SEKEM – BIODYNAMIC AGRICULTURE IN THE EGYPTIAN DESERT

By Kim Assaël

It is since more than twenty years that the SEKEM Organization adopts successful practices of Biodynamic agricultural methods, to produce organic agriculture into the Egyptian desert.

In 1977, Ibrahim Abouleish started the SEKEM Initiative on a 70-hectare plot of desert land with the mission to transform Egypt's desert landscape and create fertile land for organic agricultural use Sekem means *Vital energy* and with this motto SEKEM community started its long journey at the *mother farm* located in the north-eastern Nile Delta on an untouched part of the Egyptian desert, 60 km northeast of Cairo. Using Biodynamic agricultural methods, desert land was revitalized and a striving agricultural business was developed. Today SEKEM the first entity to develop biodynamic farming methods in Egypt, has 684 cultivated hectares and 85 agri-food companies that employ hundreds of Egyptians

With the help of his family and many other SEKEM pioneers, they built the Initiative in the middle of a hostile environment, with his visionary power, deeply rooted in the ancient Egyptian culture and aimed towards creating a community integrating ecological, economic, cultural and societal life for sustainable development.

Over the years, SEKEM became the umbrella of a multifaceted agro-industrial group of companies and NGOs, several entities, all connected and working together towards the common Vision.

Today, the SEKEM Wahat El-Bahariya Farm is regarded as a leading social business worldwide, because has been able to combine various forms of organizations within its institutional ecosystem. Numerous projects, from agricultural and textile businesses to educational and environmental activities, could be performed over the years. Starting with water management, plantation of thousands of trees, using biodynamic techniques, they then developed product transformation and trade sectors, social and cultural activities centered on workers, who now number thousands in the circuit, becoming a supportive community. The 2022 SEKEM Annual Report shows the multifaceted main results achieved during the last year, adopting this vision which integrate different aspects and activities.

To go deep in the understanding of the innovative experience of SEKEM the podcast Investing in Regenerative Agriculture and Food is a space dedicated to the pioneers in the regenerative food and agriculture to learn more on how to put money to work to regenerate soil, people, local communities and ecosystems while making an economic appropriate and fair return.

In particular, with 96% of arid land in Egypt, fertile land is considered here as a scarce resource. SEKEM based its agriculture approach on enriching sandy soil with biodynamic preparations and nutrients by

adding compost to it. Thanks to this, the desert soil of the past can store up to 30-40% more water than those cultivated conventionally. 22 tons of compost per hectares is the average amount of compost obtained on SEKEM owned land produced in 2021. Even conventional farmers have become convinced of the many advantages brought by compost and have started producing it themselves, even selling it.

Also, a new experimental project with basalt was launched to experiment the ways for more intense CO2 sequestration in the soil by addition of basalt to the compost in different proportions and its application for the different crops

Another way to achieve self-sufficiency and long-term food security for Egypt is to move to the untouched areas in the desert and use the available water resources as efficiently as possible. SEKEM became an example of a sustainable agriculture model that could improve water efficiency by increasing water holding capacity of the soil. They have chosen irrigation techniques that only use only a fraction of the water (pivot irrigation systems) powered by solar energy to transform the desert land to a healthy living soil organism with biodynamic techniques. But as pumping water for the irrigation of plants is energy intensive, the energy supply solutions chosen have been those minimizing the CO2 impact of the energy intensive irrigation, increasing the renewable energy capacity (of 1,5 megawatt on the Wahat farm) until it carries the work of pumps and pivots irrigation systems throughout the day. It is planned in the near future to go even further and kick off a renewable energy storage project that will make the irrigation systems running on 100% renewable energy even during the night time.

Despite these many results achieved and the fact that organic farming has proven to be remarkably effective in reversing the negative impact of agriculture on the environment, however, the method adopted by SEKEM it has not found wider application in total national food production, for being associated with higher costs. To correct these opinions, in cooperation with the University of Heliopolis (Cairo), SEKEM realized the study The Future of Agriculture in Egypt, conducting a cost comparison between organic and conventional agriculture in Egypt, by using the “Full Cost Accounting” methodology. The study concerning a basket of products as rice, maize, potatoes, wheat, cotton, values in monetary terms the external costs of environmental impacts of food wastage and concludes that although organic agriculture has a slightly higher direct input cost of production, it enables a reduction of the environmental and health damage costs (CO2 emissions, energy costs, water consumption) resulting in better cost effectiveness and profitability in the long term for society as a whole

.SEKEM, in fact, is not only about gaining the highest possible profit when cooperating with business partners; it is mainly about serving opportunities, equality, cultural and societal growth and knowledge sharing according a unique sustainable development strategy, inspired by the UN Sustainable Development Goals adapted to the Egyptian context and by the inspiration of its founder.

SEKEM is an initiative winner of the Alternative Nobel Prize, having developed a holistic vision providing sustainable, ethical and transparent products throughout the production, transformation and

distribution chain. Many other worldwide acknowledgments for an outstanding business model characterize the initiative untill 2018. In January 2019 SEKEM also received, together with 15 other entities and projects around the world, the 'Outstanding Practice in Agroecology' recognition, an international award that highlights practices that excel in their ability to encourage the development of small food producers and which help maintain ecosystems, while at the same time strengthening the ability to adapt to climate change.

Egyptian organic farmers working in SEKEM become climate heroes in the process. They sequester CO2 through their work and at the same time produce healthy and valuable food. As explained often by Ibrahim Abouleish the experience shows how to learn from 46 years of sustainable development in the desert of Egypt demonstrating that if it is possible to grow an agriculture company with 2,000 farmers and soon scaling through carbon credits to 40,000 farmers and people working on the processing in those challenging circumstances. In short, SEKEM does not want to be a light in the desert, but to contribute to a model of total change in the agricultural and cultural system, that can also be done anywhere.

To know more

Sekem website

Sekem Day 2023

Sekem 2022 Annual Report

Sekem Awards

Sekem ecology 100% organic

Short Film about Sekem

The future of agriculture in Egypt

Sekem 2019 Annual Report

Economy of Love PGS Booklet

Sekem Wahat Greening the Desert