



Energy Sector Management  
Assistance Program



ESMAP 2024

# Geothermal Energy: Empowering Development Beyond Electricity Generation

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# Fredrick Apollo Plant Manager

Oserian Development  
Company Limited

# Presentation Outline

- ❖ Overview of Oserian
- ❖ Geothermal utilization
- ❖ The Oserian Two Lakes Geothermal Industrial Hub

# HIGHLIGHTS ABOUT OSERIAN

- ❖ Company established in 1969 as a vegetable farm with 150 employees.
- ❖ In 1982, moved from vegetable to cut flower production- Statice crop.
- ❖ In 1984, Oserian was one of the flower farms to begin Rose production.
- ❖ Was Industry Leader exporting up to a million stems per day during peak season.
- ❖ Geothermal projects/developments begun in the year 2001.
- ❖ The only Flower Company in Africa utilizing geothermal energy for G/House heating and power generation.

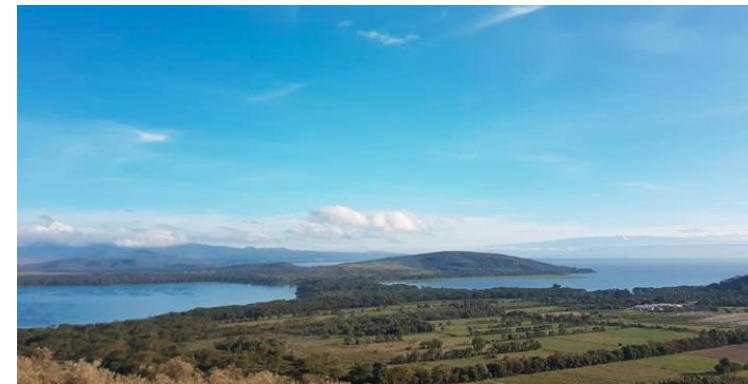
# HIGHLIGHTS ABOUT OSERIAN-Cont'd

- ❖ About 3500 employees; 60% living within the company premises.
- ❖ In 2019, a company by the name “Oserian Two Lakes LTD” was formed to spearhead the development of Industrial Park amongst others i.e. residential, game sanctuary, mixed use commercial, agri-business and leisure facilities.
- ❖ In the year 2021, the Oserian stopped flower farming and sold off the flower business to Bohemian flowers limited.
- ❖ Retained Power Generation, Heating system and water reticulation system.
- ❖ Currently provides utilities (Electricity, heating and water) to Bohemian flowers and other farms/companies within the Oserian Two Lakes boundary.

## Location



- Oserian is located on the shores of Lake Naivasha, Nakuru County, a two hour drive from Nairobi and 25 minutes drive from Naivasha Town.



# THE GEOTHERMAL JOURNEY

## Geothermal utilization in Oserian Two Lakes Industrial hub

- ❖ Green house Heating- fungal infections
- ❖ Sterilization of the recycled water from Green Houses.
- ❖ For Power Generation.



# GEO THERMAL UTILIZATION



# Power plants

**1.81Mw Binary Plant**



**1.4Mw Back Pressure Plant.**



# 1 MW Solar Plant



# THE INDUSTRIAL HUB

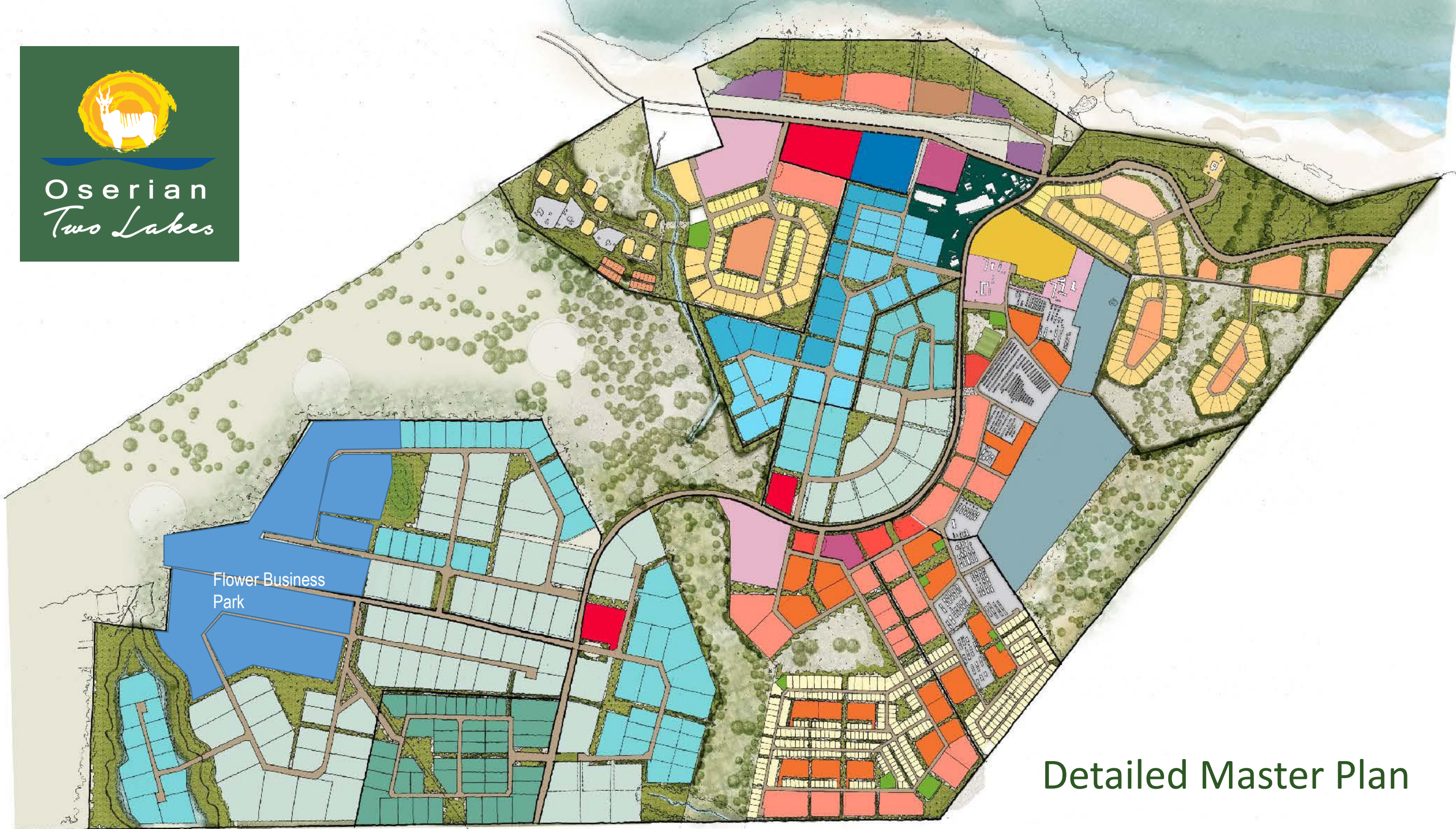
- ❖ Registration process went through through the county government of Nakuru and Ministry of Trade.
- ❖ Land in Oserian was initially registered as agricultural land
- ❖ Areas meant for industrial park had to be given new title, land use modified to include Industrial use and registered as SEZ.

# Oserian Two Lakes Development Process

- ❖ Market analysis- Research and analyze the demand
- ❖ Development of the business plan-Developed comprehensive business plan that included financial and operational strategies
- ❖ Secure funding-Proposals to secure capital from investors/lenders
- ❖ Selection and acquisition of the site- Identify strategic locations suitable to the park; 18,000Acres set aside for the project.
- ❖ Obtain permits and required licenses-Necessary permits and licenses to allow for construction and operation
- ❖ Development of the infrastructure-Construction of the infrastructure, accessibility, buildings.
- ❖ Integration of the services- Security, logistics support and internet.
- ❖ Implementation of marketing and leasing strategies- Attraction of tenants through effective marketing strategies and leasing activities.
- ❖ Management of operations-Management team to handle daily operations and tenant relations.

# Oserian Two Lakes Logo





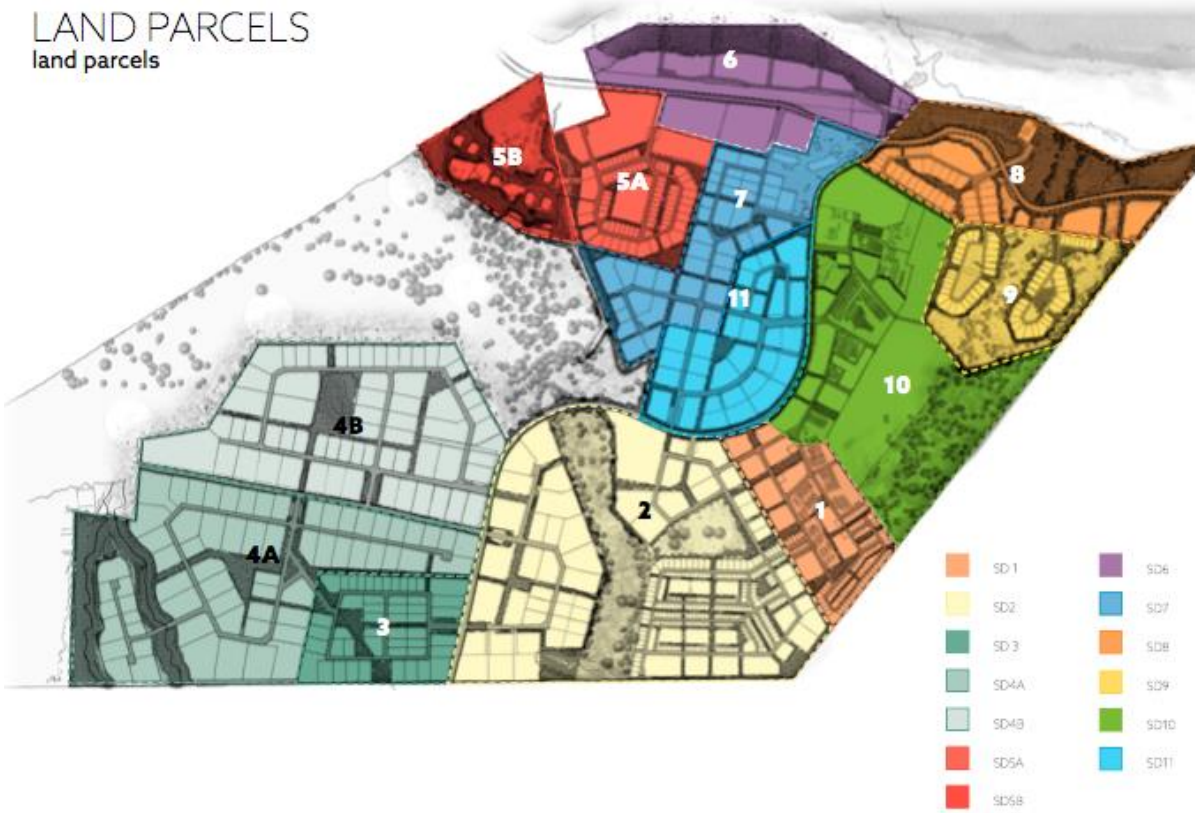
Detailed Master Plan



Industrial / Agri-business	1,550 acres	9%
Game Corridors	250 acres	1.4%
Mixed Use Commercial	210 acres	1.2%
Residential*	1,260 acres	7%
Leisure facilities	230 acres	1.4%
Game sanctuary	14,500 acres	80%

\* Large portions of residential areas will include wildlife corridors.

# Development zones





# Why Oserian Two Lakes?

- CLEAN TITLE
- PRIVATE SECTOR DECISION MAKING
- SGR
- STRATEGIC ROAD NETWORK
- SEZ / EPZ
- CONTROLLED MASTERED PLANNED DEVELOPMENT
- RENEWABLE, COMPETITIVELY PRICED ENERGY
- EXPERIENCED IN RUNNING AN EXISTING TOWN OF 11,000 PEOPLE



# Our Clienteles

- ❖ Bohemian Flowers Limited- Flower business
- ❖ Dudutech Limited- IPM Company
- ❖ Andermatt Limited- IPM Company
- ❖ Maxim Agri Limited- Animal Feed producers
- ❖ Stokman Rozen- Propagators
- ❖ Lapieve Limited- Hospitality

# Bohemian Flowers

- Currently running the flower business within the Oserian Two Lakes park
- Employs about 4500 employees
- Runs all their operations using green energy

- Heated Bohemian Greenhouses



# Dudutech Integrated Pest Management Ltd

- Company of about 400 employees
- Company focused on IPM (Integrated Pest Management), the practice of incorporating more environmentally friendly crop management, especially in reduction of pesticide usage by utilising natural predators (phytoseiulus) in the control of crop pests (spider mites).
- Dudutech utilises the geothermal heating provided by Oserian in its production system to help maintain optimal growing conditions against colder weather, whether that is seasonal or nocturnal drops in temperature.
- This allows us to maintain a more robust production system that is shielded from outside forces and allows us to rely on better growing conditions in times when we need it most.

# Heated Dudutech Greenhouses





Oserian  
*Two Lakes*

*Thank you*

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