

# SEKEM

## Building Sustainable Communities

A unique development opportunity into a model for sustainable development

- BioDynamic Agriculture & Desert Reclamation
- FairTrade & Ethical Value Creation
- Human Rights & Corporate Social Responsibility
- People Development & Social Innovation



## The world is facing major challenges. SEKEM has a sustainable solution!

Climate change, food and water scarcity, desertification, migration... The world is facing major problems and has to find innovative and sustainable solutions.

SEKEM aims to establish a blueprint for the healthy corporation of the 21st century with its highly unconventional business model that incorporates what are usually considered social and environmental externalities and in fact maintains this to be the basis for an increasing competitiveness in the future. While it is a profit-making enterprise, it does not aim for profit maximisation. Through a profit-sharing methodology, we share our returns with our supplying smallholders farmers, partners, employees, surrounding community and of course, our shareholders. Together with your potential support we are going to continue to tackle major societal challenges of Egypt such as climate change, resource scarcity, extreme poverty and health problems.

Food security is another major problem Egypt needs to face, having a population of over 90m versus less than 6% arable land (decreasing), which leads already to tremendous food import. Sustainable desert reclamation plays a key role in addressing those challenges and therefore contributes to political stability and the related transition towards an authentic form of democracy. This is not only relevant for Egypt but for the whole region.

Our Heliopolis University will be a platform for societal change for Egypt that can upscale the valuable experiences made by SEKEM and support other people concerned with a healthier more humane future on earth.

## A Role Model for Sustainable Development



When Dr. Ibrahim Abouleish returned to Egypt in 1977 to start the SEKEM initiative he had a strong vision deep in his heart:

*"In the midst of sand and desert I see myself standing as a well drawing water. Carefully I plant trees, herbs and flowers and wet their roots with the precious drops. The cool well water attracts human beings and animals to refresh and quicken themselves. Trees give shade, the land turns green, fragrant flowers bloom, insects, birds and butterflies show their devotion to God, the creator, as if they were citing the first Sura of the Qu'ran. The*

*human, perceiving the hidden praise of God, care for and see all that is created as a reflection of paradise on earth. For me this idea of an oasis in the middle of a hostile environment is like an image of the resurrection at dawn, after a long journey through the nightly desert. I saw it in front of me like a model before the actual work in the desert started. And yet in reality I desired even more: I wanted the whole world to develop."*

### SEKEM Partners



### International Association of Partnerships

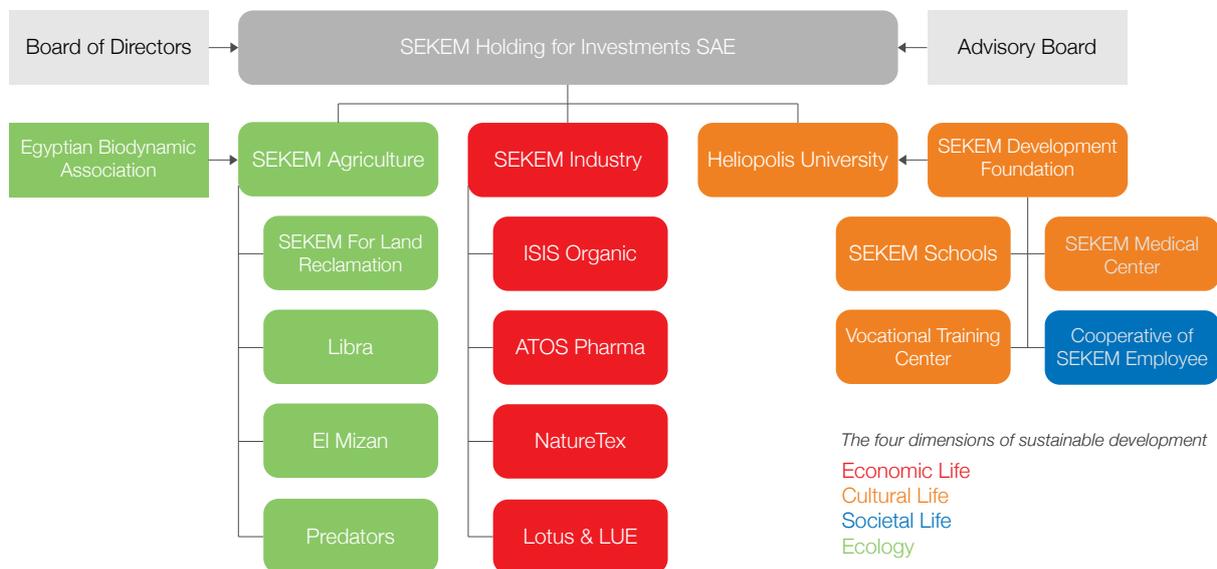


BLAENCAMEL FARM



People did not believe that this will ever come alive but today, SEKEM has become a role model for sustainable development with various international recognition (i.e. with the Alternative Nobel Prize in 2003, the Business for Peace Award in 2012 or the Land for Life Award by UNCCD in 2015). More information can be found on our website ([www.sekem.com/awards](http://www.sekem.com/awards)) and our published Reports on Sustainable Development.

Today, SEKEM has cultivated its own BioDynamic farms and with the establishment of the Egyptian BioDynamic Association (EBDA) helped over 700 farmers in Egypt to shift from conventional to Organic agriculture. Various companies have been established in the field of agriculture and cattle management, phytopharmaceuticals, Organic textiles and clothes and Organic food and beverages (market leader in Egypt). Furthermore, SEKEM established the independent SEKEM Development Foundation (SDF), which is running various schools, a kindergarten, a vocational training center, a medical center and a lot of projects. The latest achievement was the establishment of the Heliopolis University for Sustainable Development, which successfully started its operations in the year 2012.



## Building a Sustainable Community in Egypt's Desert

We believe that one of the key solutions for Egypt is to build living communities in the desert, by reclaiming desert land using biodynamic agricultural methods.

Once the infrastructure is build and the land is reclaimed and used for agricultural produce, a tremendous amount of jobs is created, families will have a constant income and will be able to serve themselves with health care and send their children to school. In addition, through the sustainable agricultural methods, the community will sequester carbon dioxide in the soil and trees, which is contributing to prevent climate change and generating additional value for society. In the shadow of the trees, animals will be fed, who contribute with their manure to the very important compost production, which will vitalize the soil. The Organic produce will be further processed by businesses, who are attracted to build up their factories surrounding the community and providing additional jobs.



SEKEM Schoolchildren

## The 4 Pillars of Sustainable Development

Building a sustainable community will address the four pillars of sustainable development:

### Ecology

- Create living soil and lasting fertility.
- Create a living context with in which human beings, animals and plants can thrive and develop.
- Advance the continued evolution of domestic animals and cultivated plants.

### Culture

- Education for the members of the community.
- Conduct research and development.
- Care for individual health.
- Foster inter-cultural dialogue and celebrate diversity.

### Society

- Guarantee human rights.
- Creating work life in dignity.
- Foster gender equality and diversity.
- Integration of all community members.
- Foster individual human development.

### Economy

- Create value for sustainable community life and cover needs.
- Build inclusive value chain for production.
- Support entrepreneurship.
- Attract private investments.
- Build international & local partnerships.

in 30 years

**2'100**

Hectares desert land will be reclaimed and turned productive.

in 30 years

**600'000**

Trees are planted to protect and increase biodiversity.

in 30 years

**1'200**

Jobs will be created with agriculture and local industry.

in 30 years

**4'800**

people will live within the community.

in 30 years

**44'440**

people can be supplied with basic food from arable land.

Investment

**31.4k US\$**

Investment per hectare desert land reclamation.

Investment

**65.9m US\$**

total investment required to build a living soil for sustainable communities

Investment

**13.7k US\$**

Investment per community member.

in 30 years

**26.8m US\$**

accumulated savings due to provision of local health & education infrastructure.

Return

**274m US\$**

Net present value for the project

Return

**71% IRR**

Internal rate of return

in 30 years

**1.5m**

tons of CO<sub>2</sub> will be sequestered in the trees and the living soil.

in 30 years

**36.1m US\$**

accumulated value created through carbon sequestration

in 30 years

**267.6m US\$**

accumulated value created through local food production.

in 30 years

**9.5m US\$**

accumulated value generated through local job creation.

## Matching the Sustainable Development Goals

#	Goal	Short Name	Strong Impact	Some Impact	Little Impact
1	End poverty in all its forms everywhere	No Poverty	Strong		
2	End Hunger, achieve food security and improved nutrition, and promote sustainable agriculture	Zero Hunger	Strong		
3	Ensure healthy lives and promote well-being for all at all ages	Good Health & Well-being	Strong		
4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Quality Education	Strong		
5	Achieve gender equality and empower all women and girls	Gender Equality		Some	
6	Ensure availability and sustainable management of water and sanitation for all	Clean Water & Sanitation		Some	
7	"Ensure access to affordable, reliable sustainable and modern energy for all	Affordable & Clean Energy		Some	
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent Work For all	Decent Work & Economic Growth	Strong		
9	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent Work For all	Industry, Innovation & Infrastructure	Strong		
10	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Reduced Inequalities	Strong		
11	Reduce inequality within and among countries	Sustainable Cities & Communities	Strong		
12	"Make cities and human settlements inclusive, safe, resilient and sustainable	Responsible Consumption & Production	Strong		
13	Take urgent action to combat climate change and its impacts	Climate Action	Strong		
14	"Ensure sustainable consumption and production patterns	Life Below Water			Little
15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Life on Land	Strong		
16	Take urgent action to combat climate change and its impacts	Peace, Justice & Strong Institutions			Little
17	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Partnership for the Goals		Some	

# Building Sustainable Communities in the Desert

Assumptions and Calculation  
Version 1.0 – April 2016

Indicator	Metric	Others
Exchange rate EGP to EUR	EUR/EGP	10.06
Exchange rate EGP to USD	USD/EGP	8.9
Years		30
Area	Fd	5,000
Area	Ha	2,100
Years	Number	

## Investment

Indicator	Metric	Investments (EGP)	Investments (EUR)	Investments (USD)
Investment per Area (Feddan)	EGP/Fd	174,166	17,313	19,569
Investment per Area (Hectare)	EGP/Ha	414,681	41,221	46,593
<b>Total Investment</b>	<b>Amount</b>	<b>870,830,900</b>	<b>86,563,708</b>	<b>97,846,169</b>
Land	Amount	55,000,000	5,467,197	6,179,775
Land Preparation	Amount	10,000,000	994,036	1,123,596
Roads	Amount	5,000,000	497,018	561,798
Compost	Amount	200,000,000	19,880,716	22,471,910
Menpower	Amount	5,000,000	497,018	561,798
Trees	Amount	6,000,000	596,421	674,157
Palm trees	Amount	50,000,000	4,970,179	5,617,978
Buildings for farming	Amount	25,000,000	2,485,089	2,808,989
Buildings for living	Amount	192,000,000	19,085,487	21,573,034
Buildings for education	Amount	48,000,000	4,771,372	5,393,258
Buildings for health	Amount	24,000,000	2,385,686	2,696,629
Buildings for culture	Amount	9,600,000	954,274	1,078,652
Irrigation Network	Amount	45,000,000	4,473,161	5,056,180
Wells	Amount	15,000,000	1,491,054	1,685,393
PV Energy for farming	Amount	72,582,900	7,215,000	8,155,382
PV Energy for housing	Amount	108,648,000	10,800,000	12,207,640

## Trees

Indicator	Metric	Others	Investments (EGP)	Investments (EUR)	Investments (USD)	Value Creation/Year (EGP)	Value Creation/Year (EUR)	Value Creation/Year (USD)	Value Created after 30 years (EGP)	Value Created after 30 years (EUR)	Value Created after 30 years (USD)
Trees	Number	600,000									
Yearly carbon sequestration from trees (Gazuarina)	tCO2	60,000	1,800,000.00	178,926	202,247						
Yearly carbon credit income through trees	Amount					60,342,000	5,998,211	6,780,000	1,810,260,000	179,946,322	203,400,000
Yearly Wood production	t	13,800									
Yearly income from wood production	Amount					3,450,000	342,942	387,640	103,500,000	10,288,270	11,629,213

## Jobs

Indicator	Metric	Others	Value Created after 30 years (EGP)	Value Created after 30 years (EUR)	Value Created after 30 years (USD)
Number of jobs created	Number	1,200			
Value of jobs created	Amount		132,000,000	13,121,272	14,831,461

## Community

Indicator	Metric	Others	Value Cre-ation/Year (EGP)	Value Cre-ation/Year (EUR)	Value Cre-ation/Year (USD)	Value Created after 30 years (EGP)	Value Cre-ated after 30 years (EUR)	Value Cre-ated after 30 years (USD)
Number of family members in community	Number	4,800						
Savings from Health and Education Expenses due to local infrastructure	Amount		42,133,333	4,188,204	4,734,082	1,264,000,000	125,646,123	142,022,472
Food value from local production	Amount		425,617,778	42,307,930	47,822,222	12,768,533,333	1,269,237,906	1,434,666,667

## Food

Indicator	Metric	Others
Amount of people supplied from productive area	Number	44,444

## TOTAL

Indicator	Metric	Investments (EGP)	Investments (EUR)	Investments (USD)	Value Created after 30 years (EGP)	Value Cre-ated after 30 years (EUR)	Value Cre-ated after 30 years (USD)
TOTAL	Amount	870,830,900	86,563,708	97,846,169	16,283,456,133	1,618,633,810	1,829,601,813
Total Investment/ Community Member	Amount	181,423	18,034	20,385			

## Assumptions

Indicator	Metric	Value	Comments	Source
Area conversion	Fd/Ha	2.4		
Investment per Area (Hectare)	EGP/Ha	414,681		
Land	EGP/Fd	11,000		
Land Preparation	EGP/Fd	2,000		
Roads	EGP/Fd	1,000		
Compost	EGP/Fd	40,000		
Menpower	EGP/Fd	1,000		
Trees	EGP/Fd	1,200		
Palm trees	EGP/Fd	10,000		
Buildings for farming	EGP/Fd	5,000		
Buildings for living	EGP/Person	40,000		
Buildings for education	EGP/child	20,000		
Buildings for health	EGP/Person	5,000		
Buildings for Culture	EGP/Person	2,000		
Irrigation Network	EGP/Fd	9,000		
Wells	EGP/Fd	3,000		
Average Water need per area	m3/fd/day	20		
Total Daily Water need	m3/day	100,000		
Pump capacity	m3/h	100		
Average running hours of PV pumps	hours	8		
Number of pumps needed	Number	125.0		
Size of pump	kW	37		
Energy Need (farming)	kWp	6013		

PV Energy Installmeent Cost (farming)	EGP/kWp	12,072		
Energy Need (Housing)	kWp/person	1.5		
PV Energy Installmeent Cost (housing)	EGP/kWp	15,090		
Trees per area	Trees/Fd	120		
Average Sequestration Rate from Trees (Gazuarina)	tCO2/year/tree	0.10		Face the Future, Calculated regarding to Gold Standard Methodolgy in 30 years the Cf will be 3.4 tco2
Average Sequestration Rate from Soil	tCO2/year/fd	1.36		Soil&More, Bolk - Carbon_Sequestration_Potential_egyptian_deserts (3)
Value of Carbon Credit	USD/t	113	Social cost of carbon (based on a range of approaches, most importantly damage costs/defensive expenditure) (FAO)	
Average wood production	t/tree/year	0.023		
Wood price	EGP/t	250		
Employment factor per area	People/Fd	0.24		
Value Creation Rate for Employment Creation	EGP/job	110,000	IMC	
Average size of Family in Egypt (people)	Number	4		<a href="http://www.unicef.org/egypt/Ch1.Demography.pdf">http://www.unicef.org/egypt/Ch1.Demography.pdf</a>
Average number of children per family	Number	2		
Public expenditure on health and education (Egypt, 2015)	EGP/year/capita	8,778		<a href="http://www.unicef.org/egypt/Ch14.Economy_and_Public_Expenditure.pdf">http://www.unicef.org/egypt/Ch14.Economy_and_Public_Expenditure.pdf</a>
Every yearly spending per capita on food (Egypt, 2014)	USD/year/capita	1,076		<a href="http://knoema.com/ESFUSDA2010/expenditures-spent-on-food-by-selected-countries-2009-2014">http://knoema.com/ESFUSDA2010/expenditures-spent-on-food-by-selected-countries-2009-2014</a>
Area needed to provide enough food for one person	Fedan/person/year	0.09		
Productive Area Share of Total Area	%	0.8		

## Contact

If you require further information or assistance, please don't hesitate to contact us at any time!

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