined guideline in the agriculture and allied sectors which would enhance the income of farmers, increase the country's GDP and more importantly provide basic food security to the citizens of Nigeria.

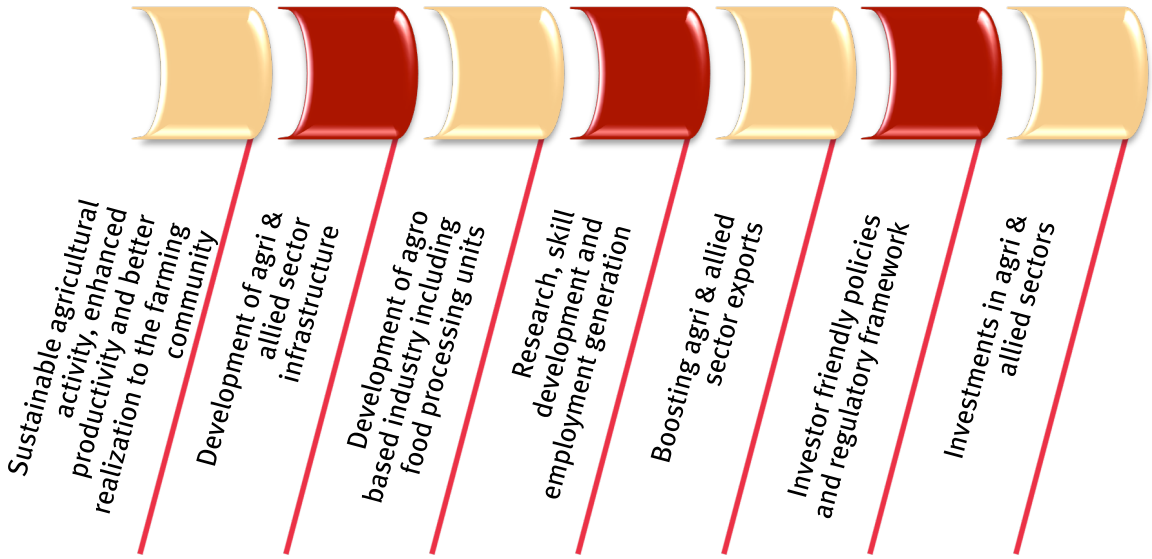
  The policy aims to create an enabling institutional structure for addressing the thrust areas requiring intervention, facilitating flow of investment, technologies, skill sets and modern management practices.

  The policy addresses supply chain alignment with domestic and international requirements, improving market access through market intelligence. Furthermore, some of the regulatory hurdles that have been affecting growth in the sector have been refined with appropriate measures for implementation.

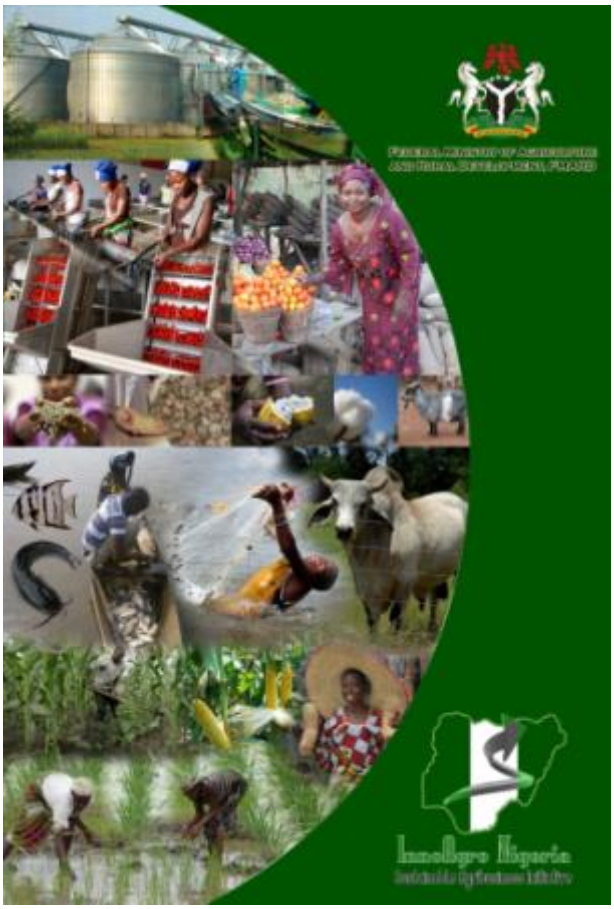
  The policy hopes to provide an enabling framework leading to an increase in yield, a reduction in consumer prices on the domestic front, grading and food safety practices, an increase in exports, a reduction in post-harvest losses, sustainable farming practices and increased penetration of technology.

The policy facilitates state of the art technology, knowhow and avenues for international marketing of the produce apart from private sector investments in developing the much needed agri infrastructure & agro based industry units in a fair and transparent manner for ensuring sustainable agribusiness development in Nigeria.

Framework for development of Integrated Agribusiness Development Policy 2013



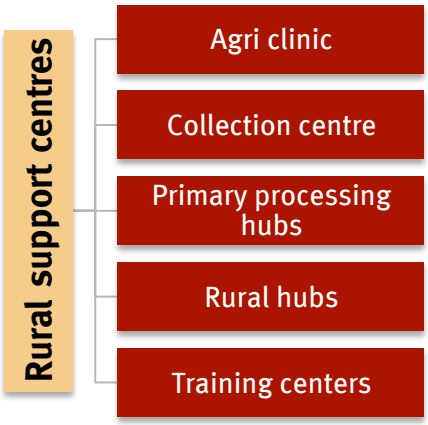
First of its kind policy for holistic development of sustainable agribusiness

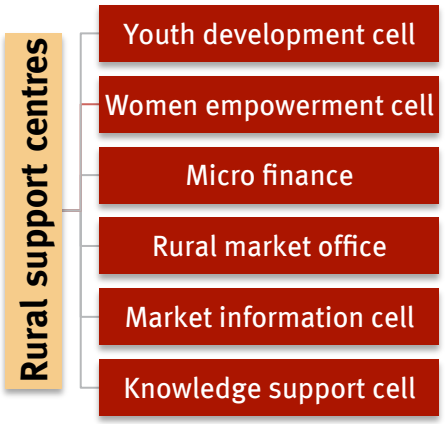


Development of specialized agri infrastructure in rural and catchment areas

The SCPZ are configured to have a strong linkage for active engagement of rural communities and social inclusion through various infrastructure facilities.

Infrastructure initiatives for rural community and social inclusion





Promoting sustainable agricultural activities

As a measure of inclusiveness, the SCPZ will actively engage with rural community for promoting sustainable agricultural activity and, enhanced productivity. Various interventions, knowledge dissemination and capacity building areas are mapped.

Legal framework for raw material procurement

The legal framework is also devised for effective procurement of raw material for sustained operations of occupant units of SCPZs. The necessary checks and balances are incorporated to ensure better price realization to the farmers and rural communities.

Ensuring sustained supply of raw material through effective contractual arrangements

Purchase through contract farming	Feed through management contract	Captive growing - open farming	Captive growing - controlled environmental conditions
• The land ownership shall continue to rest with the farmer and the processing unit shall enter into a limited period contract for supply of a predetermined variety and standards with or without price fixation. • Legal document – MoU / agreement stipulating terms and conditions of a. Input supply	• The land ownership shall continue to rest with the farmer and the farmer shall lease out the land to the processing unit for the defined purpose of cultivating the agri commodities for a limited period of time. On expiry of lease period, the land shall be handed over to the farmer in full useable condition. The	• The processing unit or its associate shall procure land for the sole purpose of captive growing - open farming to the extent of 25% of its raw material requirements and shall endeavour to utilize the local population for the farming activities. The entire farming and agronomical practices shall be the responsibility of	• The processing unit or its associate shall procure land for the sole purpose of captive growing in controlled environmental conditions to the extent of 25% of its raw material requirements and shall endeavour to train the skilled labours in hi-tech cultivation practices. • Legal document –

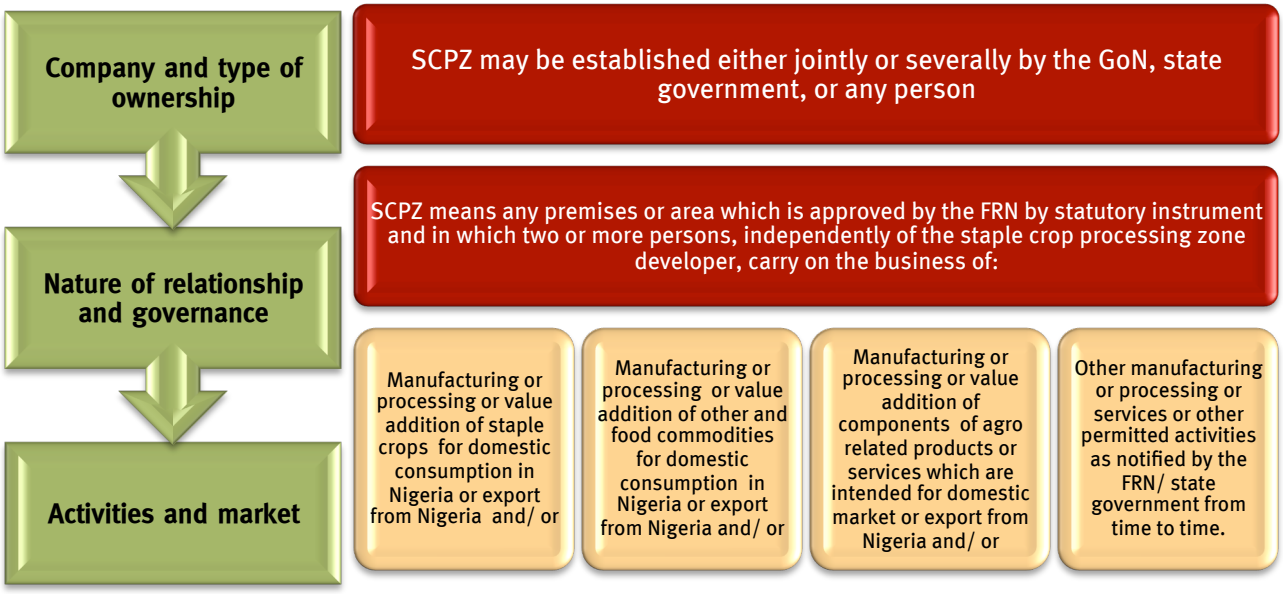
Purchase through contract farming	Feed through management contract	Captive growing - open farming	Captive growing - controlled environmental conditions
arrangements b. Technology and cultivation support c. Purchase price d. Quality control e. Product delivery, quality and quantity certifications f. Liabilities g. Force majeure h. Clauses to protect farmer's interest i. Clauses to ensure sustained supply of raw materials	processing unit shall endeavour to utilize the local population for the farming activities. The entire farming and agronomical practices shall be the responsibility of the processing unit. • Legal document – MoU / agreement stipulating terms and conditions of a. Lease of land for cultivation by the processing unit b. Creation of local employment and training c. Rural improvement support services d. Clauses to protect farmer's interest e. Clauses to ensure sustained agricultural activities	the processing unit or its associate company as the case may be. • Legal document – This is basically an internal working arrangement and hence the allotment of land for cultivation to the processing unit or its associate company shall clearly specify the end use purpose and engagement of local population for farming activities	This is basically an internal working arrangement and hence the allotment of land for controlled environmental cultivation to the processing unit or its associate company shall clearly specify the end use purpose including imparting training to skilled labours in hi-tech cultivation practices.

BUSINESS SUSTAINABILITY

- ***Demarcation of the SCPZ and legal definition of the zones***

The SCPZ may be established either jointly or separately by the GoN, state government, or any person in order to facilitate high-tech cultivation of agro products, processing of agro products, food processing, manufacture of agro and food products, or rendering services or for both for domestic and or export market.

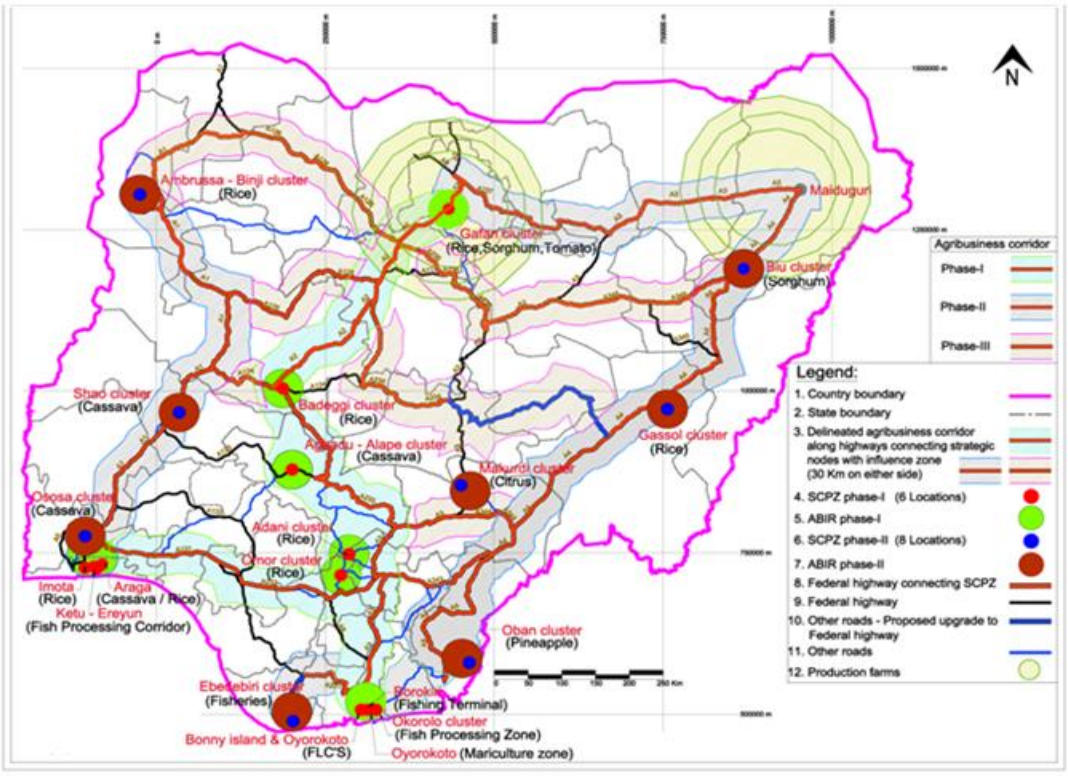
Legal definition of the SCPZ



- ***Agro corridor***

  In an effort to develop sustainable agricultural development in Nigeria, ensure balanced agriculture and food industrialization across the country, enhanced revenues to farmers and employment potential to local population, multiple integrated ABIRs and SCPZs are contemplated which would eventually lead to development of food production and processing corridors of excellence in a phased manner.

Agro corridor of excellence

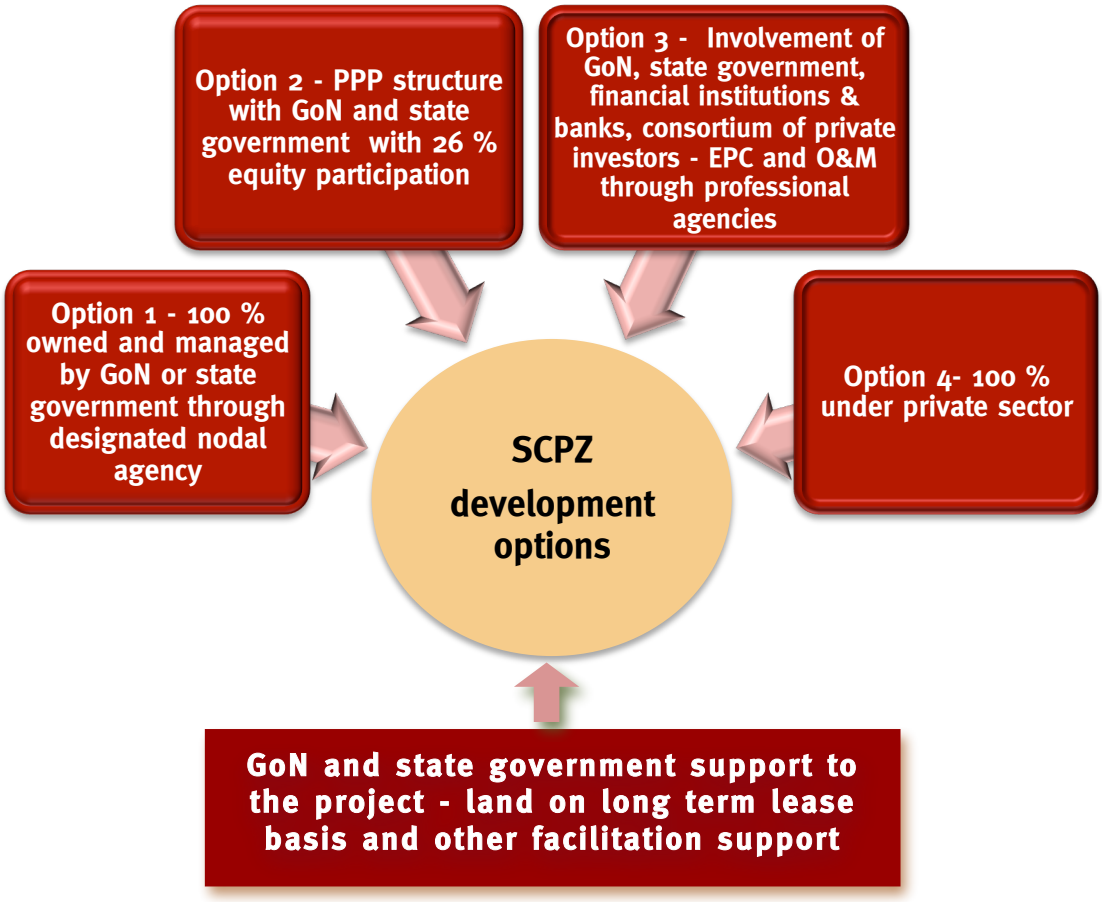


- ***SCPZ development options***

  SCPZ can be developed entirely by the government or in public private partnership (PPP) mode or by private sector. Irrespective of the development approach, the land for the SCPZ development is provided by GoN and state government and the consideration for the same may vary from approach to approach. Due checks and balances are dovetailed for ensuring the envisaged end use and value creation in agribusiness sector.

  The various scenario options for the development of SCPZ clusters are studied and recommended after critical review and benchmarking of successful models of meaningful participation of private sector.

SCPZ development options



- ***Special Purpose Vehicle and project structuring***

The development and management of the SCPZ shall be under the control of a Special Purpose Vehicle (SPV).

SPV shall be a corporate body, a company incorporated under the Companies and Allied Matters Act, 1990, registered with the Registrar-General of the Corporate Affairs Commission, Federal Republic of Nigeria.

FMARD, the nodal agency nominated by GoN for this venture, may create a special purpose vehicle (SPV) for options 1 to 3. However, in the case of option 4 the SPV will be created by concessionaire after award of concession contract.

The development of various zones, general infrastructure and specialized agri infrastructure shall be done by the SPV in a phased manner.

Being a private sector driven initiative, it is desirable that GoN and the state government induct strategic partners comprising of consortium of developers having excellent exposure and high record of accomplishment in the development and management of agro clusters / agro processing zones / industrial and business zone management. The profile of the strategic partners would be in synergy with the requirements of developing and

operating a world-class industrial hub. It is also preferable to select a consortium having an anchor tenant to ensure the speedy implementation of the first phase and to amortize the initial cost of common infrastructure. Alternatively, the project development model could also consider EPC and O&M approach.

The strategic partners shall subscribe to the equity stake in the SPV and the concessionaire shall execute shareholders cum development cum marketing cum operation agreement with the nodal agency. The GoN and state government may also consider participation in the equity of the SPV. The necessary checks and balances and instruments are devised to ensure the performance of the concessionaire.

The consortium agreement clearly delineates the roles and responsibilities of each of the consortium member including the financial commitment to the SPV.

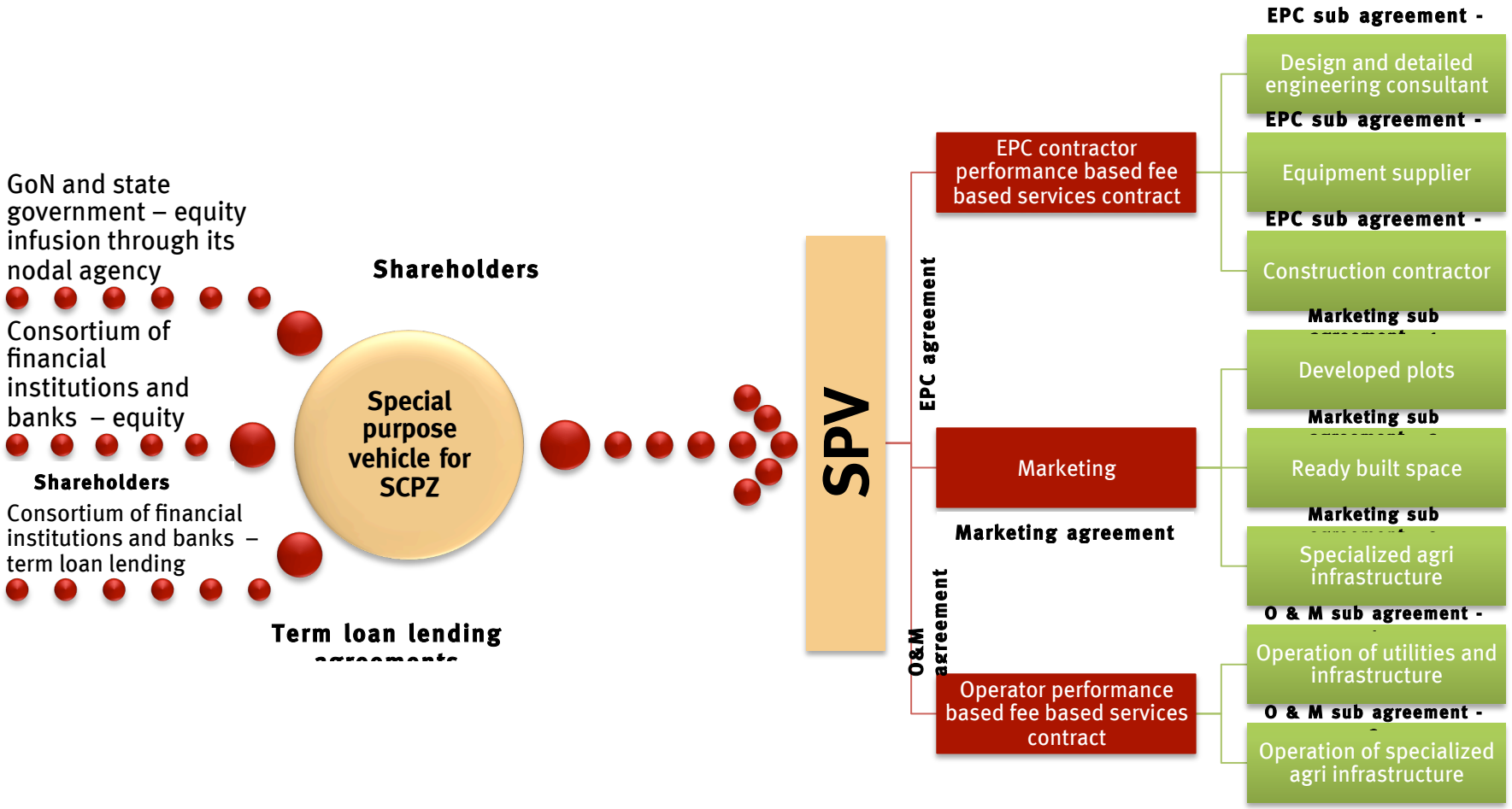
The project structuring scenarios are analysed with respect to extent of participation from GoN, state government, and participation from private sector including roles and responsibilities in development and operations of the proposed project.

Project structuring options

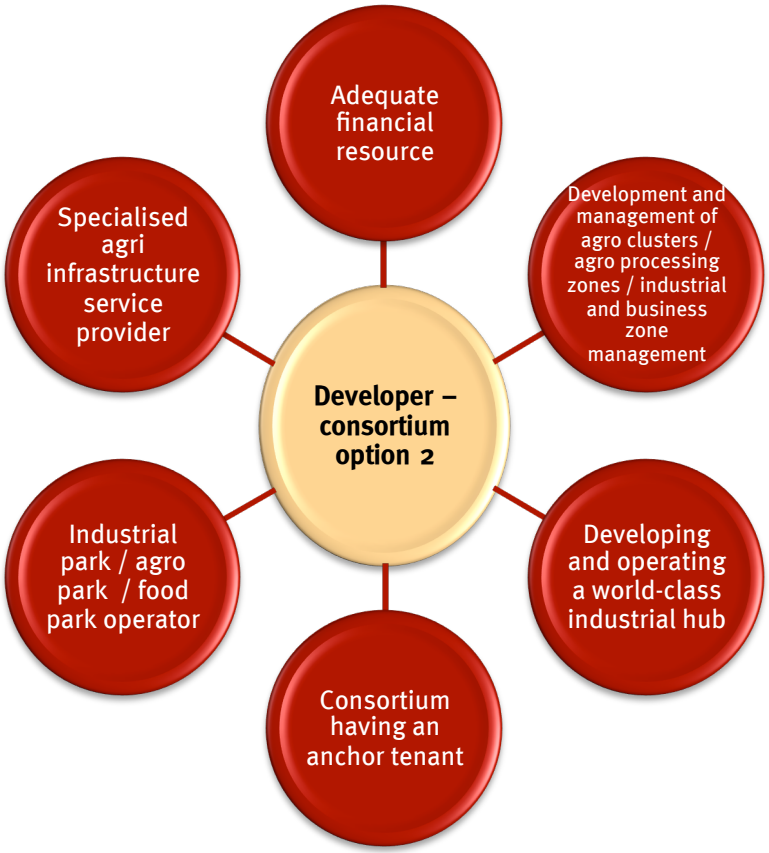
	Option 1 - 100 % owned and managed by GoN or state government through designated nodal agency	Option 2 - PPP structure with GoN and state government with 26 % equity participation	Option 3 - Involvement of GoN, state government, financial institution & banks, consortium of private investors - EPC and O&M through professional agencies	Option 4- 100 % under private sector
Project vehicle	SPV creation by nodal agency Project under SPV control	SPV creation by nodal agency Project under SPV control	SPV will be created and professionally managed	SPV creation by concessionaire
Role of GoN and state government	Project development and maintenance	Equity participation, allotment of land to the SPV, collection of one time lease premium, collection of yearly lease rental.	---	Project monitoring as per mile stones and performance standards
Selection of private sector for development and management of SCPZ	Not applicable	Nodal agency to select a developer / consortium of developers through bidding process.	---	---
Selection of private equity investors	---	---	GoN and state government to select Private equity investors to the tune of 36% equity contribution.	The GoN and state government to Select private sector developer through bidding process
Role of private sector	Nil	High	---	Entire project implementation responsibility
Land for SCPZ development	Lease of land to SPV an annual lease rental basis	Lease of land to SPV an one time lease payment and annual lease rental basis	Lease of land to SPV an one time lease payment and annual lease rental	Lease of land to SPV an one time lease payment and annual

	Option 1 - 100 % owned and managed by GoN or state government through designated nodal agency	Option 2 - PPP structure with GoN and state government with 26 % equity participation	Option 3 - Involvement of GoN, state government, financial institution & banks, consortium of private investors - EPC and O&M through professional agencies	Option 4- 100 % under private sector
			basis	lease rental basis
Financial commitment	High	Medium	High	---
Equity	100% by GoN and state government	26% by GoN & state government and 74% by private sector	Shall be subscribed by GoN, state government, financial institutions & banks, consortium of private equity investors	100% by private sector
Risk allocation	Project development risk and subsequent operation and management by nodal agency.	Project development risk and subsequent operation and management by SPV	Project development risk and subsequent operation and management by SPV	Substantial risk on the private sector
Risk mitigation and addressing the constraints	Nodal agency to engage the services of EPC contractor cum O & M operator or separately EPC contractor and O&M agency.	---	Nodal agency to engage the services of EPC contractor cum O & M operator or separately EPC contractor and O&M agency.	---
Merits	Least cost to the occupant units	Availability of technical expertise and operating skills of private sector	Availability of technical expertise and operating skills of private sector	Minimum risks to GoN and state government.
Demerits	Full investment by GoN and private sector	Moderately higher cost to the occupant units	Moderately higher cost to the occupant units	Likely to result in higher cost of service deliveries

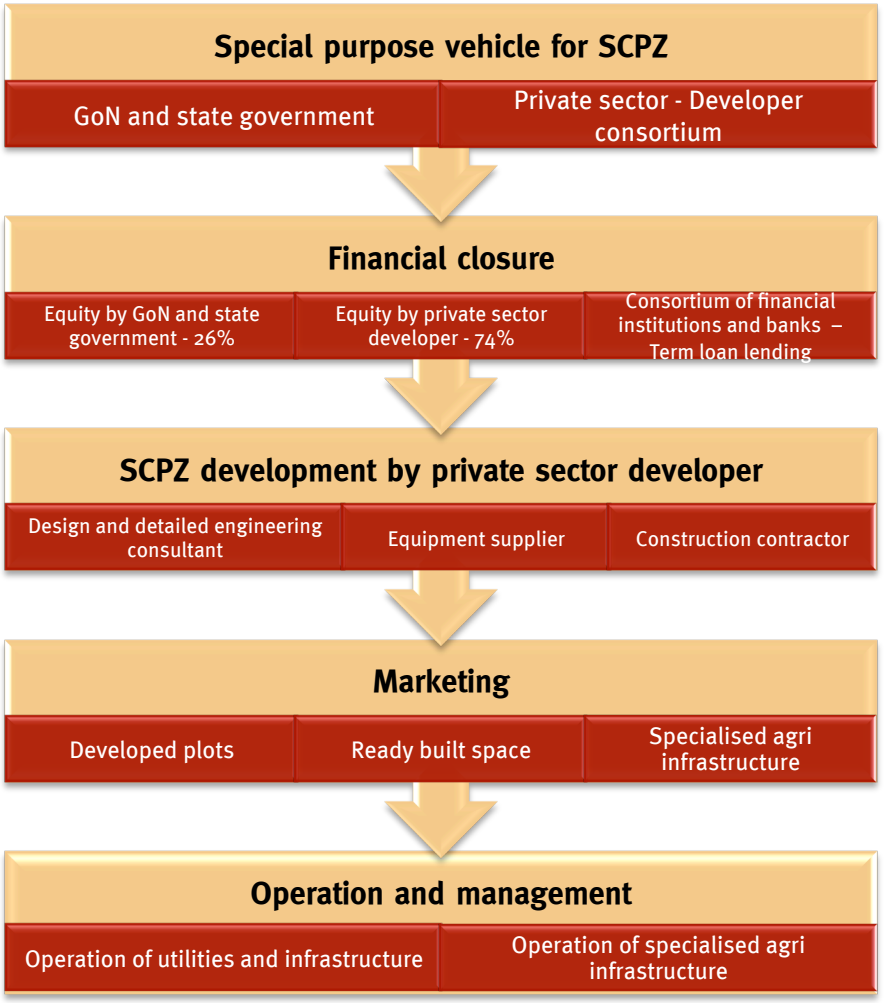
Project structure under option 1 - 100 % owned and managed by GoN or state government through designated nodal agency



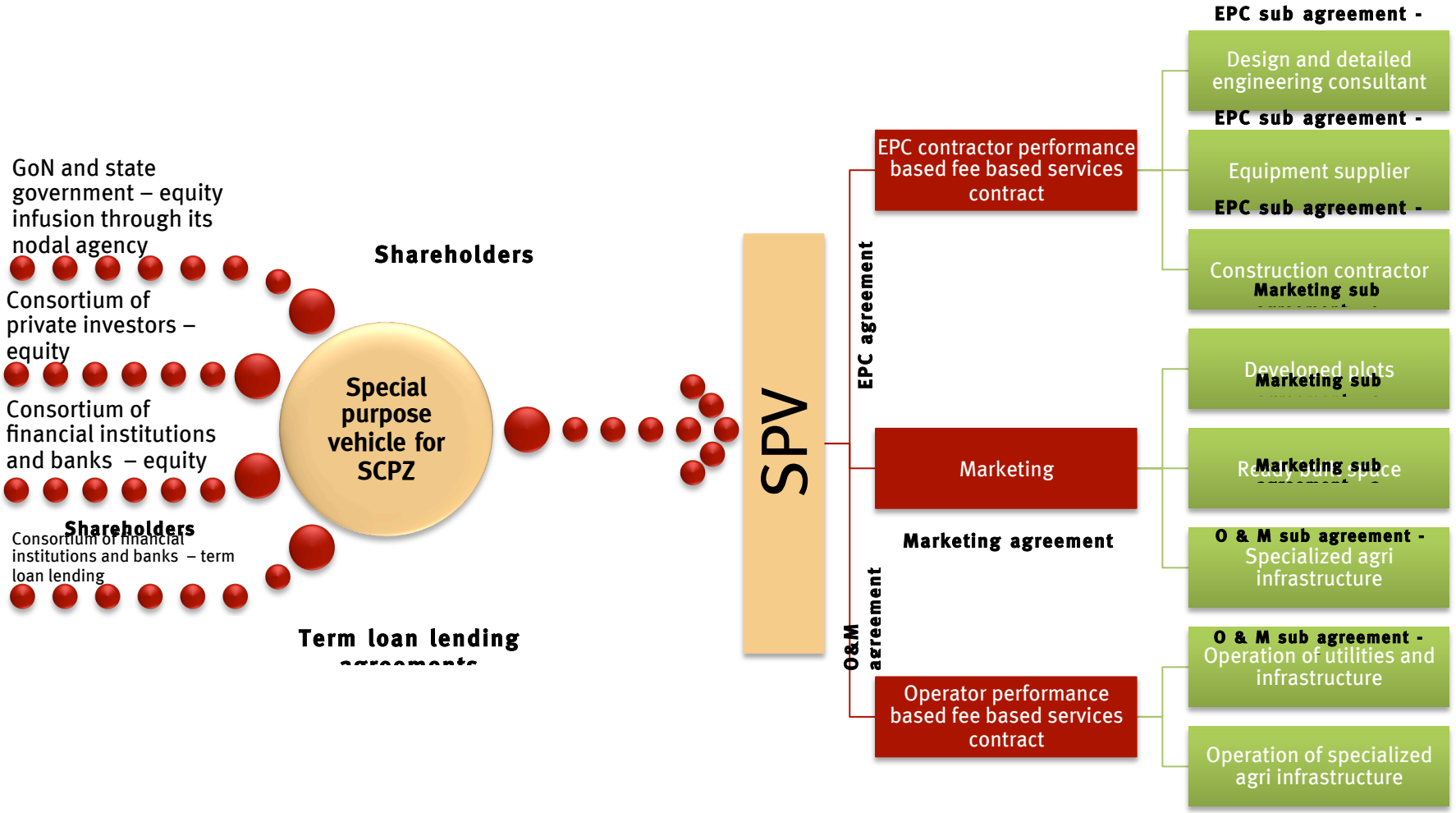
Developer consortium under option 2 – PPP structure with GoN and state government with 26% equity participation



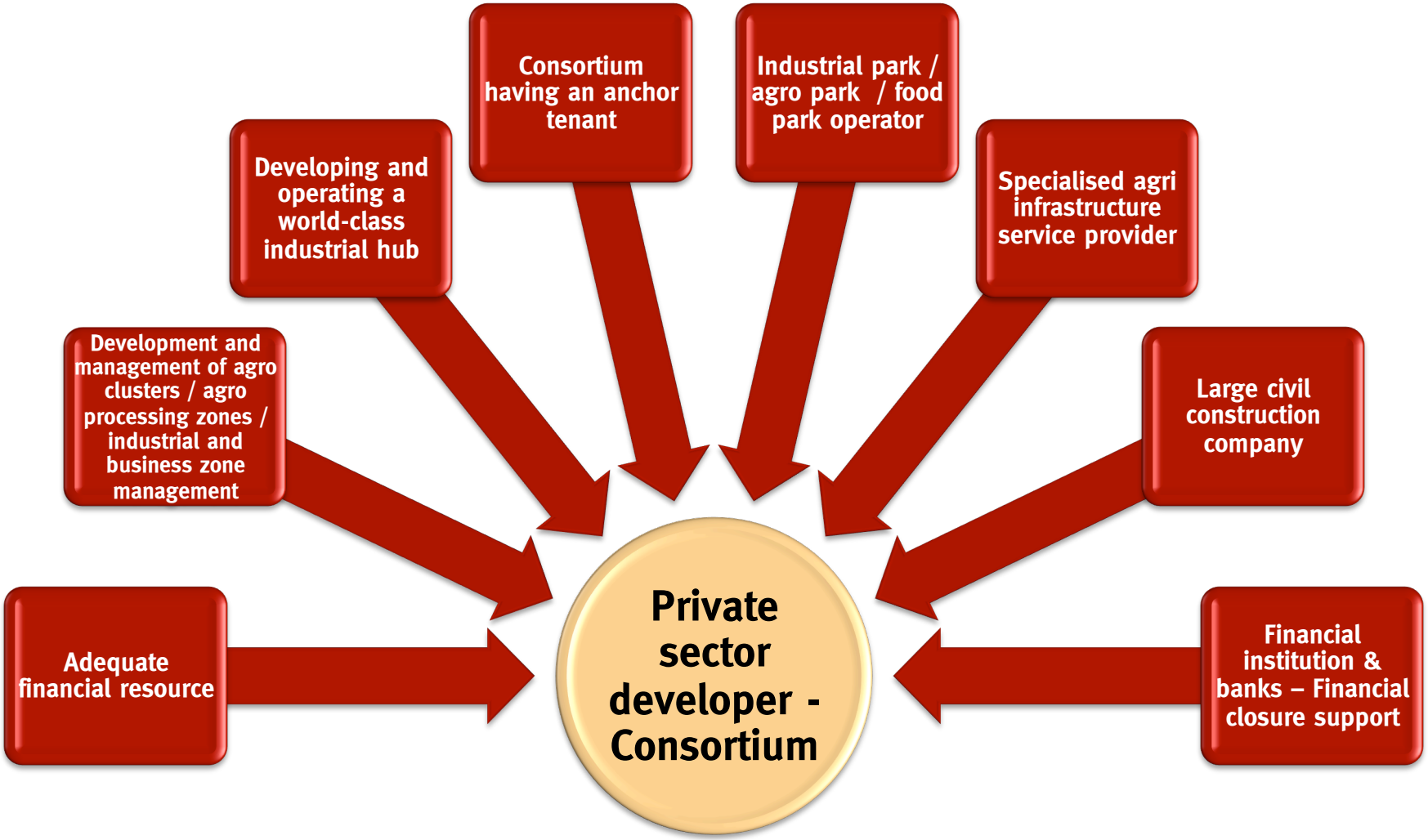
Project structure under option 2 – PPP structure with GoN and state government with 26% equity participation



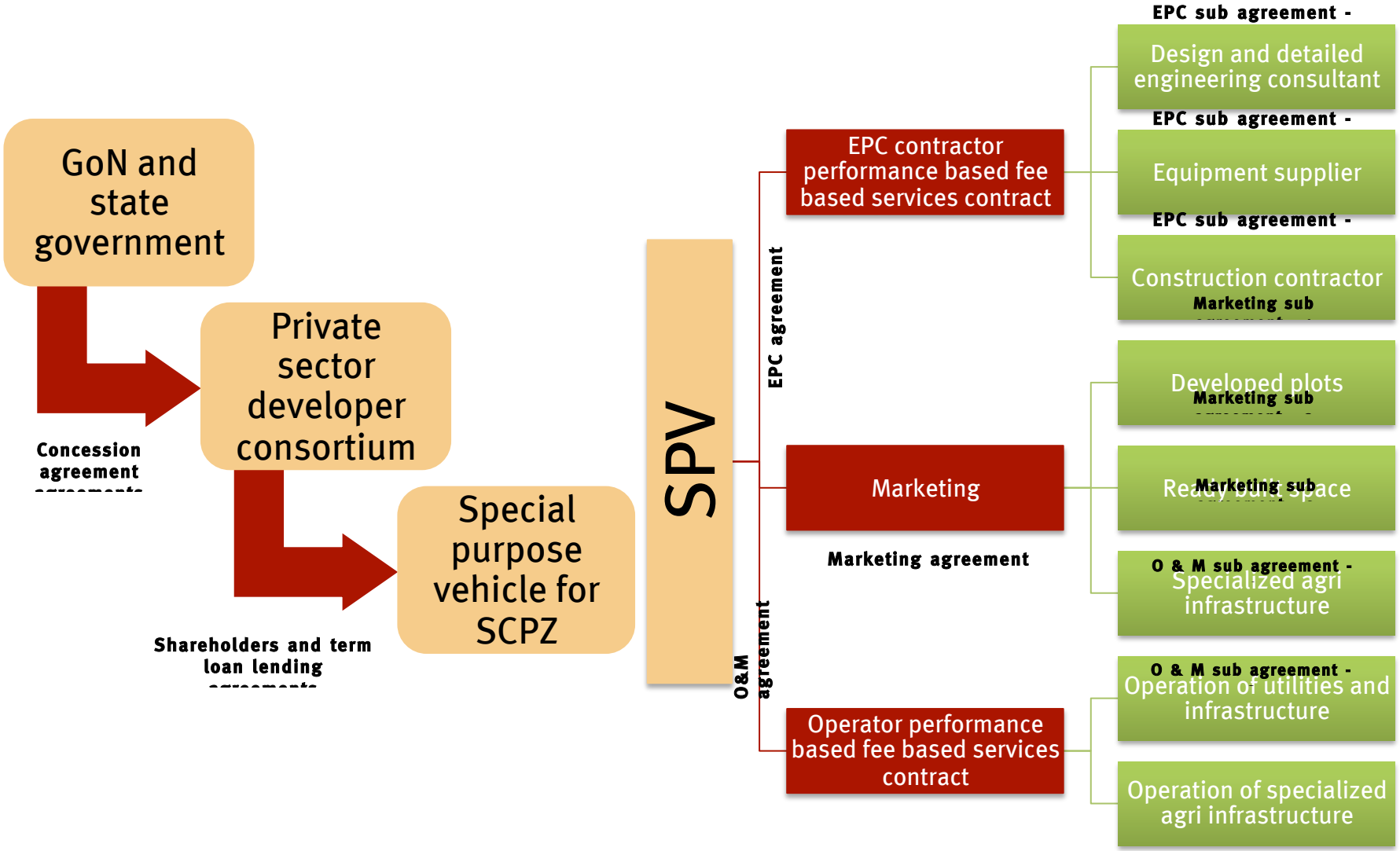
Project structure under option 3 - Involvement of GoN, state government, financial institution & banks, consortium of private investors - EPC and O&M through professional agencies



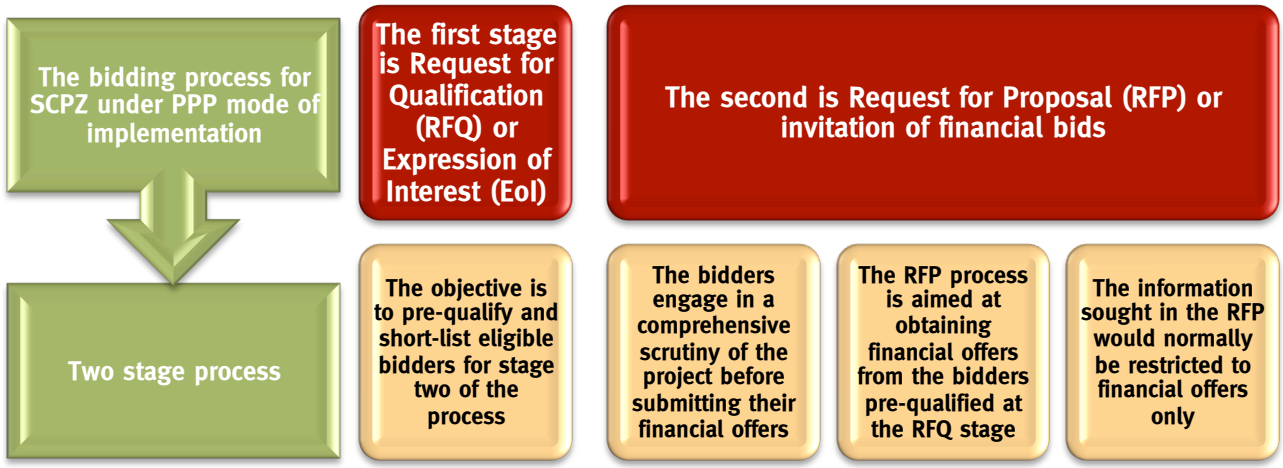
Developer consortium under option 4 - 100 % under private sector

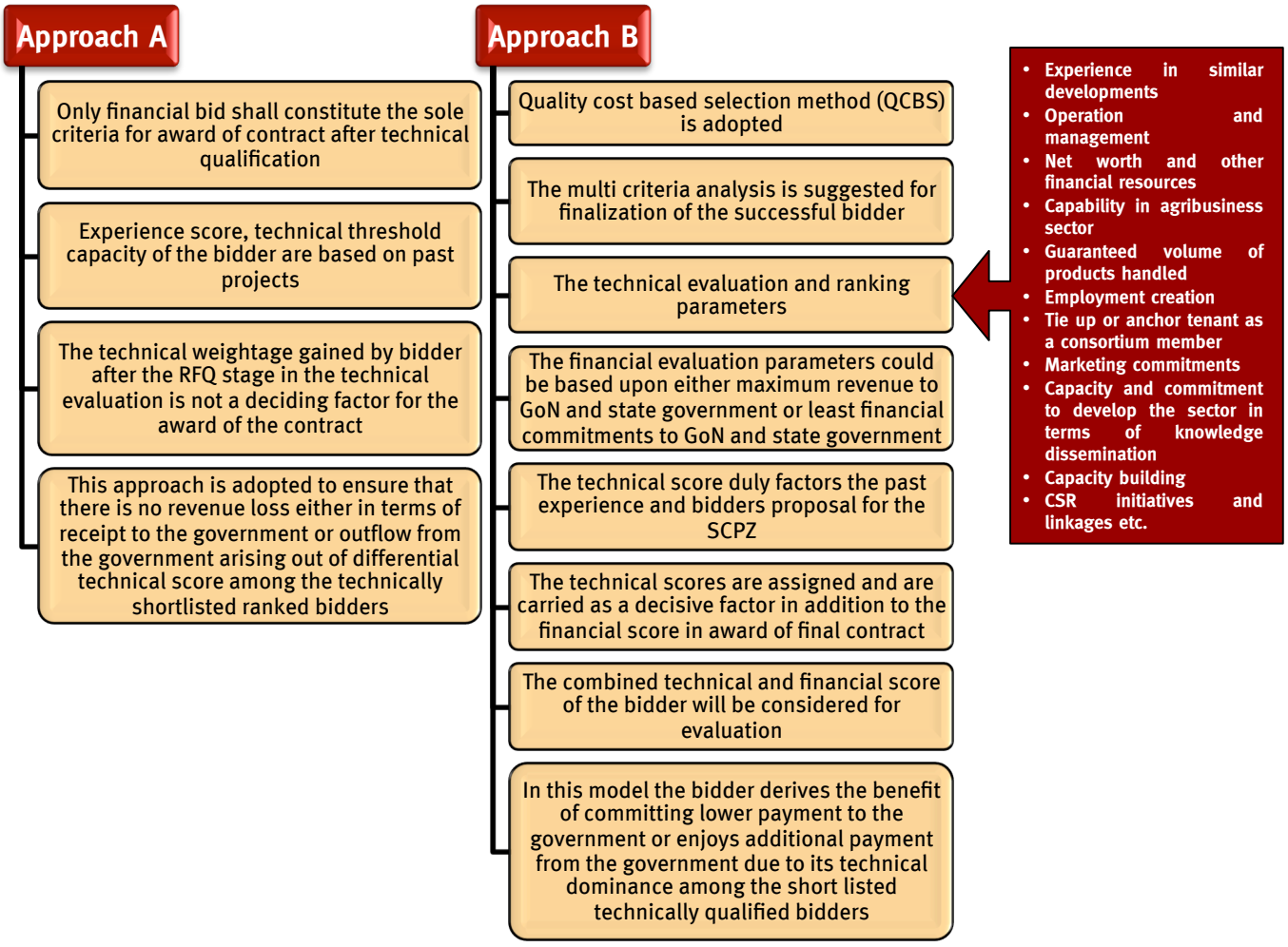


Project structure under option 4 - 100 % under private sector



- ***Strategic partners / developers selection process***





The selection of the private sector strategic partner holds the key to the success of SCPZ since the cost and quality of service to occupant units over a long period would depend on the performance of the private sector strategic partner. The nodal agency shall invite and select, through a bidding process, the strategic partners (a developer / consortium of developers) having adequate financial and managerial capability to invest, achieve financial closure, develop, market and operate SCPZ to international standards. The facilitation role of GoN and state government is very crucial in the success of the proposed SCPZ. It will also play a pivotal role in the selection of strategic partners, monitoring and the implementation of SCPZ.

- ***Roles and responsibilities of various agencies***

The SPV shall not only play the role of project developer, infrastructure provider but also play a significant role of business facilitator by effectively providing linkage between production, processing, value addition and distribution & marketing. The SPV shall explore and enter into strategic alliances with leading international institutions / organizations in order to leverage global opportunities.

Roles and responsibilities of various agencies

FRN and state government

- Identification of land banks
- Contribution to the project capital investment in accordance with the selected option
- External infrastructure linkages and connectivity
  - Road connectivity, national highway and state highway strengthening, rail connectivity, port connectivity, external water
- Project clearance and facilitation support
- Monitoring the performance of the private partner and enforcing the terms of the contract
- Other facilitation

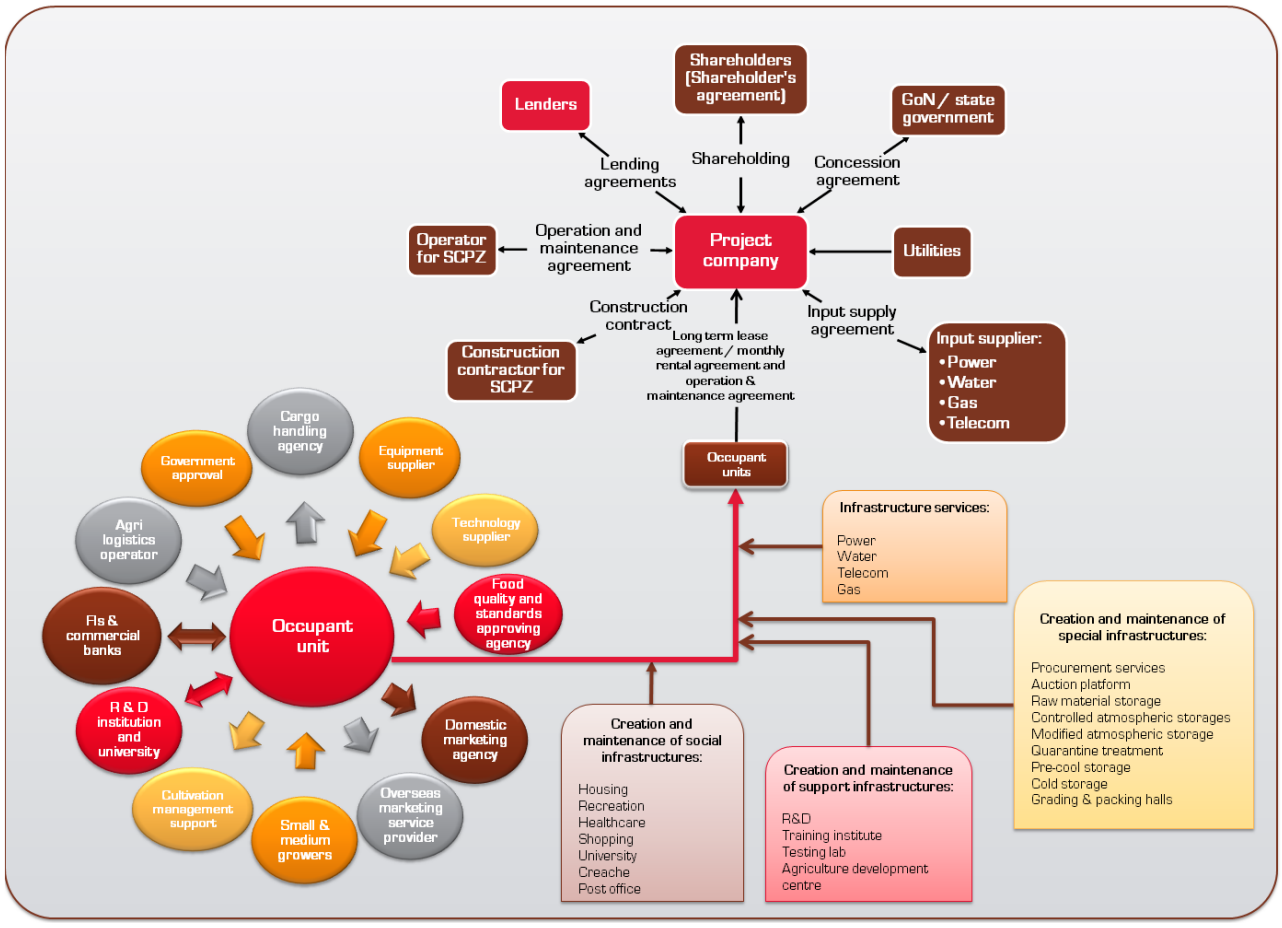
Concessionaire

- Meeting the majority of project capital investment in accordance with the selected option
- Delivering expertise in commerce, management, operations, and innovation to run the project efficiently
- Responsible for carrying out or operating the project
- Taking significant portion of the associated project risks

SCPZ development SPV

- Formation of SPV / operation through existing entity
- Design and engineering
- Achieving financial closure
- Statutory approval
- Development of general, specialized and specific infrastructure
- Marketing of industrial space, ready built space, commercial, residential and supporting elements space
- Operation and maintenance

Governance & management structure



- ***Partnership with other countries***

To improve the yield/productivity of agriculture and allied sectors in Nigeria, it is necessary to adopt modern technologies, in addition to promoting investment and modern management practices in both agribusiness units and agri-infrastructure sectors, with due consideration to protect the interests of the farmers and rural communities.

The success of agro and food processing projects require strong domestic capacity, available quality and quantity of raw materials, appropriate technology and innovation and branding of produce. Judicious use of technology, tailored appropriately for specific location and product specific interventions will improve farmers' income and boost economic development in rural areas.

Unlike other industrial sectors, to capture high-end global markets, three-way cooperation is considered as key for agro and food processing projects. An ideal combination therefore could include interested Nigerian players + technology / modern equipment / service provider who could be strategic international partner + leading marketing and brand organization.

Hence partnering with other countries is viewed as an important element to provide the missing links.

Cooperation strategies leveraging synergy

Considering the multi-dimensional issues, it is suggested that the proposed integrated ABIR and SCPZ clusters have the benefit of partnerships with many countries.

- ***MoUs with potential partners and countries***

It is suggested that a separate corporate body, "Nigerian Agribusiness Development Company Limited (NABDCL)", for example, shall be created under the Companies and Allied Matters Act, 1990, registered with the Registrar-General of the Corporate Affairs Commission, FRN to realize the vision envisaged in the Integrated Agribusiness Development policy.

The FMARD will be entrusted with the responsibility of managing and administering of NABDCL.

The NABDCL shall explore and enter into strategic alliances with leading international institutions/ organizations in order to leverage global opportunities.

The NABDCL shall endeavour to bring state of the art technologies & equipment, promote cutting edge research and education collaborations and initiate tie-ups with global marketing channels apart from bringing investments to the proposed integrated ABIRs and SCPZs in Nigeria.

Towards this, NABDCL shall intend to promote collaborations by entering into facilitation agreements with various players through signing of MoUs.

Six model MoUs are envisaged for facilitating agreements in agribusiness, including food processing and related sector.

Model MoUs

MoU No.	Parties & objectives
MoU – I	NABDCL and resource providers for facilitating international collaborations
MoU – II	NABDCL and international investors for facilitating international investments
MoU – III	NABDCL and research and innovation partners for facilitating international collaborations
MoU – IV	NABDCL and product marketing support providers for facilitating international collaborations
MoU – V	NABDCL and domestic investors for facilitating domestic investments
MoU – VI	NABDCL and financial institutions & banks for facilitating finance to agribusiness and food processing units

FINANCIAL SUSTAINABILITY

- ***Project cost estimation – SCPZ, specialized agri infrastructure within ABIR, external connectivity and offsite infrastructure to SCPZ***

The cost of developing SCPZ, specialized agri infrastructure within ABIR, external connectivity and offsite infrastructure to SCPZ are meticulously worked out for assessing the financial sustainability. Integrated ABIR and SCPZ investment model with phasing plan is developed which duly factors the elements specific to Nigeria in general and location in particular.

Components of project cost

The proposed development component for the SCPZ	The proposed specialized agri infrastructure within ABIR	The proposed external connectivity and offsite infrastructure to SCPZ
• Processing, manufacturing and business zone • Common agri specialized infrastructure zone • Social infrastructure zone • Residential zone • Commercial infrastructure zone • Utility and support infrastructure zone	• Production farm linkages to SCPZ • Rural power supply through solar PV generation • Centre of excellence • Centre of excellence for tissue culture plant and growing in a controlled environment • Knowledge dissemination cell • Market intelligence cell • Collection centres	• Road connectivity • Highway strengthening • Rail connectivity • Port connectivity • External water supply source linkages • External power linkages

	• Primary processing hub • Refrigerated vans	

The estimates are made based on the schedule of rates published by the competent public authorities, prevailing market prices, in-house data bank and experience gained over similar / comparable development.

The project development phasing has been analysed and accordingly the investment requirement during each phase of development is estimated.

Further, the component-wise mode of development and investment by 1) GoN and state government, 2) SCPZ PPP and 3) SCPZ PPP or separate SPV or GoN and state government are also analysed.

- ***Revenue drivers of the SCPZs***

A SCPZ specific model for rational assessment of revenue generation is evolved.

The revenue streams are projected over the period of 15 years and are taken to the next stage of process, namely financial viability analysis.

Details of SCPZ revenue stream

Components	Details of SCPZ revenue stream
➢ Revenue from developed plots - industrial, residential, commercial and social zones	○ SCPZ shall actively market the multi formatted developed plots for mixed use such as industrial, residential, commercial and social zones. ○ The SPV would enter into a sales / long-term lease / monthly lease with the occupant industries / residential / commercial / institutional area users. ○ Income generation from undeveloped land sales, developed land-outright sales, developed land-long term lease, developed land - monthly lease are computed.
➢ Revenue from built up space – Industrial, residential, commercial and social zones	○ SCPZ shall also actively market the multi formatted built-up space for mixed use covering industrial, residential, commercial and social zones. ○ The SPV would enter into outright sales / long-term lease / monthly lease for usage of built up space with the occupant industries / residential / commercial / institutional area users. ○ Income generation from built-up space - outright sales, built up space - long term lease, built up space - monthly lease are computed.
➢ Revenue from facility management	○ Operation and maintenance of SCPZ, utilities, specialized agri infrastructure facilities to ensure delivery of design standards in service shall be given paramount importance. SCPZ's operating principles shall need to adhere to highest standards of workers safety, hygiene, and environment and shall need to conform to various national / international standards. ○ The income from facility management is computed.
➢ Income generation from	○ Income from operations of specialized agri infrastructure within

Components	Details of SCPZ revenue stream
operations of specialized agri infrastructure facilities	SCPZ covering R&D hub, innovation centre and knowledge hub, ware houses, procurement centres, packing & labeling, grading & sorting, QA & QC lab, administrative building, R&D centre etc. are computed.
➢ Income generation from interest on deposits	○ Interest income will also accrue to the SPV based on the deposits collected from occupant units and other deposits and these incomes are computed.
➢ Other possible revenue generation opportunities for conservative assessment of financial sustainability of SCPZ, these incomes are not considered (in the base case viability analysis)	○ Margins from commercial and common social infrastructure ○ Income from business support, income from EPC services ○ Income from various business facilitation, tie ups, produce marketing support ○ Margins from food court and restaurant, vending machines ○ Revenue from advertisement ○ Revenue from vehicle and truck parking ○ Income generation from product branding and services promotion activities ○ Income generation from seminars, conferences and workshops

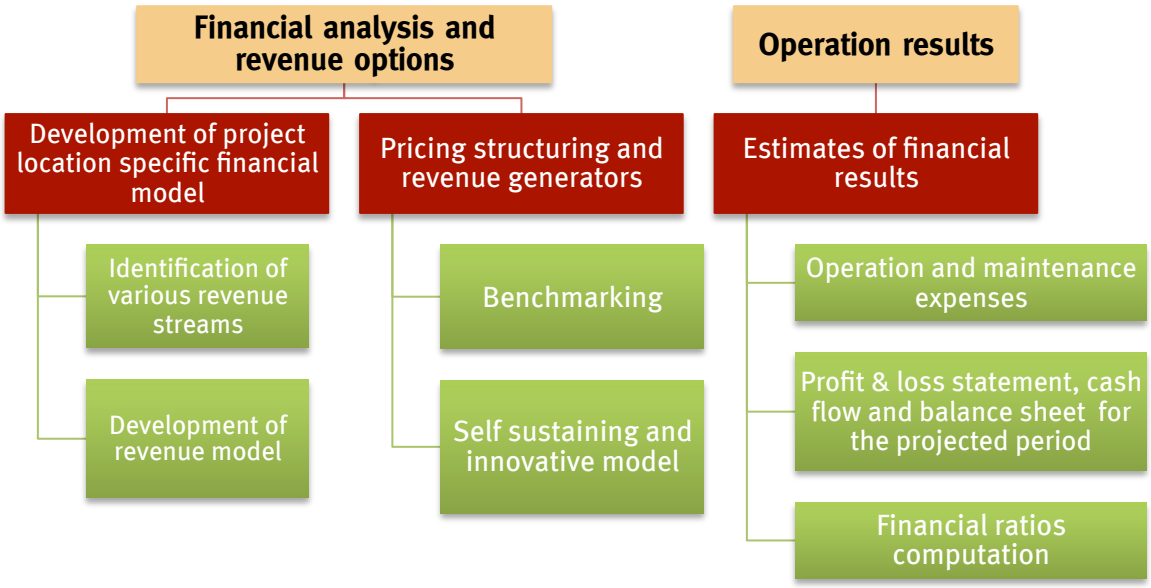
- ***Means of finance, financial and investment model analysis***

The SCPZ specific financial model is developed and the detailed financial analyses are carried out.

The financial commitments of GoN and state government, private sector are clearly analysed in relevance to the various development options.

The detailed viability analysis and ratio analysis has been conducted and presented. The SCPZ projects are found to be technically feasible and financially viable.

Financial and investment model analysis – SCPZ



Details of financial analysis of SCPZ

Description	Details		
Means of finance	○ The project is proposed to be funded through equity, term loan in the initial phase and in the subsequent phases through the internal accrual. ○ Equity funding options:		
Option 1 – 100 % owned and managed by GoN or state government through designated nodal agency	**Option 2 – PPP structure with GoN and state government with 26% equity participation**	**Option 3 – Involvement of GoN, state government, financial institution & banks, consortium of private investors – EPC and O&M through professional agencies**	**Option 4 – 100 % under private sector**
100% equity by GoN and state government	1. Equity share capital of SPV shall be subscribed / allotted to various agencies involved in the development of the SCPZ 2. 26% equity by GoN and state government and 74% equity by private sector. 3. As far as cash outflow from GoN and state government is concerned, the equity contribution from GoN and state	1. The equity amount shall be subscribed by GoN and state government, financial institution & banks, consortium of private equity investors. 2. It is suggested that GoN and state government to hold 35% equity and the consortium of private equity investors to hold 36 % and rest by financial institutions and banks.	100% equity by private sector

Description	Details		
	government can be in the form of land contribution to the SPV against the upfront lease premium payable by the private sector. If the concessionaire opts for a larger debt component resulting in lower equity amount, the difference between one time upfront lease premium and 26% equity amount shall be paid by the private sector to GoN and state government.	3. The equity amount to be subscribed by GoN and state government shall be in the form of land contribution to the SPV against the upfront lease premium payable by the SPV and the balance amount shall be subscribed over the development period. The SPV can also work towards larger debt component thereby capping 35% of equity contribution of GoN and state government.	
○ The term loan shall be raised against the land, infrastructure, buildings and other fixed assets and shall be secured as the first phase. ○ For the development in subsequent phases, the capital expenditure is met through internal accrual. ○ Apart from P&L statements, cash flow, balance sheet and detailed ratio analysis like liquidity ratios, leverage ratios, activity ratios and profitability ratios are carried out.			

PROJECT IMPLEMENTATION STRATEGY

- ***Implementation schedule and action plan***

To realize the vision of the integrated ABIR and SCPZ clusters and implement the project within the envisaged time frame, a conscious effort is required. The project involves coordination with various agencies. An implementation schedule was developed covering investment decision, strategic partners / co-developers selection, finalizing partnership with various agencies, financial closure, concession agreement, tendering & award of contract, statutory approval, external linkages and connectivity, design and detailed engineering, execution, organization and marketing of space.

Major development activities are identified and a detailed implementation plan is prepared along with macro and micro level action plan. As a part of the implementation plan, the key interventions required by various agencies involved in the development process are identified.

The various micro level activities required to be taken towards finalization of industry partners, development, implementation and establishment of the integrated ABIR and SCPZ are identified.

Key parameters for monitoring

Development of appropriate tools and reporting system	Identification of key elements for ensuring success from management structure perspective
	Statutory standards to be maintained
	Adherence to sustainability concepts
	In depth analysis of various bidding / contract structure and recommendation of appropriate location specific project / contract structure along with merit and demerit analysis
	Monitoring of concessionaire performance
	Delivery standards
	Statutory and regulatory compliance
	Measures for monitoring marketing
	Benchmarking performance and stipulating performance standards, etc.,

Summary of action plan

SCPZ BRANDING AND MARKETING STRATEGIES

A structured promotion program is recommended for integrated ABIR and SCPZ to attract domestic and global players for ensuring sustained operations.

Well planned strategic branding and advertising campaign and other sales promotion methods are suggested to promote this unique concept in identifying the integrated ABIR and SCPZ developer / co-developer and / or anchor tenant for industrial zone / commercial zone / business zone / specialized agri infrastructure.

It is pertinent to create an identity and develop a communication strategy to inform target groups including co-developers about the integrated ABIR and SCPZ initiative. Good branding provides opportunities for greater collaboration and synergies and also endows an external manifestation of strategic intent and creates differentiation in the market.

The detailed marketing strategies are formulated along with the action plan.

RISK MITIGATION PLAN

- *Generalized approach*

The generalised approach towards the risk management in developing integrated ABIR and SCPZ with private sector investment would involve identification of key risks right from project conceptualization stage to operational stage.

Risk and mitigation strategies

Agri sector constraints

- Conducive policy framework and innovative mitigation tools

Concept promotion and acceptance

- Need to remove the apprehensions of farmer and rural community on the possibilities of losing agriculture land, foregoing means of income and shattering of their livelihood.
- Extensive stakeholder consultation across the region to create awareness, eradicate apprehensions engulfing their minds and instil confidence

Land for development components

- GIS and innovative planning tools
- Transparent land allotment
- No disturbance to cultivable land

Government related Issues and approval process

- Policy to be in place
- High important sector and part of ATA initiative
- Transparent approval process in developer selection and land allotment – full adherence requirement

Plot off take

- Multi pronged approach
- Anchor clients
- Phased development
- Road shows and B2B meeting

Environmental and implementation

- Favorable sector
- Huge emphasis on environmental infrastructure and green practices
- Well-structured team for operation and maintenance

Types of risk during the project implementation stage are significantly different from those faced during operation stage. Thus there is a need to perform a risk assessment of integrated ABIR and SCPZ development in two stages viz., implementation stage and operation stage.

The risks are analysed in terms of strategic orientation, customer orientation, project implementation and execution, triple bottom line sensitivity, human dimension and economic dimension.

A structured approach is adopted in developing risk matrix. The set of major indicators along with the sub indicators are identified for risk assessment. These indicators essentially outline the parameters to be analyzed from risk perspective during implementation and operation. Multi criteria assessment model for risk evaluation is developed. The weightings are assigned for main indicators and sub indicators. 10% weightingis given for each main indicator and each main indicator is evaluated through selected sub indicators and equal weighting of 10% is assigned for each sub indicator.

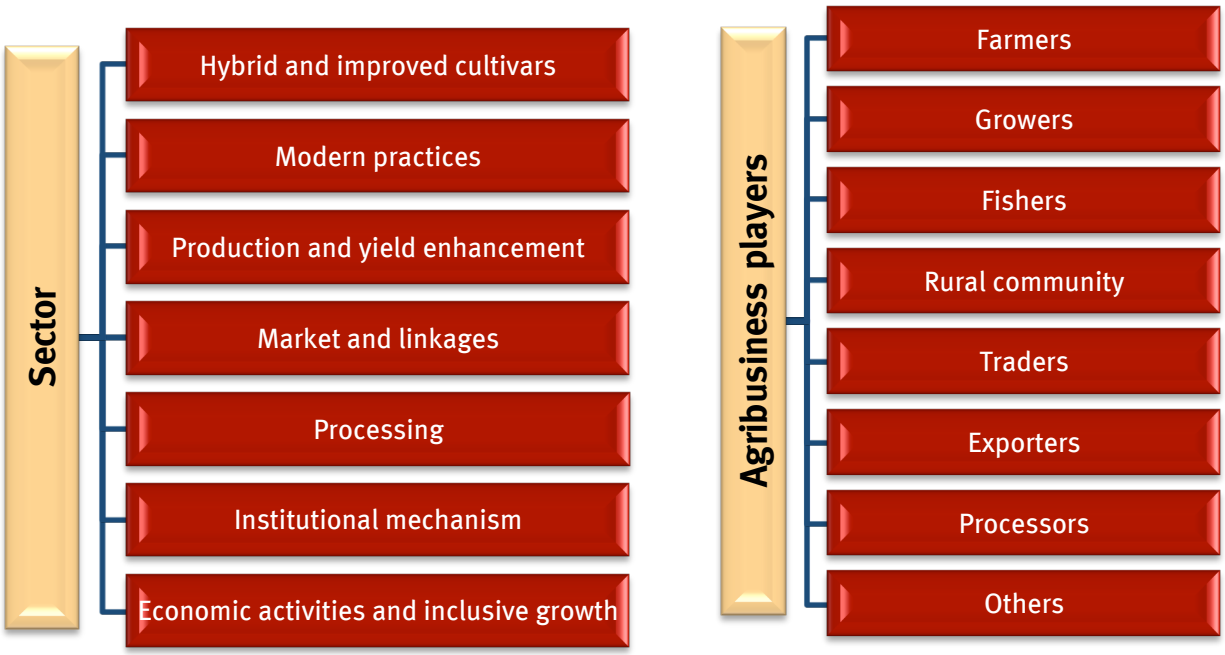
The risk assessment score is designated in numeric alpha mode. During project implementation stage, a scale of 1 to 5 is used with 1 indicating the lowest risk. For post implementation stage, a scale of A to E is used with A indicating the lowest risk. A combination of the two would give a two dimension risk matrix. Thus on a comprehensive manner of risk assessment of integrated ABIR and SCPZ, the risk score of 1A would indicate the lowest risk and 5E the highest risk.

SCPZ BENEFITS AND CONTRIBUTION TO THE LOCAL ECONOMY

ANALYSIS OF BENEFITS AND CONTRIBUTION

The benefits and the contribution of the integrated ABIR and SCPZ were analysed both from the sector perspective and agribusiness player perspective.

Analysis of benefits and contribution



Integrated ABIR and SCPZ – Sector benefits and contribution

Anticipated benefits to sector	
Agri input	▪ Ensuring timely availability of good quality agri inputs ▪ Enhance fodder and feed production ▪ Refinement of seed-production technologies
Hybrid and improved cultivars	▪ Genetic up-gradation of indigenous / native livestock ▪ Conservation of native animal genetic resources
Modern practices	▪ Better production practices for staple crop ▪ High density plantations, shade net cultivation, poly house cultivation, green house cultivation, precision farming ▪ Agri and allied product diversification through plantations, orchards, vineyards, flowers and vegetable gardens, deep sea fishing ▪ Shift from subsistent livestock farming to sustainable livestock and poultry farming ▪ Enhanced milk production and value added products ▪ Database for standardization of methodologies for estimation of catch from diverse aquatic resources ▪ Energy management and new technologies using agri waste
Production and yield enhancement	▪ Knowledge dissemination and technology transfer for increasing yield ▪ Productivity of animal husbandry sector ▪ Sustainable crop production and protection technologies ▪ Meeting international sanitary & hygiene standards and norms ▪ Adoption of precision machinery and strategies across sectors
Market and linkages	▪ Addressing the growing domestic and overseas markets ▪ Access to capital, technology, effective management and support services ▪ Minimize post-harvest losses and waste minimization across the value chain ▪ Supply chain alignment with domestic and international markets
Processing	▪ Excellent facilities at an affordable cost structure ▪ Economy of scale through clustering and common infrastructure ▪ Excellent facility management ▪ Induction of modern technology in agro/ food processing ▪ Good lifestyle of integrated work – learn – live- play environment ▪ Self-contained business hub with compatible social infrastructure facilities
Institutional mechanism	▪ Balanced agro and food industrialization across the state/ country ▪ Maximization of value addition through bring together farmers, processors, retailers and linking agricultural production to the market ▪ Encouraging R&D in food processing for product and process development
Economic activities and inclusive growth	▪ Nutrition security for the country and state ▪ Positioning Nigeria produce in the global arena ▪ Diversification of agricultural activities ▪ Improving value-addition opportunities ▪ Creating surplus for export ▪ Reduction in consumer prices in the domestic front ▪ Enhancing the competitiveness and efficiency of SME ▪ Rural growth and employment to local population ▪ Better standard of living of farmers, growers, rural community and fishers ▪ Women empowerment

Anticipated benefits to sector	
	▪ Youth development

Integrated ABIR & SCPZ - benefits to agribusiness players

Anticipated benefits to agribusiness players	
Farmers / growers / fishermen / rural community	▪ Exposure to hi-tech agriculture technologies ▪ High unit value realization ▪ Price stabilization ▪ Enhanced revenue to farmers, growers, rural community
Traders	▪ Supply chain alignment with domestic and international requirements ▪ Removing of regulatory hurdles ▪ Improved branding, marketing
Exporters	▪ Leverage the growing demand in both domestic and international markets ▪ Brand image for unique agro food products of Nigeria ▪ New markets, new product lines, and alternate marketing channels ▪ Exports meeting EU, HACCP, FDA and other international standards
Processors	▪ Facilitates flow of investment, technologies, skill sets and modern management practices ▪ Increased industrial output ▪ Improved grading and food safety practices

The anticipated benefits on quantitative basis were also mapped in terms of handling of fresh produce, extent of support to open farming, processing capacity, handling of finished products, direct employment, investment in industrial infrastructure and other infrastructure and industrial investments.

Salient features of SCPZs

S. No.	Description	Location				
		Niger		Kogi		
1	Focus crop	Rice		Cassava		
2	Additional crops	Maize, yam, cassava, groundnut, cowpea		Maize, Cowpea, Sorghum, Rice		
3	SCPZ location	Badeggi		Agbadu – Alape cluster		
4	Composite score of the site	75% out of 100%		77% out of 100%		
5	Raw materials required for the SCPZ	605514 MTPA		1748666 MTPA		
6	Growing area required	124608 hectares		412127 hectares		
7	Land use pattern – hectares					
	Total area	256.82 hectares		257.91 hectares		
		Phase I	Phase II	Phase I	Phase II	Phase III
	I) Total processing area	163.40	67.64	109.60	103.67	16.80
	1.1) Total industrial area	120.11	45.54	77.27	72.7	15.09
	1.2) Amenities	4.45	4.26	1.02	3.35	
	1.3) Utilities	5.89	1.83	5.48	---	1.05
	1.4) Road	16.55	7.78	13.55	14.75	
	1.5) Greenery and open space	16.40	8.23	12.28	12.87	0.66
	2) Total non-processing area		25.78			27.85
	2.1) Commercial		1.60			4.11
	2.2) Residential		5.24			5.23
	2.3) Polyclinic		1.28			1.17
	2.4) School		5.37			5.85
	2.5) Places of worship		1.12			1.33
	2.6) Utilities		1.05			3.88
	2.7) Road		4.63			3.63
	2.8)Greenery and open space		5.49			2.64
8	SCPZ internal infrastructure details					
	Length of road	186.84		56.35 km		
	Total average water demand	5586 cum/day		20622 cum/day		
	Wastewater generation	3981.29 cum/day		13355.01 cum / day		
	MSW generation	55.27 TPD		57.26 TPD		
	Power demand	54.30 MVA		59.43 MVA		

S. No.	Description	Location	
		Niger	Kogi
9	Infrastructure gap analysis – procurement zone, off site and SCPZ connectivity		
	Production farm linkages to SCPZ	Access roads to production zones including strengthening of existing roads with adequate cross drainage works culverts, bridges etc. approx. 100 kms.	Access roads to production zones including strengthening of existing roads with adequate cross drainage works culverts, bridges etc. Approx. 125 kms.
	Rural power supply through solar PV generation	5 MWp power in various capacity i.e. 25 KWp to 1 MWp	
	Knowledge dissemination and technology transfer	○ Centre of excellence without tissue culture plant and controlled environment growing ○ Additional investment in COE for tissue culture plant and controlled environment growing ○ CoE hub and spokes model ○ Knowledge dissemination cell ○ Market intelligence cell	
	Collection centres	10 numbers of collection centres of capacity 30 sqm each	10 numbers of collection centres of capacity 30 sqm each
	Silo complex / primary processing hub	6 numbers of silo complex with 2 number of 10 m diameter and 5 m height silo	Provide 6 numbers of 160 m x 55 m storage yard with 40 racks of 50 m x 2m size with 3 layers each
	Reefer vans	6 numbers for horticulture products and 2 numbers for animal products	
	Access road to SCPZ	Widening and augmenting the existing Badeggi – Kaagi road for a length of 7.2 kms	Widening and augmenting the existing Apaa – Bunu road for a length of 4 kms from federal highway A123
	Power supply to SCPZ	The total estimated power demand is 54.3MVA and shall be met from Molemu substation. It is required to build 24kms, 132kV dedicated power transmission line from Molemu substation	The total estimated power demand of 59.43MVA is to be met from Obajana substation. It is required to build a new 132kV dedicated power transmission line from Obajana substation.
	Water supply to SCPZ	The water demand for the SCPZ will be met from the existing Badeggi waterworks	The water demand for the SCPZ will be met from the proposed infiltration gallery and pump house at River Ohin located at 8kms from the project site

S. No.	Description	Location	
		Niger	Kogi
	LNG supply to SCPZ		LNG is proposed to extend the gas corridor from Obajana to SCPZ for a length of 25kms to supply 100 million cu.m. per day
10	**Project cost**		
	SCPZ Phase I development	☐ 3747.93 million (23.42 million US$)	☐ 4865.53 million (30.41 million US$)
	SCPZ all phases	☐ 8249.87 million (51.56 million US$)	☐ 8355.63 million (52.22 million US$)
	Specialized agri infrastructure cost within ABIR	☐ 18423.78 million (115.15 million US$)	☐ 22062 million (137.89 million US$)
	External connectivity and offsite infrastructure cost - SCPZ	☐ 2346 million (14.66 million US$)	☐ 19942.50 million (124.64 million US$)
	Grand total cost for integrated ABIR and SCPZ	☐ 29019.65 million (181.37 million US$)	☐ 50360.13 million (314.75 million US$)
	Investment by GoN and state government	☐ 16500 million	☐ 20250 million
	Investment by SCPZ by PPP	☐ 8249.87 million	☐ 8355.63 million
	Investment by SCPZ PPP or separate SPV or GoN and state government	☐ 4269.78 million	☐ 21754.50 million
11	**Revenue drivers**		
	Total revenue - during 1st, 2nd, 3rd, 4th and 5th year of operation	○ ☐ 4858.20 million ○ ☐ 3305.69 million ○ ☐ 2135.42 million ○ ☐ 2197.05 million ○ ☐ 2249.77 million	○ ☐ 4588.57 million ○ ☐ 2693.49 million ○ ☐ 2062.80 million ○ ☐ 2117.06 million ○ ☐ 2166.31 million
12	**Means of finance**	The SCPZ project shall be funded through equity, term loan in the initial phase and in the subsequent phases through the internal accrual.	
	Equity	☐1499.17 million (9.369 million US$)	☐ 1946.21 million (12.164 million US$)
	Term loan	☐ 2248.76 million (14.054 million US$)	☐ 2919.32 million (18.246 million US$)
	Internal accrual - For the development in subsequent phases, the capital expenditure is met through internal accrual	☐ 4501.93 million (28.137 million US$)	☐ 3490.09 million (21.813 million US$)
13	**Selective financial indicators**		

S. No.	Description	Location					
		Niger			Kogi		
	Interest rate	17% per annum					
	Term loan repayment	1st, 2nd, 3rd and 4th year of operation i.e. 2 years after phase I development period					
	Financial expenses – during 1st, 2nd, 3rd and 4th year of operation	○ ☐ 329.65 million ○ ☐ 261.34 million ○ ☐ 136.66 million ○ ☐ 13.82 million			○ ☐ 422.95 million ○ ☐ 329.31 million ○ ☐ 208.80 million ○ ☐ 54.30 million		
	Profit before tax - during 1st, 2nd and 3rd year of operation	○ ☐ 3124.76 million ○ ☐ 2006.81 million ○ ☐ 1125.73 million			○ ☐ 2518.97 million ○ ☐ 1373.71 million ○ ☐ 990.98 million		
	Profit after tax - during 1st, 2nd and 3rd year of operation	○ ☐ 2150.47 million ○ ☐ 1447.08 million ○ ☐ 868.07 million			○ ☐ 1716.09 million ○ ☐ 1028.28 million ○ ☐ 783.78 million		
	Net cash accrual - during 1st, 2nd and 3rd year of operation	○ ☐ 2277.22 million ○ ☐ 1661.27 million ○ ☐ 1143.98 million			○ ☐ 1877.26 million ○ ☐ 1259.62 million ○ ☐ 1057.72 million		
	Project IRR (post tax)	21.73%			17.13%		
	Equity IRR (post tax)	26.15%			19.68%		
	Average DSCR	2.93			2.06		
	Cash flow	Unit's cash position will be comfortable right from the 1st year of operation. By the end of 15th year, the unit will have a cash balance of ₦ 4524.93 million after dividend outflow of ₦ 8020.82 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 4501.93 million.			Unit's cash position will be comfortable right from the 1st year of operation. By the end of 15th year, the unit will have a cash balance of ₦ 3886.48 million after dividend outflow of ₦ 7115.12 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 3490.09 million		
	Payback period	3 years + 3.91 months			4 years + 3.92 months		
	Cumulative profit after tax plus depreciation plus non cash expenditures	₦ 5047.16 million up to 4th of year against the phase I cost of ₦ 3747.93 million			₦ 4385.10 million up to 4th of year against the phase I cost of ₦ 4865.53 million		
14	Benefit to cost ratio	1.34:1			1.22:1		
15	Risk ranking (Risk assessment score in a band of 0 to 5 during implementation and A to E during operation period)	1.19 B			2.06 B		
16	Tangible benefits	Short term (within 2 years)	Medium term (3 to 4 years)	Long term (more than 4 years)	Short term (within 2 years)	Medium term (3 to 4 years)	Long term (more than 4 years)
	Processing capacity (in	252000	672000	756000	779920	2079786	2339760

S. No.	Description	Location					
		Niger			Kogi		
	MTPA)						
	Direct employment (in nos.)	630	1680	1890	520	1387	1560
	Transaction (million Naira)	7182	19152	21546	62394	166383	187181
	Average business transaction (million Naira) / hectare	91.2			1152		
17	**Implementation period**						
	Total period for implementation	48 months					
	The phase I development period	2 years					
	Phase II to phase III development period	3rd and 4th year					

S. No.	Description	Location					
		Enugu		Anambra		Kano	
1	Focus crop	Rice		Rice		Rice, tomato, sorghum	
2	Additional crops	Beans, Cassava, Cocoyam, Maize, Melon, Groundnut, Guinea Corn, Yam		Beans, Cassava, Cocoyam, Maize, Melon, Groundnut, Guinea Corn and Yam		Beans, Cassava, Cocoyam, Maize, Cotton, Rice, Groundnut, Guinea corn, Millet, Soya beans	
3	SCPZ location	Adani		Omor		Gafan	
4	Composite score of the site	70% out of 100%		76% out of 100%		75% out of 100%	
5	Raw materials required for the SCPZ	479213 MTPA		638424 MTPA		575320 MTPA	
6	Growing area required	92944 hectares		137745 hectares		148465 hectares	
7	Land use pattern – hectares						
	Total area	244.35 hectares		256.01 hectares		257.24 hectares	
		Phase I	Phase II	Phase I	Phase II	Phase I	Phase II
	I) Total processing area	135.11	79.60	161.88	65.25	121.01	115.24
	1.1) Total industrial area	85.45	53.65	118.09	44.40	81.06	93.30
	1.2) Amenities	4.77	1.95	0.48	4.67	4.30	0.43
	1.3) Utilities	8.78	5.72	4.74	1.31	7.27	
	1.4) Road	19.64	10.26	14.70	11.14	7.31	6.09
	1.5) Greenery and open space	16.47	8.01	23.87	3.73	21.07	15.43
	2) Total non-processing area		29.64		28.88		20.99
	2.1) Commercial		4.10		2.75		0.56
	2.2) Residential		7.09		4.95		4.58
	2.3) Polyclinic		1.38		1.51		0.56
	2.4) School		4.85		8.38		6.14
	2.5) Places of worship		1.67		1.40		0.56
	2.6) Utilities		1.12		0.59		
	2,7) Road		3.77		3.15		3.02
	2.8)Greenery and open space		5.66		6.14		5.58

S. No.	Description	Location		
		Enugu	Anambra	Kano
8	SCPZ internal infrastructure details			
	Length of road	17.35 km	13.72 km	7.38 km
	Total average water demand	4825 cum/day	5626 cum/day	5743 cum/day
	Wastewater generation	3456.83 cum/day	3957.92 cum/day	4030.61 cum/day
	MSW generation	46.23 TPD	56.91 TPD	60.42 TPD
	Power demand	52.03 MVA	56.66 MVA	55.53 MVA
9	Infrastructure gap analysis – procurement zone, off site and SCPZ connectivity			
	Production farm linkages to SCPZ	Access roads to production zone including strengthening of existing roads with adequate cross drainage works, culverts, bridges etc., approximately 50 kms	Providing access roads to production zones and strengthening existing feeder roads, approximately 60 kms	Providing access roads to production zones and strengthening existing feeder roads, approximately 50 kms
	Rural power supply through solar PV generation	5 MWp power in various capacity i.e. 25 KWp to 1 MWp		
	Knowledge dissemination and technology transfer	○ Centre of excellence without tissue culture plant and controlled environment growing ○ Additional investment in COE for tissue culture plant and controlled environment growing ○ CoE hub and spokes model ○ Knowledge dissemination cell ○ Market intelligence cell		
	Collection centres	10 numbers of collection centre with 3 numbers, 10 sqm cold storage in one collection centre, totaling to 30 sqm space per collection centre	10 nos. of collection centre with 3 nos, 10 sqm cold storage in one collection centre, totaling to 30 sqm space per collection centre	10 nos. of collection centre with 4 nos., 10 sqm cold storage in one collection centre, totaling to 40 sqm space per collection centre
	Silo complex / primary processing hub	6 numbers of silo complex with 2 numbers of 7m diameter and 5m height silos in each complex	6 numbers of silo complex with 2 numbers of 9m diameter and 5m height silos in each complex	6 numbers of silo complex with 2 numbers of 8m diameter and 5m height silos in each complex

S. No.	Description	Location		
		Enugu	Anambra	Kano
	Reefer vans	6 numbers for horticulture products and 2 numbers for animal products	6 numbers for horticulture products and 2 numbers for animal products	6 numbers for horticulture products and 2 numbers for animal products
	Access road to SCPZ	Widening and up gradation of existing access road from Auchi - Egede road including new bridge across river Obinna	Widening and up gradation of the existing Omor – Aguleri – Awkuzu major road for a length of 30kms from federal highway A125	Widening and augment the existing approach road from A2 federal high way for a length of 4.5kms from federal highway A2. In addition to the above approach an alternative approach to federal high way for a length of 8.8kms
	Power supply to SCPZ	The total estimated power demand of 52.03MVA is to be met from Nsukka substation. It is required to build a new 132kV dedicated power transmission line from Nsukka substation.	The total estimated power demand of 56.66MVA is to be met from Onitsha substation. It is required to build a new 33kV dedicated power transmission line from Onitsha substation	The total estimated power demand of 55.53 MVA is to be met from Dangora substation. It is required to build a new 33kV dedicated power transmission line from Dangora substation
	Water supply to SCPZ	The water demand for the SCPZ will be met from the proposed infiltration gallery and pump house at River Obinna located at 7.2kms from the project site	The water demand for the SCPZ will be met from the proposed infiltration gallery and pump house at River Ezu located at 7kms from the project site	The water demand for the SCPZ will be met from the proposed collection well and pump house at irrigation canal originating from Tiga dam located at 5.5kms from the project site
	LNG supply to SCPZ	Currently there is no LNG corridor near to the proposed SCPZ.	Currently there is no LNG corridor near to the proposed SCPZ	Currently there is no LNG corridor near to the proposed SCPZ
10	**Project cost**			
	SCPZ Phase I development	☐ 5046.32 million (31.54 million US$)	☐ 4826.15 million (30.16 million US$)	☐ 4462.72 million (27.89 million US$)
	SCPZ all phases	☐ 8622.24 million (53.89 million US$)	☐ 8517.69 million (53.24 million US$)	☐ 7861.51 million (49.13 million US$)
	Specialized agri infrastructure cost within ABIR	☐ 10784.15 million (67.40 million US$)	☐ 12371.76 million (77.32 million US$)	☐ 11440.22 million (71.50 million US$)
	External connectivity and	☐ 4539.00 million (28.37	☐ 8977.50 million	☐ 4882.50 million

S. No.	Description	Location		
		Enugu	Anambra	Kano
	offsite infrastructure cost - SCPZ	million US$)	(56.11 million US$)	(30.52 million US$)
	Grand total cost for integrated ABIR and SCPZ	☐ 23945.39 million (149.66 million US$)	☐ 29866.95 million (186.67 million US$)	☐ 24184.23 million (151.15 million US$)
	Investment by GoN and state government	☐ 9000 million	☐ 10500 million	☐ 9000 million
	Investment by SCPZ by PPP	☐ 8622.24 million	☐ 8517.69 million	☐ 7861.51 million
	Investment by SCPZ PPP or separate SPV or GoN and state government	☐ 6323.15 million	☐ 10849.26 million	☐ 7322.72 million
11	**Revenue drivers**			
	Total revenue – during 1st, 2nd, 3rd, 4th and 5th year of operation	○ ☐ 4742.50 million ○ ☐ 2765.19 million ○ ☐ 2094.13 million ○ ☐ 2155.87 million ○ ☐ 2201.75 million	○ ☐ 4810.19 million ○ ☐ 2848.17 million ○ ☐ 2100.34 million ○ ☐ 2161.98 million ○ ☐ 2210.97 million	○ ☐ 4550.39 million ○ ☐ 2992.06 million ○ ☐ 2321.23 million ○ ☐ 2382.68 million ○ ☐ 2432.15 million
12	**Means of finance**	The project shall be funded through equity, term loan in the initial phase and in the subsequent phases through the internal accrual.	The project shall be funded through equity, term loan in the initial phase and in the subsequent phases through the internal accrual.	The project shall be funded through equity, term loan in the initial phase and in the subsequent phases through the internal accrual
	Equity	☐ 2018.53 million (12.616 million US$)	☐ 1930.46 million (12.065 million US$)	☐ 1785.09 million (11.157 million US$)
	Term loan	☐ 3027.79 million (18.924 million US$)	☐ 2895.69 million (18.098 million US$)	☐ 2677.63 million (16.735 million US$)
	Internal accrual - For the development in subsequent phases, the capital expenditure is met through internal accrual	☐ 3575.92 million (22.349 million US$)	☐ 3691.54 million (23.072 million US$)	☐ 3398.79 million (21.242 million US$)
13	**Selective**			

S. No.	Description	Location		
		Enugu	Anambra	Kano
	financial indicators			
	Interest rate	17% per annum		
	Term loan repayment	1st, 2nd, 3rd and 4th year of operation i.e. 2 years after phase I development period		1st, 2nd and 3rd year of operation i.e. 2 years after phase I development period
	Financial expenses - during 1st, 2nd, 3rd and 4th year of operation	○ ☐ 437.74 million ○ ☐ 338.20 million ○ ☐ 211.10 million ○ ☐ 53.28 million	○ ☐ 412.98 million ○ ☐ 309.25 million ○ ☐ 178.01 million ○ ☐ 35.61 million	○ ☐ 375.00 million ○ ☐ 259.52 million ○ ☐ 112.13 million
	Profit before tax - during 1st, 2nd and 3rd year of operation	○ ☐ 2751.98 million ○ ☐ 1450.09 million ○ ☐ 1012.84 million	○ ☐ 2823.15 million ○ ☐ 1551.98 million ○ ☐ 1062.29 million	○ ☐ 2773.93 million ○ ☐ 1717.26 million ○ ☐ 1267.09 million
	Profit after tax - during 1st, 2nd and 3rd year of operation	○ ☐ 1878.59 million ○ ☐ 1082.70 million ○ ☐ 800.36 million	○ ☐ 1930.54 million ○ ☐ 1149.44 million ○ ☐ 832.16 million	○ ☐ 1895.04 million ○ ☐ 1266.83 million ○ ☐ 973.95 million
	Net cash accrual - during 1st, 2nd and 3rd year of operation	○ ☐ 2041.93 million ○ ☐ 1317.03 million ○ ☐ 1077.79 million	○ ☐ 2086.71 million ○ ☐ 1378.31 million ○ ☐ 1106.16 million	○ ☐ 2054.40 million ○ ☐ 1498.20 million ○ ☐ 1254.18 million
	Project IRR (post tax)	16.83%	17.91%	20.97%
	Equity IRR (post tax)	19.23%	20.80%	25.17%
	Average DSCR	2.06	2.22	2.02
	Cash flow	Unit's cash position will be comfortable right from the 1st year of operation. By the end of 15th year, the unit will have a cash balance of ₦ 4281.31 million after dividend outflow of ₦ 7401.37 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 3575.92 million.	Unit's cash position will be comfortable right from the 1st year of operation. By the end of 15th year, the unit will have a cash balance of ₦ 4258.41 million after dividend outflow of ₦ 7785.89 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 3691.54 million.	Unit's cash position will be comfortable right from the 1st year of operation. By the end of 15th year, the unit will have a cash balance of ₦ 4739.68 million after dividend outflow of ₦ 8575.34 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 3398.79 million
	Payback period	4 years + 6.22 months	4 years + 1.89 months	3 years + 11.75 months
	Cumulative profit	₦ 4487.50 million up to	₦ 4652.37 million up	₦ 4497.74 million up

S. No.	Description	Location								
		Enugu			Anambra			Kano		
	after tax plus depreciation plus non cash expenditures	4th of year against the phase I cost of ₦ 5046.32 million			to 4th of year against the phase I cost of ₦ 4826.15 million			to 4th of year against the phase I cost of ₦ 4462.72 million		
14	Benefit to cost ratio	1.22:1			1.26:1			1.34:1		
15	Risk ranking (Risk assessment score in a band of 0 to 5 during implementation and A to E during operation period)	1.79 B			1.79 B			2.13 B		
16	Tangible benefits	Short term (within 2 years)	Medium term (3 to 4 years)	Long term (more than 4 years)	Short term (within 2 years)	Medium term (3 to 4 years)	Long term (more than 4 years)	Short term (within 2 years)	Medium term (3 to 4 years)	Long term (more than 4 years)
	Processing capacity (in MTPA)	83840	223572	251519	117916	314442	353747	114864	306304	344593
	Direct employment (in Nos.)	616	1642	1847	645	1720	1935	648	1729	1945
	Transaction (million Naira)	2389	6372	7168	3361	8962	10082	3274	8730	9821
	Average business transaction (million Naira) / hectare	69.54			77.27			70.41		
17	Implementation period									
	Total period for implementation	48 months								
	The phase I development period	2 years								
	Phase II to phase III development period	3rd and 4th year								

S. No.	Description	Location			
		Rivers	Lagos		
1	Focus crop	Fisheries	Fisheries, rice, cassava and vegetable		
2	Additional crops	Nil	Nil		
3	SCPZ location	Okorolo	Imota, Ketu – Ereyun, Araga		
4	Composite score of the site	74% out of 100%	73% out of 100% for Imota, 73% out of 100% for Ketu – Ereyun 71% out of 100% for Araga		
5	Raw materials required for the SCPZ	On a conservative estimate, the required raw material can be procured from the proposed FLCs at Bonny Island, Oyorokoto & Okorolo besides FFT at Borokiri. The catch available from these zones and cultured fishes from proposed mariculture zone at Oyorokoto justifies the adequacy of sustainable raw material availability for the proposed SCPZ	575320 MTPA		
6	Growing area required	--	148465 hectares		
7	Land use pattern – hectares		Imota	Ketu – Ereyun	Araga
	Total area	50.69 hectares	20.20 ha	55.15 ha	171.88 ha
	I) Total processing area	48.90	18.13	50.83	147.34
	1.1) Total industrial area	27.31	8.31	29.09	109.19
	1.2) Amenities	2.42	2.03	2.79	4.75
	1.3) Utilities	2.87	0.61	3.11	5.40
	1.4) Road	5.41	5.35	10.27	12.78
	1.5) Greenery and open space	10.89	1.84	5.56	15.21
	2) Total non-processing area	1.78	2.07	4.32	24.55
	2.1) Commercial / amenities	1.78	0.66	1.90	0.91
	2.2) Residential / Non processing zone		0.76		2.10
	2.3) Polyclinic			0.31	1.76
	2.4) School			0.55	8.63
	2.5) Places of worship			0.30	1.44
	2.6) Utilities			0.81	
	2,7) Road		0.28	0.10	8.09

S. No.	Description	Location			
		Rivers	Lagos		
	2.8)Greenery and open space		0.37	0.34	1.62
8	**SCPZ internal infrastructure details**				
	Length of road	3.06 km	3.75 km	5.98 km	9.57 km
	Total average water demand	1109 cum / day	420 cum / day	1464 cum / day	11457 cum / day
	Wastewater generation	788.74 cum / day	306.35 cum / day	1099.22 cum / day	8183.89 cum / day
	MSW generation	9.18 TPD	3.40 TPD	10.36 TPD	39.80 TPD
	Power demand	9.97 MVA	3.95 MVA	3.93 MVA	16.27 MVA
9	**Infrastructure gap analysis – procurement zone, off site and SCPZ connectivity**				
	Fish procurement zone linkages to SCPZ	○ Augmenting road to Borokiri FFT ○ Augmenting road from Bonny island to NLNG jetty ○ Water supply to FLCs ○ Power supply to FLCs	○ Augmenting road to SCPZ ○ Water supply to FLCs ○ Power supply to FLCs		
	Fish landing centres	In order to augment the fishing activities is proposed to provide Fish Landing Centres (FLCs) in addition to the revamping of existing Borokiri federal fishing terminal and mariculture zone at Oyorokoto ○ FLC @ Bonny Island ○ FLC @ Oyorokoto ○ FLC @ Okorolo ○ Mariculture zone @ Oyorokoto and Gulf of Guinea	In order to augment the fishing activities is proposed to provide Fish Landing Centres (FLCs) in addition to the revamping of existing Kirikiri lighter terminal 1 & 2 and mariculture zone at Lagos Lagoon and Gulf of Guinea. ○ FLC @ Ketu ○ FLC @ Aiyetuju ○ FLC @ Ebute leki ○ Mariculture zone @ Lagos Lagoon and Gulf of Guinea		
	Water front facilities	• Deepening of existing river • Fish landing centres • Barges • Berthing structure • Bollards • Navigations aids			
	Landside facilities	• Fish auction halls, packing hall & market • Fishing gear-storage sheds (locker rooms) • Net mending sheds			

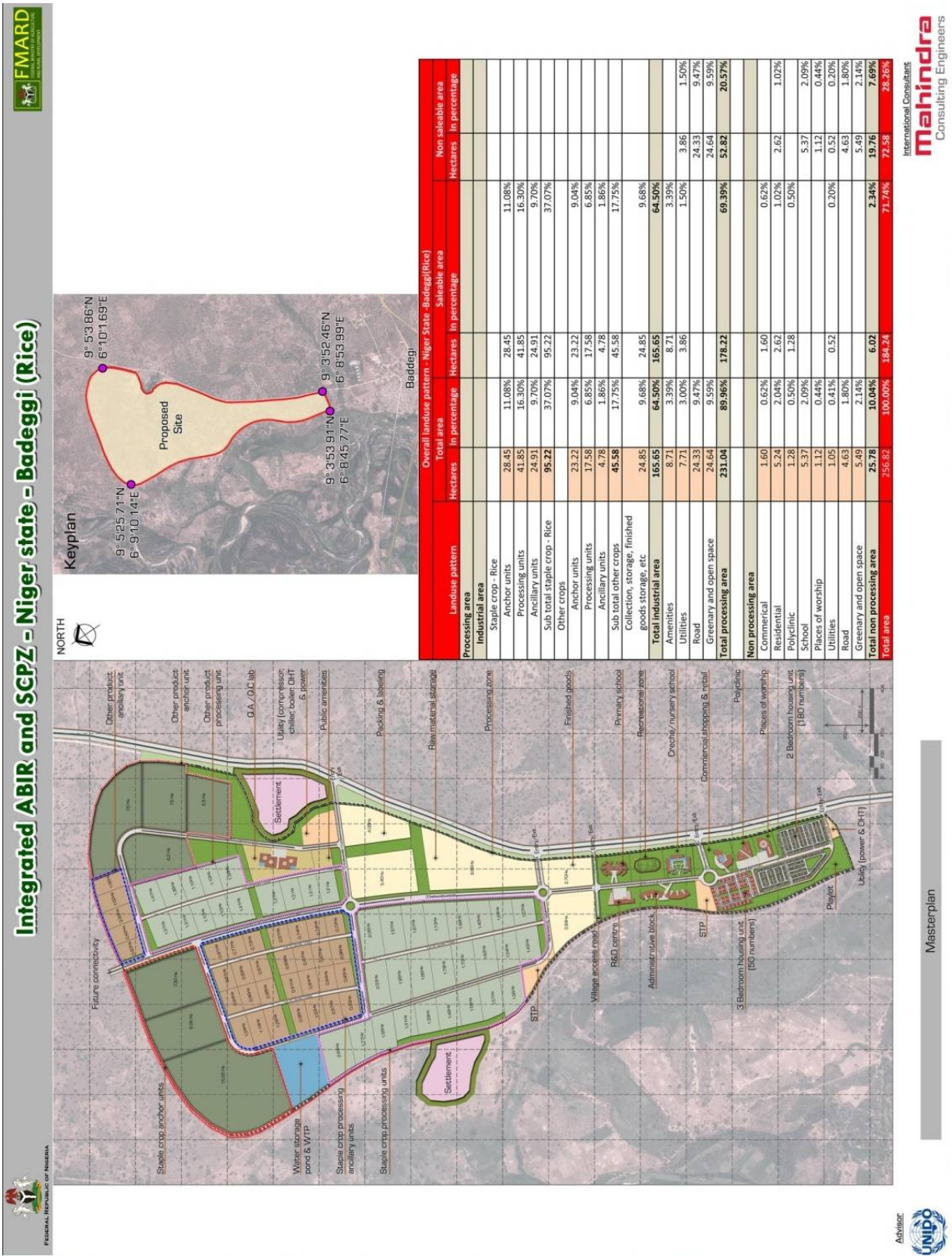
S. No.	Description	Location		
		Rivers	Lagos	
		• Administrative office • Ice plant, ice box and other facilities with DG backup • Fuelling station (only area earmarked) • Parking place for vehicles • Public toilets • Approach road and internal roads • Fresh water supply • Drainage and sewerage • Solid waste management & plant • Electric power and lighting • Utility / electrical room • Compound wall • Fire extinguishers • Terrestrial communications services such as telephone, telegraph, telex, fax and internet • Underground sump for fresh water • Underground sump for bore water • ETP		
	Rural power supply through solar PV generation	1 MWp power in various capacity i.e. 25 KWp to 0.5 MWp	3 MW power in various capacity i.e. 25 KWp to 0.5 MWp	
	Knowledge dissemination and technology transfer	○ Centre of excellence ○ Knowledge dissemination cell ○ Market intelligence cell		
	Collection centres	---	3 nos. of collection centre with 4 compartments of 5 sqm each cold storage in one collection centre, totaling to 20 sqm space per collection centre	---
	Silo complex / primary processing hub	----	6 nos. of silo complex with 2 nos. of 8m diameter and 5m height silos in each complex	--- 6 numbers of 160m x 55m storage yard with 40 racks with 3 layers each
	Reefer vans	2 numbers of reefer vans for effective transportation	2 numbers of reefer vans for effective transportation	
	Access road to SCPZ	Augment approach road to SCPZ for an approximate length 10 kms.	Augment approach road connecting all the SCPZs for an approximate length 61 kms	

S. No.	Description	Location	
		Rivers	Lagos
	Power supply to SCPZ	Power supply is proposed to develop a power connection from nearby substation - 132/ 33 KV line, approximate length 10 kms.	Power supply is proposed to develop a power connection from nearby substation - 132/ 33 KV line, approximate length 10 kms
	Water supply to SCPZ	Bore well and treatment along with recycling is contemplated as an external water source	Bore well and treatment along with recycling is contemplated as an external water source
10	**Project cost**		
	SCPZ Phase I development	☐ 1752.01 million (10.95 million US$)	☐ 5691.04 million (35.57 million US$)
	SCPZ all phases	☐ 2383.01 million (14.89 million US$)	☐ 7703.85 million (48.15 million US$)
	Specialized agri infrastructure cost within ABIR	Fish landing centres @ Bonny island, Oyorokoto & Okorolo and Borokiri FFT, ABIR plant and machinery - 3 FLCs and Borokiri FFT, External connectivity to FLCs / Borokiri FFT, FLC berthing structure and other infrastructure facilities **₦ 9346.70 million (58.42 million US$)**	Fish landing centres, ABIR plant and machinery, External connectivity to FLCs, FLC berthing structure and other infrastructure facilities **₦ 9855.90 million (61.60 million US$)**
	External connectivity and offsite infrastructure cost - SCPZ	☐ 1005 million (6.28 million US$)	☐ 1035 million (6.47 million US$)
	Grand total cost for integrated ABIR and SCPZ	☐ 12734.70 million (79.59 million US$)	☐ 18594.75 million (116.22 million US$)
	Investment by GoN and state government	☐ 3989.42 million	☐ 1837.67 million
	Investment by SCPZ by PPP	☐ 2398.01 million	☐ 7748.85 million
	Investment by SCPZ PPP or separate SPV or GoN and state government	☐ 6347.28 million	☐ 9008.23 million
11	**Revenue drivers**		
	Total revenue – during 1st, 2nd, 3rd, 4th and 5th year of operation	○ ☐ 1063.93 million ○ ☐ 944.10 million ○ ☐ 924.47 million ○ ☐ 937.08 million ○ ☐ 955.24 million	○ ☐ 3660.70 million ○ ☐ 2605.30 million ○ ☐ 2223.83 million ○ ☐ 2403.54 million ○ ☐ 2631.25 million
12	**Means of finance**		
	Equity	☐ 700.81 million (4.380	☐ 2276.42 million (14.23 million

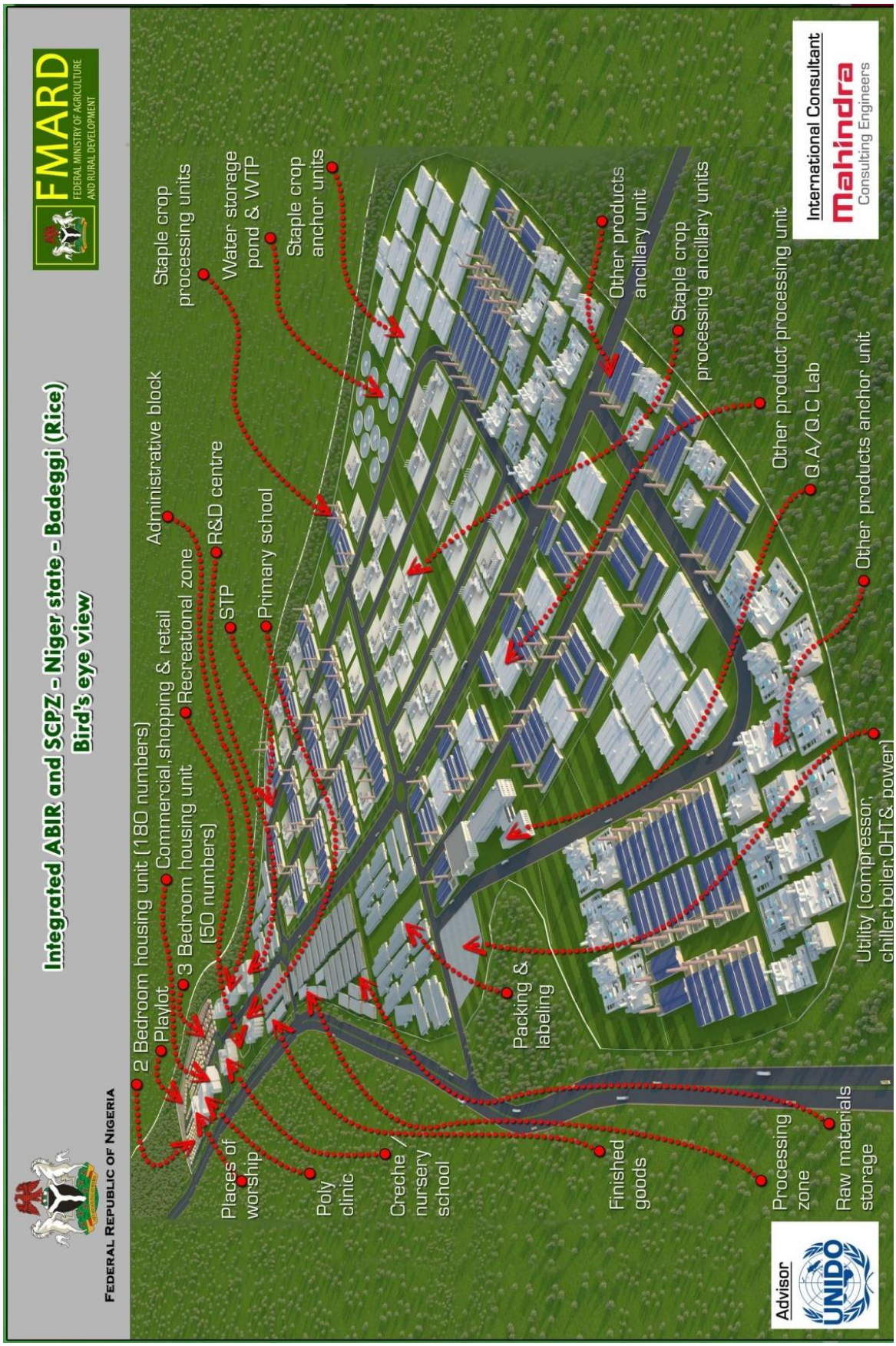
S. No.	Description	Location	
		Rivers	Lagos
		million US$)	US$)
	Term loan	☐ 1051.21 million (6.570 million US$)	☐ 3414.62 million (21.34 million US$)
	Internal accrual - For the development in subsequent phases, the capital expenditure is met through internal accrual	☐ 630.99 million (3.944 million US$)	☐ 2012.81 million (12.58 million US$)
13	**Selective financial indicators**		
	Interest rate	17 % per annum	
	Term loan repayment	1st, 2nd and 3rd and 4th year of operation i.e. 2 years after phase I development period	1st, 2nd 3rd and 4th year of operation i.e. 2 years after phase I development period
	Financial expenses – during 1st, 2nd, 3rd and 4th year of operation	○ ☐ 152.69 million ○ ☐ 123.30 million ○ ☐ 83.48 million ○ ☐ 23.51 million	○ ☐ 463.00 million ○ ☐ 338.71 million ○ ☐ 237.95 million ○ ☐ 71.99 million
	Profit before tax - during 1st, 2nd and 3rd year of operation	○ ☐ 146.70 million ○ ☐ 61.26 million ○ ☐ 76.56 million	○ ☐ 1681.01 million ○ ☐ 1092.27 million ○ ☐ 846.35 million
	Profit after tax - during 1st, 2nd and 3rd year of operation	○ ☐ 248.60 million ○ ☐ 302.31 million ○ ☐ 296.35 million	○ ☐ 1094.81 million ○ ☐ 904.52 million ○ ☐ 696.86 million
	Net cash accrual - during 1st, 2nd and 3rd year of operation	○ ☐ 343.40 million ○ ☐ 408.99 million ○ ☐ 425.59 million	○ ☐ 1375.74 million ○ ☐ 1219.81 million ○ ☐ 1077.41 million
	Project IRR (post tax)	18.15%	17.81%
	Equity IRR (post tax)	21.26%	20.68%
	Average DSCR	1.58	1.55
	Cash flow	Unit's cash position will be comfortable right from the 1st year of operation. By the end of 15th year, the unit will have a cash balance of ₦ 1219.46 million after dividend outflow of ₦ 2021.16 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 630.99 million	Unit's will have a cash balance of ₦ 3762.82 million after dividend outflow of ₦ 7382.72 million over 13 years of operation and capital outflow for phase II and III to the tune of ₦ 2012.81 million
	Payback period	5 years + 9.06 months	5 years + 11.12 months
	Cumulative profit after tax plus depreciation plus non	₦ 970.81 million up to 4th of year against the phase	₦ 3425.71 million up to 4th of year against the phase I cost of ₦

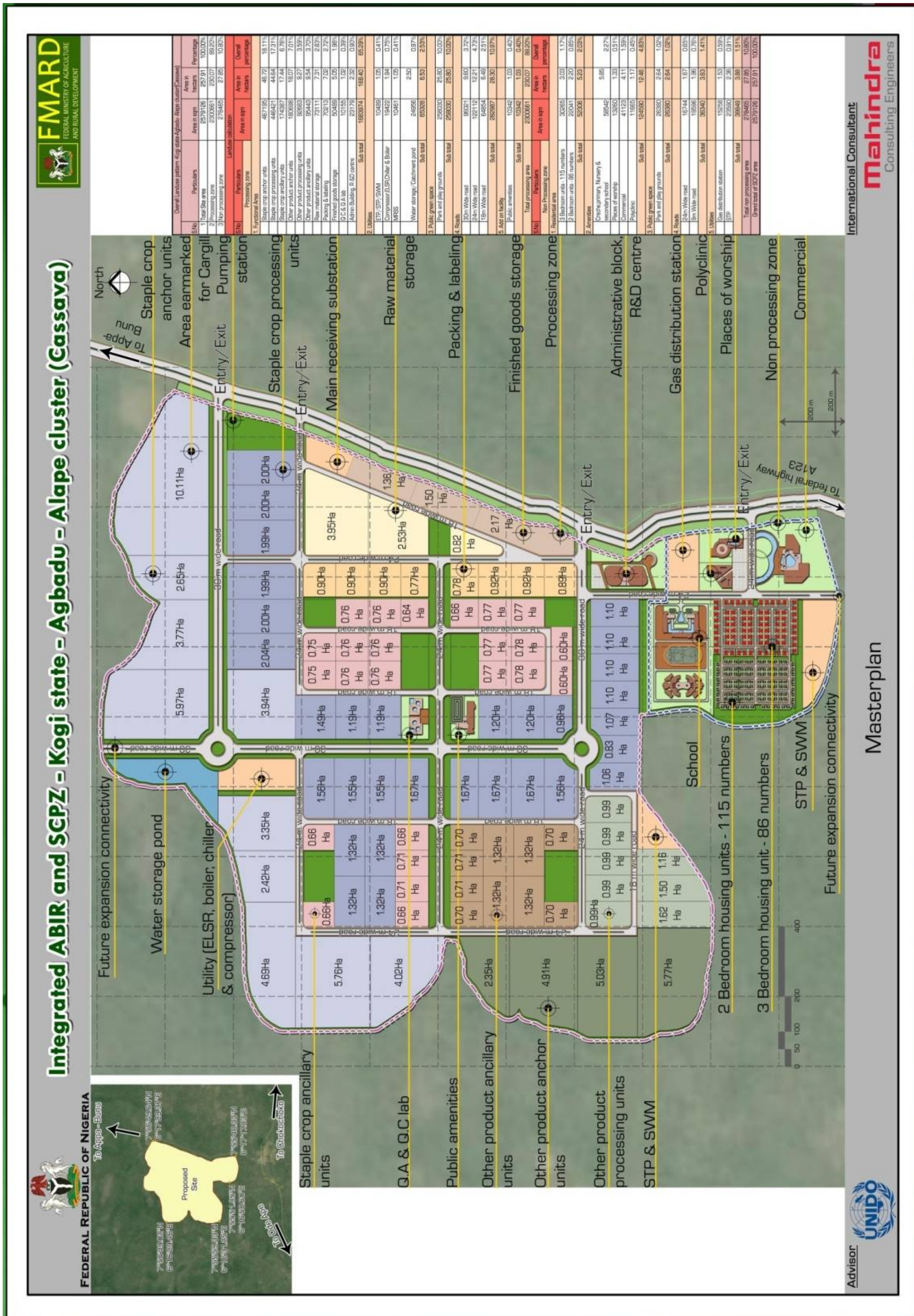
S. No.	Description	Location					
		Rivers			Lagos		
	cash expenditures	I cost of ₦ 1752.01 million			5691.04 million		
14	Benefit to cost ratio	1.19:1			1.21:1		
15	Risk ranking (Risk assessment score in a band of o to 5 during implementation and A to E during operation period)	2.34 C			1.28B		
16	Tangible benefits	Short term (within 2 years)	Mediu m term (3 to 4 years)	Long term (more than 4 years)	Short term (within 2 years)	Medium term (3 to 4 years)	Long term (more than 4 years)
	Processing capacity – raw material MTPA	9181	22218	40325	11244	27211	49389
	Processing capacity - other raw material, MTPA				133057	354820	399172
	Processing capacity - raw material, MTPA (Marine and other agro products)				144302	382031	448561
	Processing capacity (60%) - finished product MTPA	5509	13331	24195	6747	16327	29633
	Processing capacity - finished product MTPA (other agro products)				82025	218733	246074
	Processing capacity - finished product MTPA (marine and other agro products)				88771	235060	275708
	Direct employment (in nos.)	255.	681	766	1780	4747	5340
	Transaction (million Naira)	4407	10665	19356	7120	19295	30720
	Average business transaction (million Naira) / hectare	498.95			96.21	97.45	138.38
17	Implementation period						
	Total period for implementation	48 months					
	The phase I development period	2 years					
	Phase II to phase III development period	3rd and 4th year					

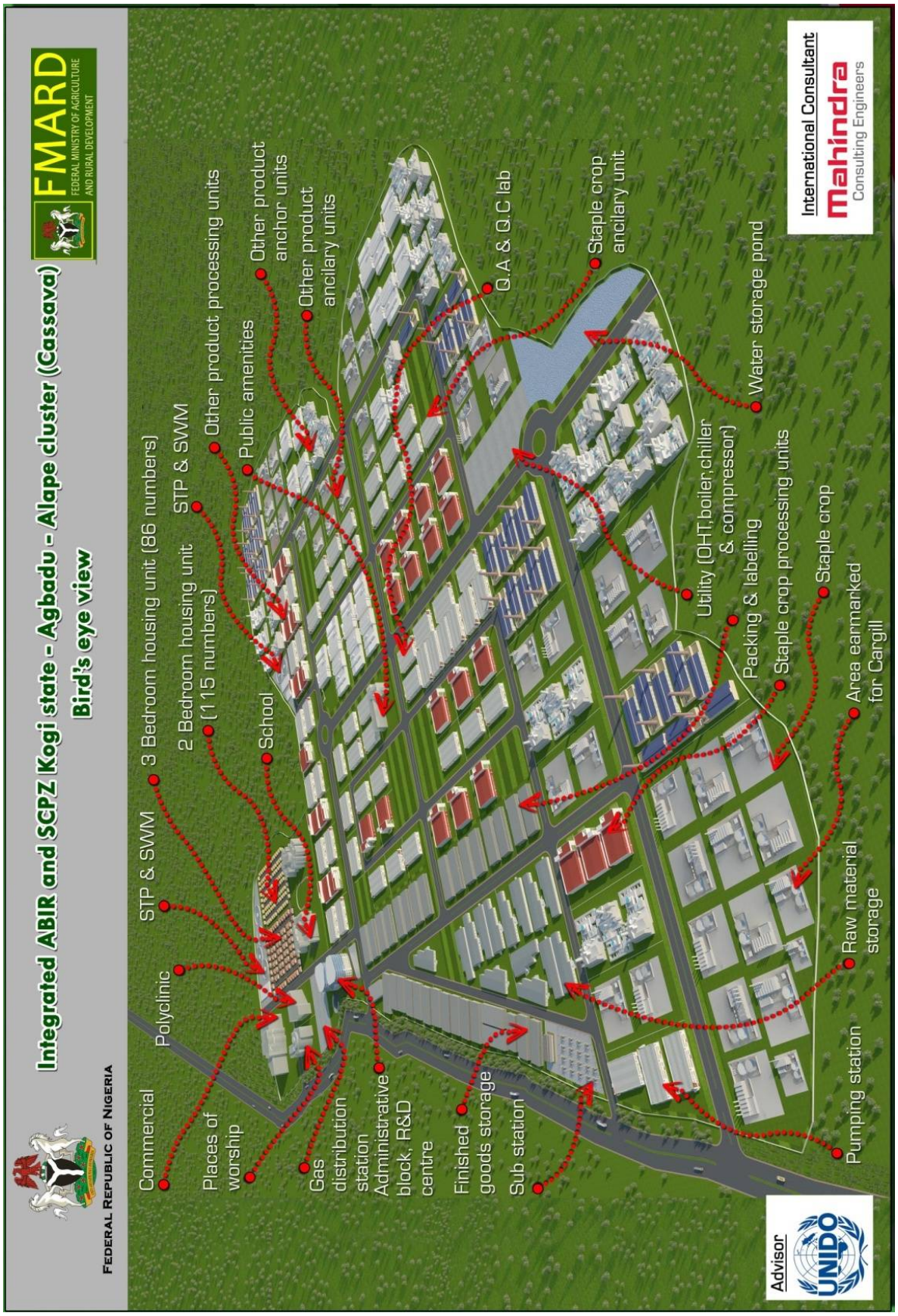

Integrated ABIR and SCPZ
in
Nigeria
KATSINA
KANO
BAUCHI
GOMBE
PLATEAU
KWARA
OYO
EKITI
OSUN
KOGI
BENUE
CROSS
RIVERS

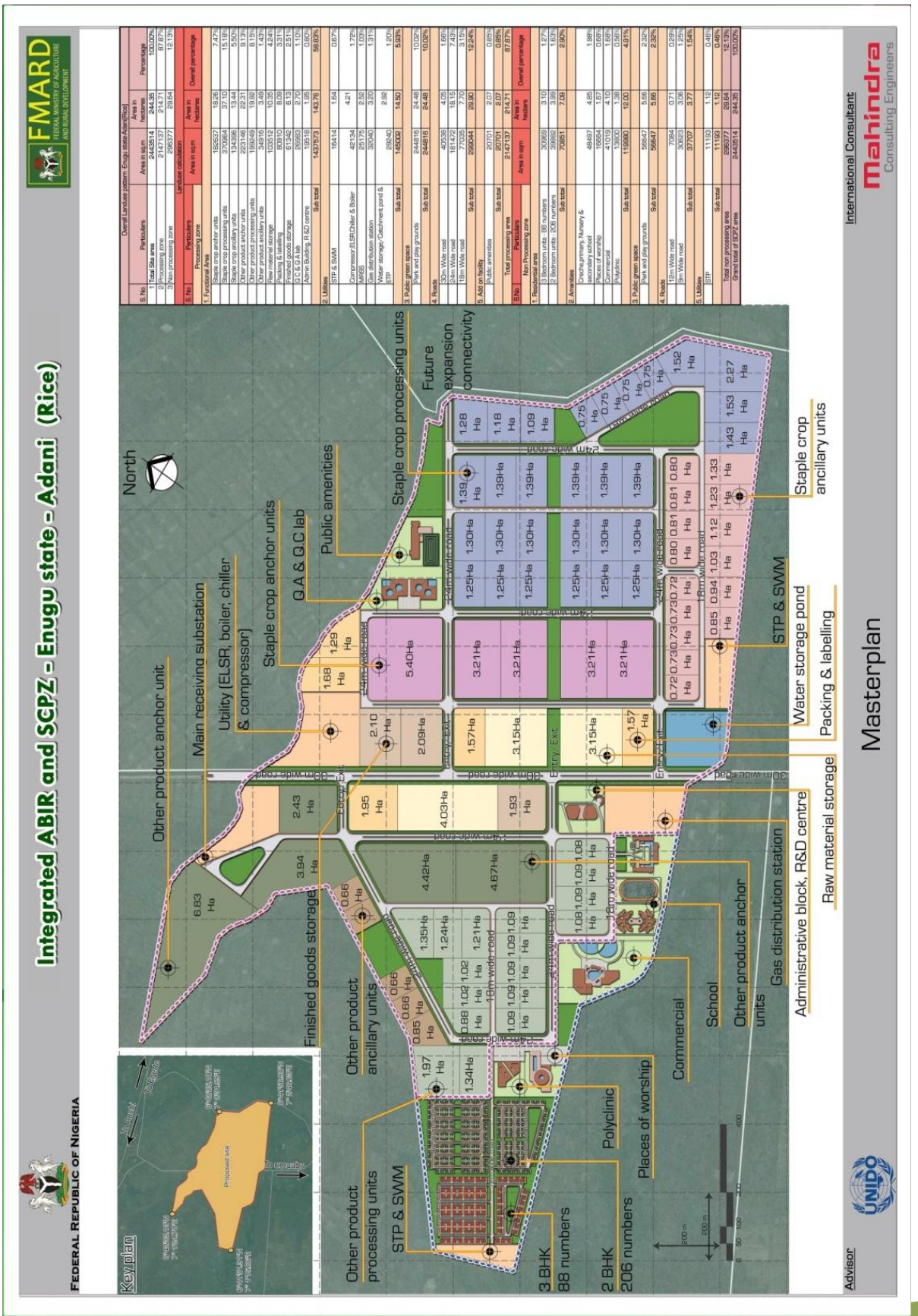


Landuse pattern	Overall landuse pattern - Niger State -Badeggi(Rice) Total area Hectares	Total area In percentage	Saleable area Hectares	Saleable area In percentage	Non saleable area Hectares	Non saleable area In percentage
Processing area						
Industrial area						
Staple crop - Rice						
Anchor units	28.45	11.08%	28.45	11.08%		
Processing units	41.85	16.30%	41.85	16.30%		
Ancillary units	24.91	9.70%	24.91	9.70%		
Sub total staple crop - Rice	**95.22**	37.07%	95.22	37.07%		
Other crops						
Anchor units	23.22	9.04%	23.22	9.04%		
Processing units	17.58	6.85%	17.58	6.85%		
Ancillary units	4.78	1.86%	4.78	1.86%		
Sub total other crops	**45.58**	17.75%	45.58	17.75%		
Collection, storage, finished goods storage, etc	24.85	9.68%	24.85	9.68%		
Total industrial area	**165.65**	**64.50%**	**165.65**	**64.50%**		
Amenities	8.71	3.39%	8.71	3.39%		
Utilities	7.71	3.00%	3.86	1.50%	3.86	1.50%
Road	24.33	9.47%			24.33	9.47%
Greenary and open space	24.64	9.59%			24.64	9.59%
Total processing area	**231.04**	**89.96%**	**178.22**	**69.39%**	**52.82**	**20.57%**
Non processing area						
Commerical	1.60	0.62%	1.60	0.62%		
Residential	5.24	2.04%	2.62	1.02%	2.62	1.02%
Polyclinic	1.28	0.50%	1.28	0.50%		
School	5.37	2.09%			5.37	2.09%
Places of worship	1.12	0.44%			1.12	0.44%
Utilities	1.05	0.41%	0.52	0.20%	0.52	0.20%
Road	4.63	1.80%			4.63	1.80%
Greenary and open space	5.49	2.14%			5.49	2.14%
Total non processing area	**25.78**	**10.04%**	**6.02**	**2.34%**	**19.76**	**7.69%**
Total area	256.82	100.00%	184.24	71.74%	72.58	28.26%

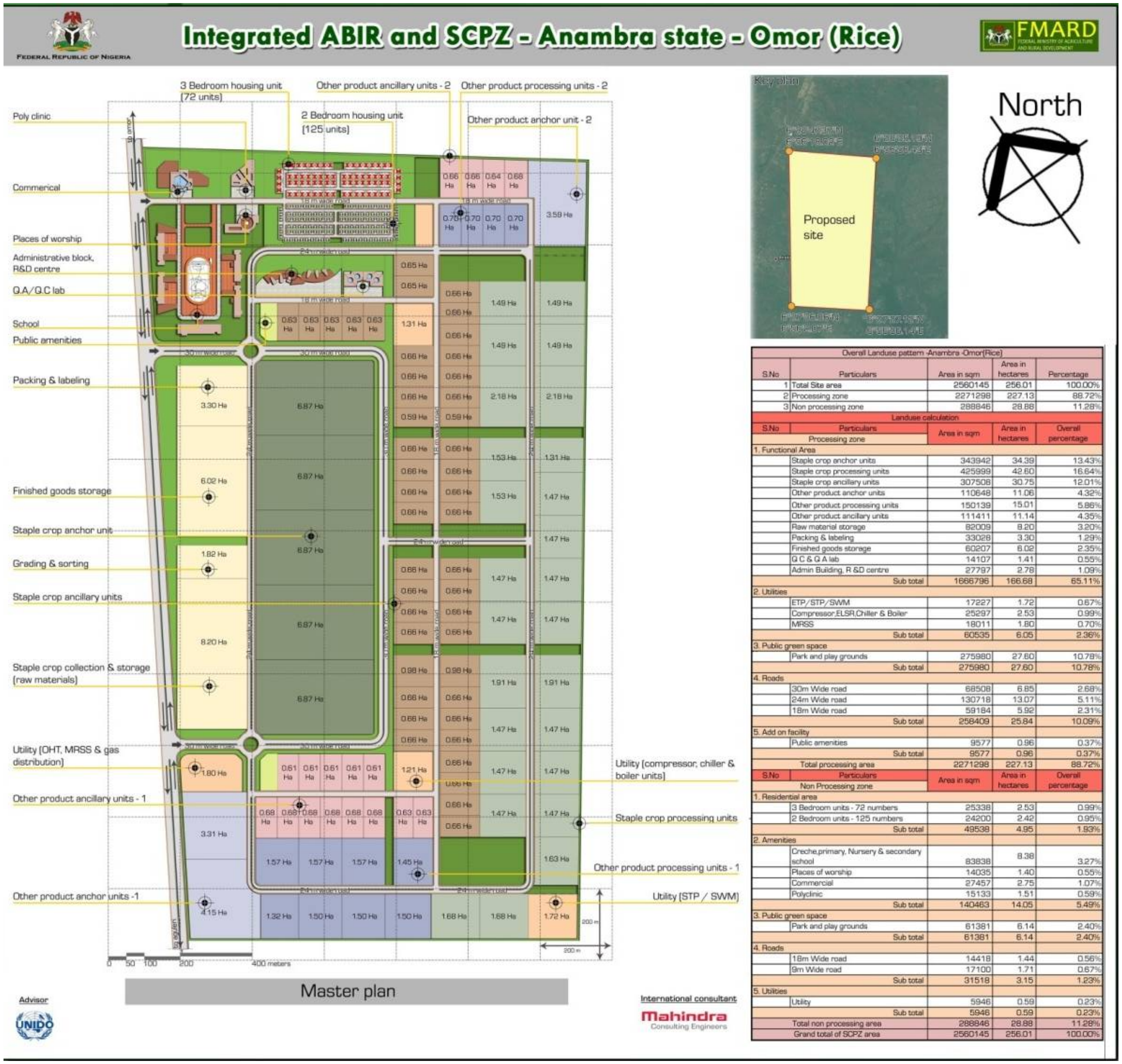

Integrated ABIR and SCPZ - Niger state - Badeggi (Rice)
Bird's eye view
FEDERAL REPUBLIC OF NIGERIA
FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
2 Bedroom housing unit (180 numbers)
Playlot
Commercial, shopping & retail
3 Bedroom housing unit (50 numbers)
Recreational zone
Administrative block
R&D centre
STP
Primary school
Staple crop processing units
Water storage pond & WTP
Staple crop anchor units
Other products ancillary unit
Staple crop processing ancillary units
Other product processing unit
Q.A/Q.C Lab
Other products anchor unit
Utility (compressor, chiller, boiler, OHTS, power)
Packing & labeling
Places of worship
Poly clinic
Creche / nursery school
Finished goods
Processing zone
Raw materials storage
Advisor
UNIDO
International Consultant
Mahindra
Consulting Engineers


Integrated ABIR and SCPZ - Kogi state - Agbadu - Alape cluster (Cassava)
Federal Republic of Nigeria
FMARD
Federal Ministry of Agriculture and Rural Development
To Appa-Bunu
To Ocho Ape
Proposed Site
Future expansion connectivity
Water storage pond
Utility [ELSR, boiler, chiller & compressor]
Staple crop anchor units
Area earmarked for Cargill
Pumping station
Staple crop processing units
Main receiving substation
Raw material storage
Packing & labeling
Finished goods storage
Processing zone
Administrative block, R&D centre
Gas distribution station
Polyclinic
Places of worship
Non processing zone
Commercial
Staple crop ancillary units
QA & QC lab
Public amenities
Other product ancillary units
Other product anchor units
Other product processing units
STP & SWM
School
2 Bedroom housing units - 115 numbers
3 Bedroom housing unit - 86 numbers
Entry/ Exit
To federal highway A123
North
Masterplan
Advisor
UNIDO
International Consultant
Mahindra Consulting Engineers

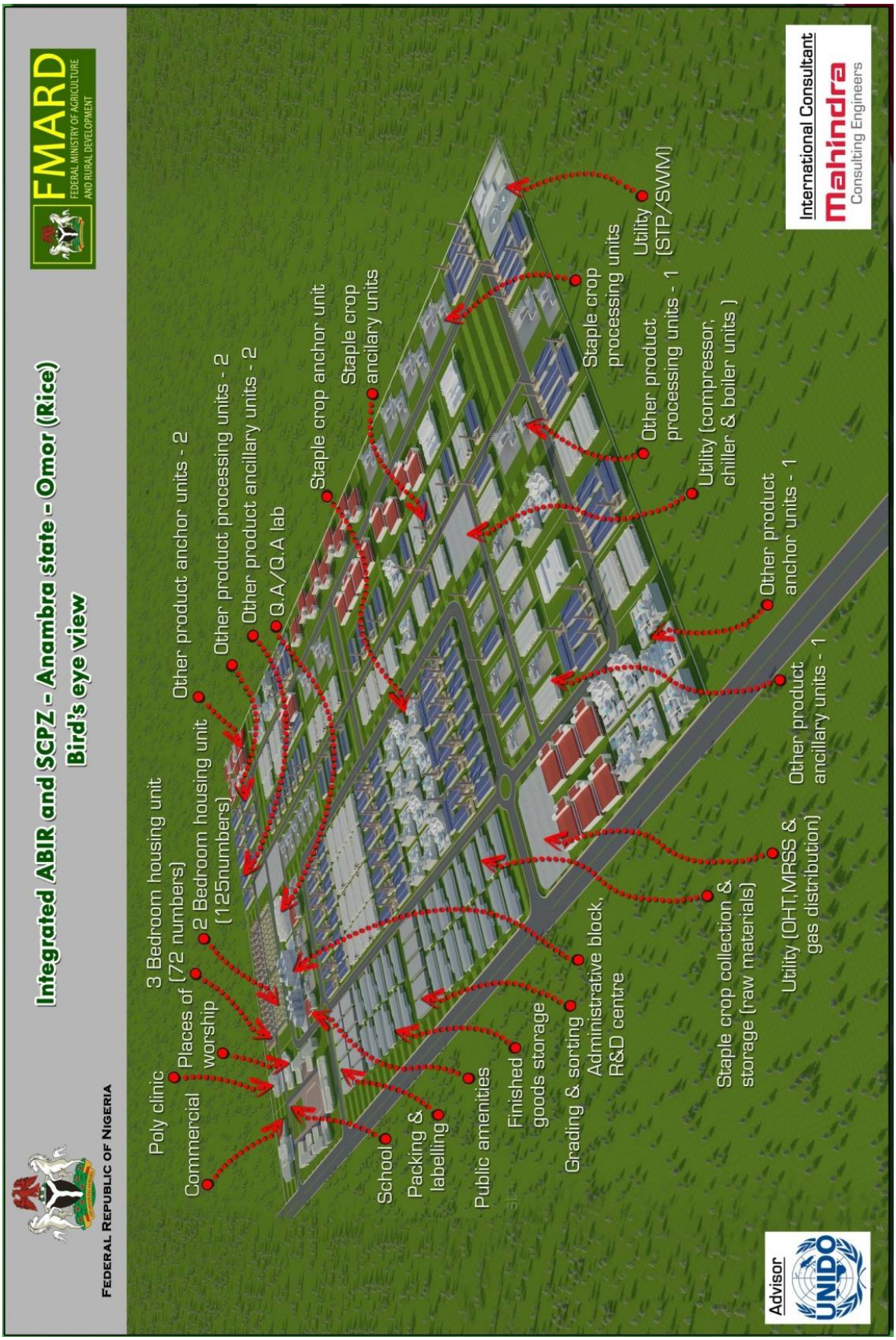

Integrated ABIR and SCPZ Kogi state - Agbadu - Alape cluster (Cassava)
Bird's eye view
FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
FEDERAL REPUBLIC OF NIGERIA
Commercial
Polyclinic
STP & SWM
3 Bedroom housing unit (86 numbers)
Places of worship
2 Bedroom housing unit (115 numbers)
STP & SWM
Other product processing units
Gas distribution station
School
Public amenities
Other product anchor units
Administrative block, R&D centre
Other product ancilary units
Finished goods storage
Q.A & Q.C lab
Staple crop ancilary unit
Sub station
Water storage pond
Utility (OHT,boiler,chiller & compressor)
Packing & labelling
Staple crop processing units
Staple crop
Raw material storage
Area earmarked for Cargill
Pumping station
International Consultant
Mahindra
Consulting Engineers
Advisor
UNIDO


Integrated ABIR and SCPZ - Enugu state - Adani (Rice)
FEDERAL REPUBLIC OF NIGERIA
FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
Key plan
Proposed site
Masterplan
North
Other product anchor unit
Main receiving substation
Utility (ELSR, boiler, chiller & compressor)
Staple crop anchor units
Q.A & Q.C lab
Public amenities
Staple crop processing units
Future expansion connectivity
Staple crop ancillary units
STP & SWM
Water storage pond
Packing & labelling
Raw material storage
Administrative block, R&D centre
Gas distribution station
Other product anchor units
School
Commercial
Places of worship
Polyclinic
2 BHK 206 numbers
3 BHK 88 numbers
STP & SWM
Other product processing units
Other product ancillary units
Finished goods storage
Advisor
UNIDO
International Consultant
Mahindra
Consulting Engineers


FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
Integrated ABIR and SCPZ - Enugu state - Adani (Rice)
Bird's eye view
FEDERAL REPUBLIC OF NIGERIA
3 BHK (88 numbers)
Other product processing units
Other product ancilary units
Finished goods storage
Other product anchor units
Main receiving sub station
Utility (ELSR,boiler,chiller & compressor)
Staple crop anchor units
Public amenities
Staple crop processing units
Q.A & Q.C lab
Staple crop ancilary units
Raw material storage
STP & SWM
Packing & labelling
Administrative block, R&D centre
Water storage pond
Gas distribution station
Other product anchor units
School
Commercial
2 BHK (206 numbers)
Polyclinic
International Consultant
Mahindra
Consulting Engineers
Advisor
UNIDO

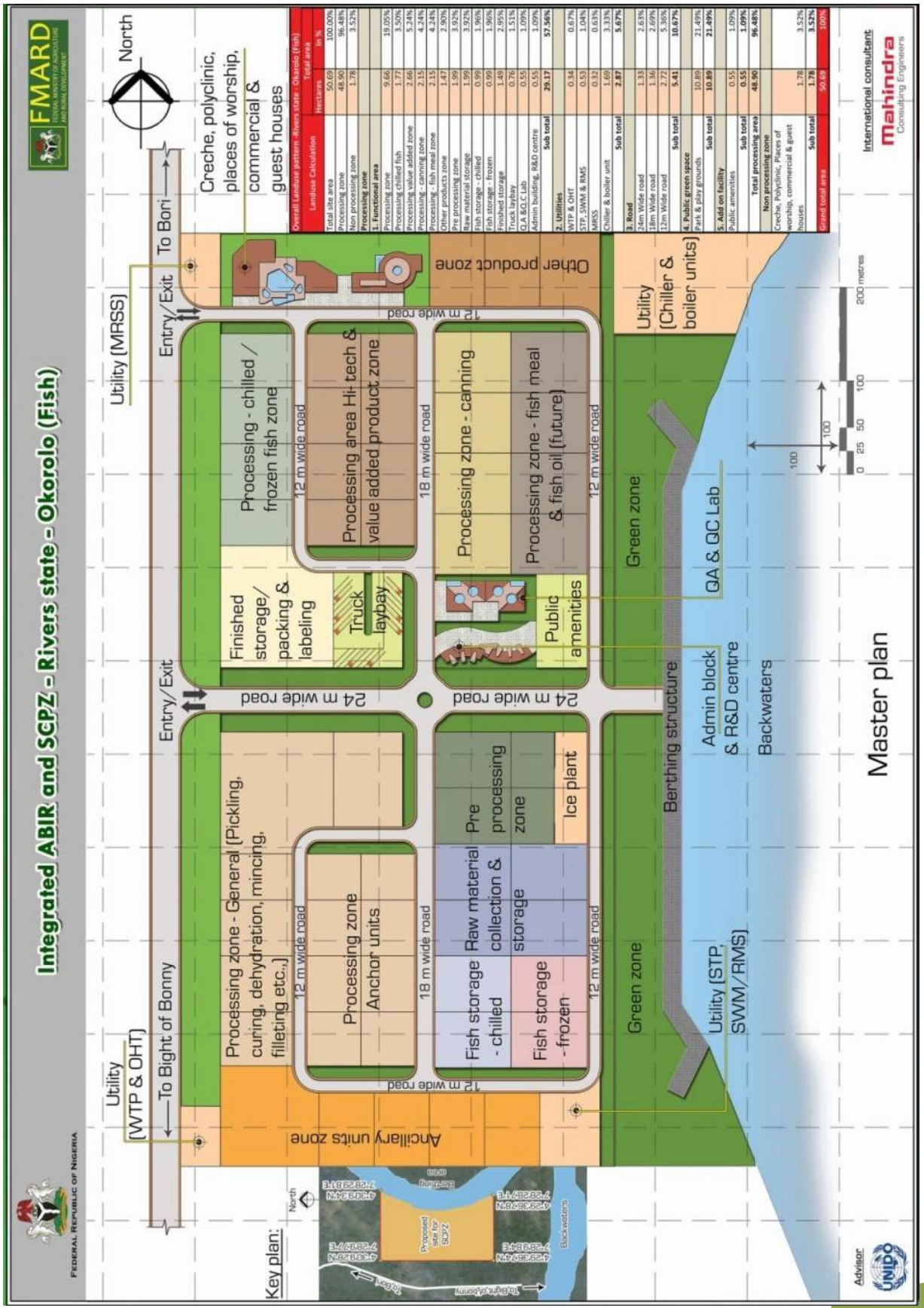


Overall Landuse pattern -Anambra -Omor(Rice)				
S.No	Particulars	Area in sqm	Area in hectares	Percentage
1	Total Site area	2560145	256.01	100.00%
2	Processing zone	2271298	227.13	88.72%
3	Non processing zone	288846	28.88	11.28%
Landuse calculation				
S.No	Particulars Processing zone	Area in sqm	Area in hectares	Overall percentage
1. Functional Area				
	Staple crop anchor units	343942	34.39	13.43%
	Staple crop processing units	425999	42.60	16.64%
	Staple crop ancillary units	307508	30.75	12.01%
	Other product anchor units	110648	11.06	4.32%
	Other product processing units	150139	15.01	5.86%
	Other product ancillary units	111411	11.14	4.35%
	Raw material storage	82009	8.20	3.20%
	Packing & labeling	33028	3.30	1.29%
	Finished goods storage	60207	6.02	2.35%
	Q C & Q A lab	14107	1.41	0.55%
	Admin Building, R &D centre	27797	2.78	1.09%
	Sub total	1666796	166.68	65.11%
2. Utilities				
	ETP/STP/SWM	17227	1.72	0.67%
	Compressor,ELSR,Chiller & Boiler	25297	2.53	0.99%
	MRSS	18011	1.80	0.70%
	Sub total	60535	6.05	2.36%
3. Public green space				
	Park and play grounds	275980	27.60	10.78%
	Sub total	275980	27.60	10.78%
4. Roads				
	30m Wide road	68508	6.85	2.68%
	24m Wide road	130718	13.07	5.11%
	18m Wide road	59184	5.92	2.31%
	Sub total	258409	25.84	10.09%
5. Add on facility				
	Public amenities	9577	0.96	0.37%
	Sub total	9577	0.96	0.37%
	Total processing area	2271298	227.13	88.72%
S.No	Particulars Non Processing zone	Area in sqm	Area in hectares	Overall percentage
1. Residential area				
	3 Bedroom units - 72 numbers	25338	2.53	0.99%
	2 Bedroom units - 125 numbers	24200	2.42	0.95%
	Sub total	49538	4.95	1.93%
2. Amenities				
	Creche,primary, Nursery & secondary school	83838	8.38	3.27%
	Places of worship	14035	1.40	0.55%
	Commercial	27457	2.75	1.07%
	Polyclinic	15133	1.51	0.59%
	Sub total	140463	14.05	5.49%
3. Public green space				
	Park and play grounds	61381	6.14	2.40%
	Sub total	61381	6.14	2.40%
4. Roads				
	18m Wide road	14418	1.44	0.56%
	9m Wide road	17100	1.71	0.67%
	Sub total	31518	3.15	1.23%
5. Utilities				
	Utility	5946	0.59	0.23%
	Sub total	5946	0.59	0.23%
	Total non processing area	288846	28.88	11.28%
	Grand total of SCPZ area	2560145	256.01	100.00%


Federal Republic of Nigeria
Integrated ABIR and SCPZ - Anambra state - Omor (Rice)
Bird's eye view
FMARD
Federal Ministry of Agriculture and Rural Development
Poly clinic
Places of worship
Commercial
3 Bedroom housing unit (72 numbers)
2 Bedroom housing unit (125numbers)
Other product anchor units - 2
Other product processing units - 2
Other product ancillary units - 2
Q.A/Q.A lab
Staple crop anchor unit
Staple crop ancilary units
Staple crop processing units
Other product processing units - 1
Utility (STP/SWM)
Utility (compressor, chiller & boiler units)
Other product anchor units - 1
Other product ancillary units - 1
Utility (OHT,MRSS & gas distribution)
Staple crop collection & storage (raw materials)
Administrative block, R&D centre
Grading & sorting
Finished goods storage
Public amenities
Packing & labelling
School
International Consultant
Mahindra
Consulting Engineers
Advisor
UNIDO

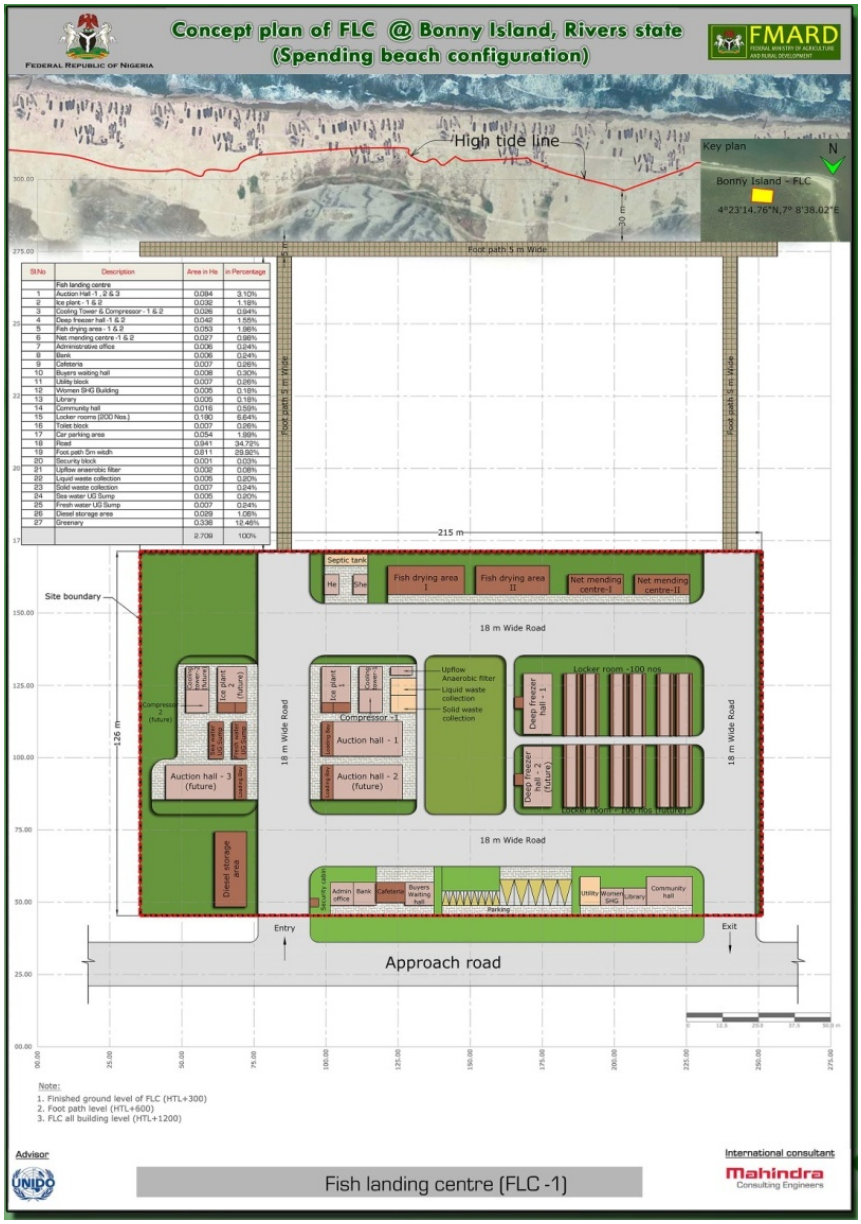

Integrated ABIR and SCPZ - Kano state - Gafan (Rice, Sorghum & Tomato)
FEDERAL REPUBLIC OF NIGERIA
FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
Keyplan
Proposed site
Proposed approach road
Staple crop - Tomato processing units
Staple crop - Tomato anchor units
Staple crop - Tomato ancillary units
Staple crop - Sorghum processing units
Staple crop - Sorghum ancillary units
Staple crop - Sorghum anchor units
Raw materials collection & storage
Q C & QA lab
Utility (Compressor, Chiller & Boiler
Utility (STP/SWM)
Packing & labeling
Finished goods storage
Administrative block, R&D centre
Other products anchor units
Other products processing units
Other products ancillary units
Public amenities
Staple crop - Rice ancillary units
Staple crop - Rice processing units
Staple crop - Rice anchor units
Utility (OHT & WTP)
2 Bedroom housing (110 units)
Utility (MRSS & future gas distribution)
3 Bedroom housing (70 units)
Places of worship
Poly clinic
Commercial
to Daura road towards Kano
to Daura road towards Tarau
45 m wide road
24 m wide road
North
Master plan
0 50 100 200 400 meters
Legend:
Staple crop - Rice
Staple crop - Sorghum
Staple crop - Tomato
Other products
Advisor
UNIDO
International consultant
Mahindra Consulting Engineers

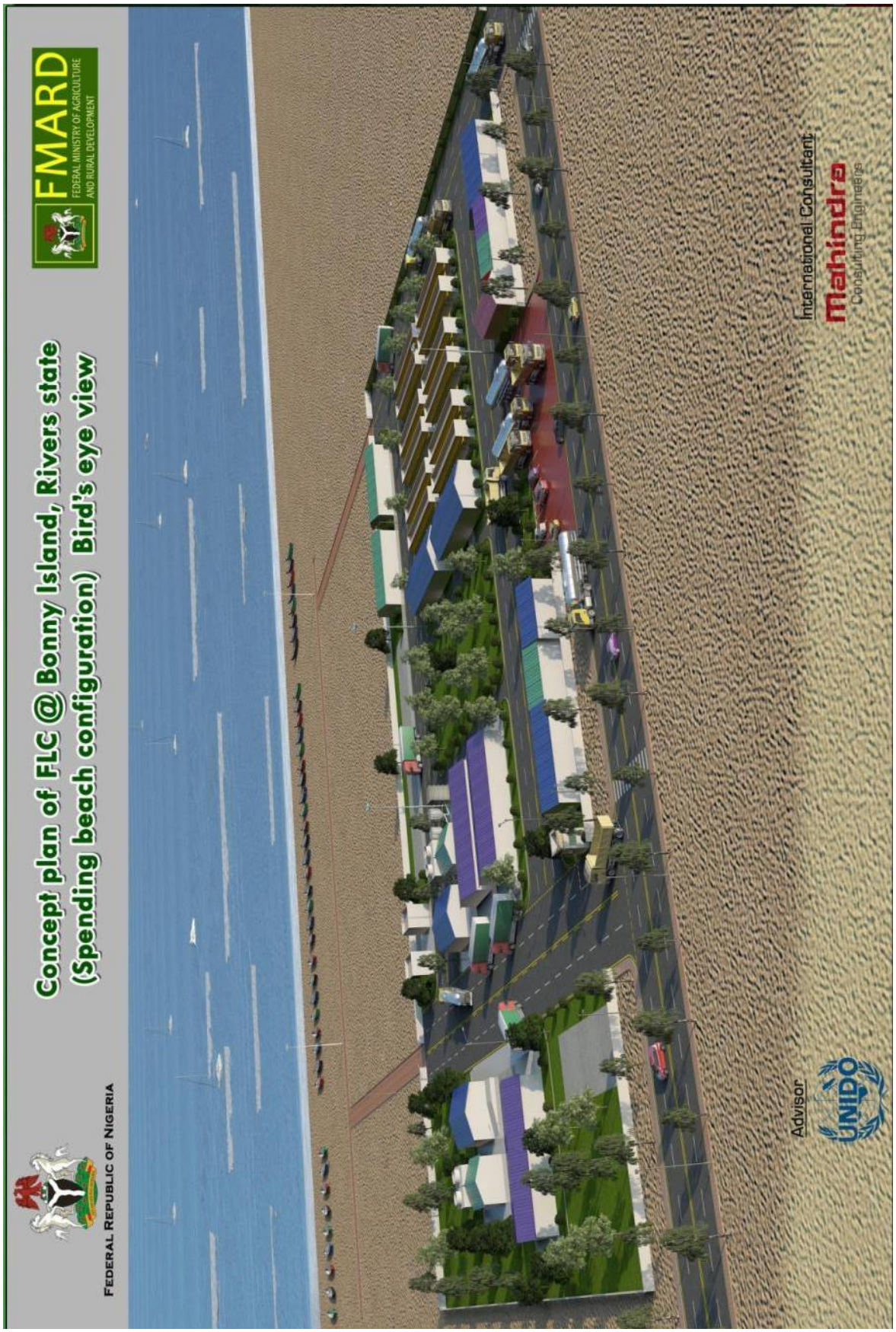

Federal Republic of Nigeria
Integrated ABIR and SCPZ - Kano state - Gafan (Rice, Sorghum & Tomato)
Bird's eye view
FMARD
Federal Ministry of Agriculture and Rural Development
Utility (MRSS & future gas distribution)
Places of worship
Polyclinic
Commercial
3 Bedroom housing (70 units)
2 Bedroom housing (110 units)
Administrative block, R&D centre
Q.C/Q.A lab
Utility (compressor, ELSR,chiller & boiler)
Utility (STP / SWM)
Packing & labelling
Raw materials collection & storage
Staple crop - Sorghum anchor units
Staple crop - Sorghum ancillary units
Staple crop - Sorghum processing units
International Consultant
Mahindra
Consulting Engineers
Staple crop - Tomato anchor units
Staple crop - Tomato ancillary units
Staple crop - Tomato processing units
Other product anchor units
Other product processing units
Other product ancillary units
Public amenities
Staple crop - Rice ancillary units
Staple crop - Rice processing units
Staple crop - Rice anchor units
Utility (OHT & WTP)
Advisor
UNIDO

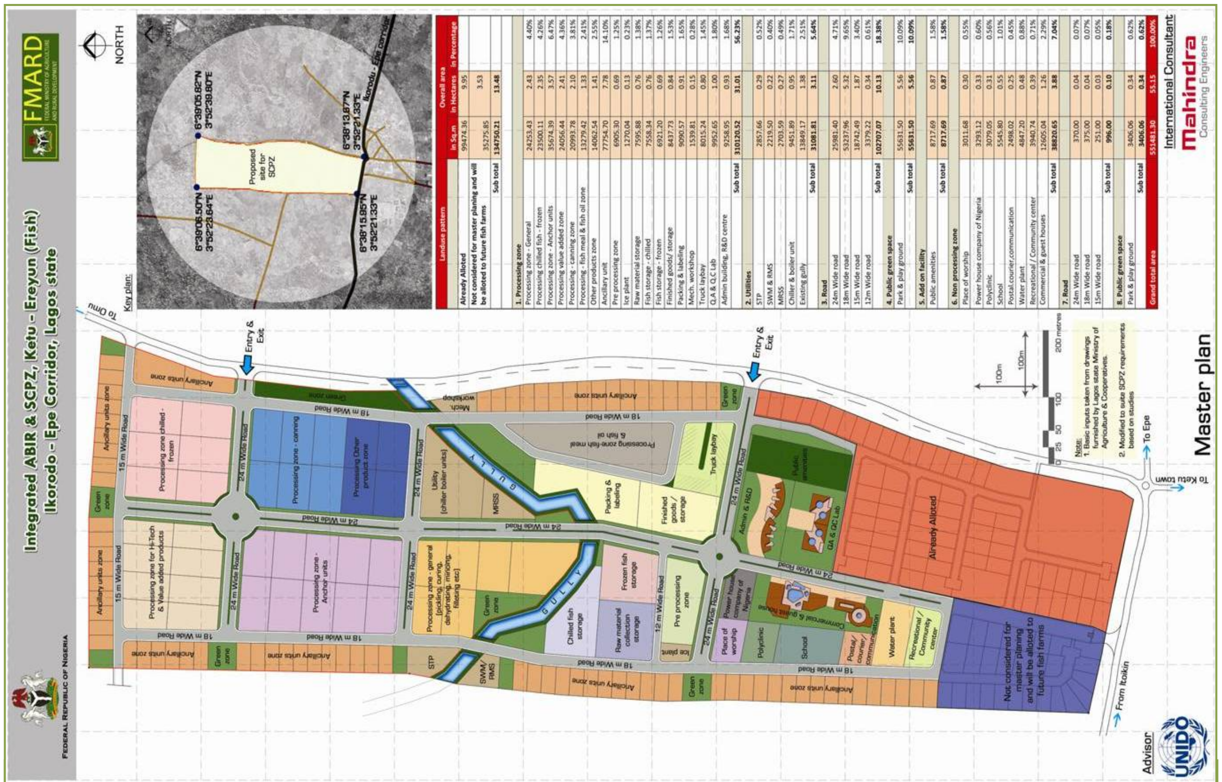


Overall Landuse pattern - Rivers state - Okorolo (Fish)		
Landuse Calculation	Total area	
	Hectares	In %
Total site area	50.69	100.00%
Processing zone	48.90	96.48%
Non processing zone	1.78	3.52%
Processing zone		
1. Functional area		
Processing zone	9.66	19.05%
Processing chilled fish	1.77	3.50%
Processing value added zone	2.66	5.24%
Processing - canning zone	2.15	4.24%
Processing - fish meal zone	2.15	4.24%
Other products zone	1.47	2.90%
Pre processing zone	1.99	3.92%
Raw material storage	1.99	3.92%
Fish storage - chilled	0.99	1.96%
Fish storage - frozen	0.99	1.96%
Finished storage	1.49	2.95%
Truck laybay	0.76	1.51%
QA &QC Lab	0.55	1.09%
Admin building, R&D centre	0.55	1.09%
Sub total	**29.17**	**57.56%**
2. Utilities		
WTP & OHT	0.34	0.67%
STP, SWM & RMS	0.53	1.04%
MRSS	0.32	0.63%
Chiller & boiler unit	1.69	3.33%
Sub total	**2.87**	**5.67%**
3. Road		
24m Wide road	1.33	2.63%
18m Wide road	1.36	2.69%
12m Wide road	2.72	5.36%
Sub total	**5.41**	**10.67%**
4. Public green space		
Park & play grounds	10.89	21.49%
Sub total	**10.89**	**21.49%**
5. Add on facility		
Public amenities	0.55	1.09%
Sub total	**0.55**	**1.09%**
Total processing area	**48.90**	**96.48%**
Non processing zone		
Creche, Polyclinic, Places of worship, commercial & guest houses	1.78	3.52%
Sub total	**1.78**	**3.52%**
Grand total area	**50.69**	**100%**


Integrated ABIR and SCPZ, Rivers state - Okorolo (Fish)
Bird's eye view
FEDERAL REPUBLIC OF NIGERIA
FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
Raw material collection & storage
Admin block & R&D centre
Pre processing zone
Fish storage - chilled
Fish storage - frozen
Ancillary units zone
Processing zone
Anchor units
Truck layby
Ice plant
QA & QC Lab
Utility (Chiller & boiler units)
Processing zone - canning
Processing zone - fish meal & fish oil (future)
Berthing structure
Other product zone
Processing zone - General (Picking, curing, dehydration, mincing, filleting etc.)
Finished storage/ packing & labeling
Processing area Hi-tech & value added product zone
Processing - chilled / frozen fish zone
Creche, polyclinic, places of worship, commercial & guest houses
Mahindra
Consulting Engineers
UNIDO


Concept plan of FLC @ Bonny Island, Rivers state
(Spending beach configuration)
Federal Republic of Nigeria
FMARD
High tide line
Key plan
Bonny Island - FLC
4°23'14.76"N,7° 8'38.02"E
Foot path 5 m Wide
215 m
Site boundary
Septic tank
Fish drying area I
Fish drying area II
Net mending centre-I
Net mending centre-II
18 m Wide Road
Upflow Anaerobic filter
Liquid waste collection
Solid waste collection
Compressor - 1
Auction hall - 1
Auction hall - 2 (future)
Auction hall - 3 (future)
Ice plant - 1
Ice plant - 2 (future)
Deep freezer hall - 1
Deep freezer hall - 2 (future)
Locker room -100 nos
Diesel storage area
Admin office
Bank
Cafeteria
Buyers waiting hall
Parking
Utility
Women SHG
Library
Community hall
Entry
Exit
Approach road
Note:
1. Finished ground level of FLC (HTL+300)
2. Foot path level (HTL+600)
3. FLC all building level (HTL+1200)
Advisor
UNIDO
International consultant
Mahindra
Consulting Engineers
Fish landing centre (FLC -1)


FEDERAL REPUBLIC OF NIGERIA
Concept plan of FLC @ Bonny Island, Rivers state
(Spending beach configuration) Bird's eye view
FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
International Consultant:
Mahindra
Consulting Engineers
Advisor
UNIDO


Integrated ABIR & SCPZ, Ketu - Ereyun (Fish)
Ikorodo - Epe Corridor, Lagos state
FMARD
Federal Republic of Nigeria
Master plan
International Consultant
Mahindra Consulting Engineers
Advisor
UNIDO


Integrated ABIR and SCPZ - Imota (Rice)
Ikorodo - Epe Corridor, Lagos state
FMARD
Federal Republic of Nigeria
Proposed site for SCPZ
International Consultant
Mahindra Consulting Engineers
Advisor
UNIDO

FEDERAL REPUBLIC OF NIGERIA

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Development Organization
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