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innovations

TECHNOLOGY | GOVERNANCE | GLOBALIZATION

Millennium Methods

ENTREPRENEURIAL SOLUTIONS TO GLOBAL CHALLENGES

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TECHNOLOGY | GOVERNANCE | GLOBALIZATION

Lead Essays

Cases Authored by Innovators

Analysis

Perspectives on Policy

Organization of the Journal

Each issue of *Innovations* consists of four sections:

1. Lead essay. An authoritative figure addresses an issue relating to innovation, emphasizing interactions between technology and governance in a global context.

2. Cases authored by innovators. Case narratives of innovations are authored either by, or in collaboration with, the innovators themselves. Each includes discussion of motivations, challenges, strategies, outcomes, and unintended consequences. Following each case narrative, we present commentary by an academic discussant. The discussant highlights the aspects of the innovation that are analytically most interesting, have the most significant implications for policy, and/or best illustrate reciprocal relationships between technology and governance.

3. Analysis. Accessible, policy-relevant research articles emphasize links between practice and policy—alternately, micro and macro scales of analysis. The development of meaningful indicators of the impact of innovations is an area of editorial emphasis.

4. Perspectives on policy. Analyses of innovations by large scale public actors—national governments and transnational organizations—address both success and failure of policy, informed by both empirical evidence and the experience of policy innovators. The development of improved modes of governance to facilitate and support innovations is an area of editorial focus.

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Ibrahim and Helmy Abouleish

Garden in the Desert

Sekem Makes Comprehensive Sustainable Development a Reality in Egypt

Innovations Case Narrative: Sekem

> I have decided to leave Austria to start a farm in the desert in Egypt based on a holistic developmental impulse for country and people…
>
> For my soul Austria was like a spiritual childhood garden. Now I hope that the souls of Egyptian people can be revitalized by a garden in the desert. After establishing a farm as a healthy physical basis for soul and spiritual development, I will set up a kindergarten, a school, a hospital, and various cultural institutions. My goal is the development of humans in a comprehensive sense—educating children and adults, teachers, doctors and farmers.
>
> *—Excerpts from Letters by Ibrahim Abouleish to friends, 1977*

During the 1920s and 1930s, Egypt was wealthy. The Egyptian pound was as strong as the British pound. While a divide existed between rich and poor, the rich felt bound by an obligation to assist those less fortunate. Consideration for others, courageousness, and a deeply moral attitude were characteristics of the Egyptian people. In part because its population was only 18,000,000 people, Egypt was a beautiful country, and Cairo a thriving city.

Circumstances changed dramatically, for the worse, during the first quarter century of Egypt's independence. Under the rule of President Gamal Abd El-Nasser, all businesses were nationalized—even restaurants. Once-thriving ven-

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Ibrahim Abouleish is the founder of the Sekem Group. Helmy Abouleish, Ibrahim's son, is the Managing Director of Sekem.

In 2004, the Schwab Foundation for Social Entrepreneurship recognized Ibrahim and Helmy Abouleish as Outstanding Social Entrepreneurs. This case narrative originally appeared in a special edition of Innovations *produced for the World Economic Forum on the Middle East, 2008, in partnership with the Schwab Foundation and ARAMEX.*

tures were soon indebted. Few people enjoyed their jobs; they worked without inner motivation. Many took on extra side jobs. The whole social structure was increasingly falling apart.

In no domain of economic and social life was disarray more apparent than in agriculture—for centuries, if not millennia, the source of Egypt's wealth and a focal point of its culture. Farmers were forced to use a certain amount of artificial fertilizer for each hectare of land. This excessive and uncontrolled use of fertilizer led to oversalting and compression of the earth, and farmers became financially dependent on chemical companies. The country's inheritance laws assigned equal amounts of land to each inheritor, leading to each generation inheriting smaller and smaller plots. The farmers could hardly produce enough to survive. Added to that was the appalling practice of spraying pesticides onto the cotton fields.

In 1977, Abouleish purchased 70 hectares of desert land a quarter of a mile from the banks of the Nile. In 1979, he founded Sekem. Over a period of 30 years, his initial ventures in organic agriculture were followed by a sequence of successful commercial business ventures, schools, and medical centers distributed throughout Egypt.... Sekem has demonstrated the viability in Egypt of new, holistic approaches to development.

The Aswan Dam, completed in 1961 with the Soviet Union's support, also had disastrous results for agriculture. Since that time the Nile, which had previously flooded its banks every summer and spread fertile mud over the fields, had ceased to be the pulsating heart of Egypt. A year-round irrigation system led to standing water in canals becoming a breeding ground for dangerous diseases. The hope of gaining more fertile land through this irrigation system was not fulfilled. Naturally, the dam made it possible to produce electricity. But this electricity was mainly used to manufacture the costly artificial fertilizers.

In 1975, Egyptian-born Ibrahim Abouleish travelled through Egypt with his family after spending many years as a student and scientist in Austria. The changes he observed shocked and disturbed him. On his return from that trip, he became determined to fulfill a pledge he had made to his father when he left Egypt to study

in Europe: he would return to his country with skills acquired abroad to create enterprises, build schools, and seed cultural institutions.

In 1977, Abouleish purchased 70 hectares of desert land a quarter of a mile from the banks of the Nile. In 1979, he founded Sekem. Over a period of 30 years, his initial ventures in organic agriculture were followed by a sequence of successful commercial business ventures, schools, and medical centers distributed throughout Egypt. With annual revenues of 200 million Egyptian pounds, Sekem is among the top producers of organic products worldwide, and the leading producer in the Middle East. More importantly, Sekem has demonstrated the viability in Egypt of new, holistic approaches to development. Sekem's initiative in demonstrating the effectiveness of organic methods in agriculture led, in 1993, to the government's banning of pesticide spraying of cotton crops. Previously every field was sprayed 20 times each growing season, for a total of 35,000 tons nationwide.

This case narrative describes the founding and evolution of Sekem. In the first part, Ibrahim Abouleish describes the origins of Sekem and the multiple challenges that faced the venture in its first decade and a half of existence.[1] In the second part, Helmy Abouleish, son of the founder, describes Sekem today and the initiatives it hasplanned for the future.[2] The conclusion to the narrative is written by Ibrahim.

IBRAHIM ABOULEISH: THE FOUNDING OF SEKEM

A Family Trip

"Wouldn't you like to join me on a trip to Egypt?" my friend Martha Werth asked me one day. I had been back to Egypt many times during the 19 years I had lived in Austria, first as a student at the University of Graz, and then as director of a medical research institute. However, those visits had been focused almost entirely on my family. Martha's invitation provided me with an opportunity to renew my relationship with my homeland. I accepted at once, along with my wife Gudrun, son Helmy, and daughter Mona.

We started our journey in 1975, dedicating much of our voyage to the many famous ancient Egyptian sites in Aswan, Luxor, Karnak, and the Valley of the Kings. But it was the experience of modern Egypt that most affected me. Through visiting friends, relatives, and in particular a journalistic acquaintance, I gained a new understanding of my country. I became aware of the changes that had befallen the country during my time in Austria, and saddened by the stark contrast between the depressed state of modern Egypt and the greatness, wisdom, and leadership the pharoahs showed thousands of years ago. I kept comparing what I saw with my memory of the country during my childhood and adolescence. The new should have been better than the old, but it was not.

On my return journey to Austria I sat in the plane and thanked Allah that I did

not live in Egypt, but rather in beautiful and prosperous Austria, with my wife and two children, and a successful career. And yet I found myself unable to escape the images and recollections of our visit. I set myself to the task of further researching the state of the country. The hard facts I confronted upon my return were, if anything, more alarming than the impressions I had gleaned during my visit.

Over time, with the guidance and support of my friend Georg Merckens, I began to craft a plan, rooted in my affinity with the philosophy of anthroposophy:[3] I would move to Egypt, establish a self-sustaining farm, and then over time add additional projects focused on education, health, and culture. The farm would be based on the principles of biodynamic agriculture, which uses compost and natural preparations to strengthen plants so that they are able to fend for themselves. The outcome would be a community dedicated to the holistic development of its workers and all of its stakeholders—a model that could transform Egyptian agriculture and act as a force for positive change in Egyptian society.

How did my family react to my decision? My wife Gudrun, an Austrian, loved Egypt. This strong inner motivation led her to want to join me. I told our children the story of a man who decided to move to the desert with his family and who created a big garden there. Once I had painted the picture in great detail, I suddenly asked, "And what would happen if we were that family?" Spontaneous shouts of joy followed. Helmy was 16 at the time; my mother had already told him of the many things I had done at his age in Egypt that were not possible in Austria—like driving a motorbike in the desert. And my daughter Mona, then 14, was in love with horses. In the desert, she would be able to ride as long as she wanted. In this way everyone was inspired to undertake the journey.

Founding a Desert Community

On arriving in Egypt I first went to visit the minister of agriculture. I explained to him that I was looking for a patch of desert, which I wanted to cultivate using organic methods. It was a sign of his friendliness that this busy man listened to me for half an hour. After our conversation he asked a ministry employee to show me some areas of desert I could buy from the state. After all, there was enough desert in Egypt. "It will be easy to find desert!" said Kamel Zahran, an old, honorable, high-ranking engineer. First we drove west toward Alexandria. From the asphalt road he pointed out areas of land for sale which had good access to water. The minister said he could put in a good word for me if I wanted to buy the land. I looked at everything, asked about the people living there, about possible energy sources, and whether roads could be built. But inside I remained untouched. This happened on the first day, and again on the second.

On the morning of the third day Mr. Zahran said he had to visit someone before we continued our trip, as he was also an agricultural advisor. He needed to visit a farm northeast of Cairo, at the Ismailia Canal, and asked me to drive him there. We left the car at the canal, took the ferry across the water, and arrived at the farm, a large orange plantation. My companion introduced me and explained

my intent. The farmer replied, smiling and spreading his arms to indicate the landscape: "You will be sure to find something here!" After Zahran had finished his visit, we walked across the plot of land, a strip that reached about four kilometers into the desert, as far as the canal's water could reach. It was a hot day, and the old man was suffering and walked with difficulty through the rows of trees. Sweat poured down his face. At the edge of the estate we stood and looked out over the stony wasteland. He said, "It is impossible here. We are four kilometers away from the canal and the desert is still going uphill. We are probably already 30 meters up. You will never get the water to reach this far."

While he waited in the shade of a tree, I walked on by myself. The country, which stretched out barren and empty toward the horizon, was gently hilly. I liked the fact that it was not as flat as the delta. After a few more steps in the shimmering heat a vision appeared before my inner eye: wells, trees, green plants and fragrant flowers, animals, compost heaps, houses and working people. I would have to expend a lot of energy to cultivate such an impassable, difficult environment and to transform this wasteland into a garden. But many jobs could be created in the process, and people would have the chance to educate themselves while creating something healing for the landscape.

[O]vernight I reached a decision—and by the next morning I knew I wanted to buy this piece of land. If biodynamic farming and everything else I envisaged could thrive in this wasteland and under such extremely adverse conditions, then it would be possible to transfer this model to easier environments and we would develop immense energy by overcoming such difficulties!

I walked back to Kamel Zahran deep in thought, and was immediately greeted with the words, "It's too steep, you could never cultivate here." But I felt I had been touched by this land; something had spoken to me. When I look back I have to admit my immense naivete; I had not the faintest idea what it meant to cultivate and irrigate land in the desert.

On the return journey I spoke to Kamel Zahran. "You know," he said, "Let's not rush anything! We'll come back later with specialists who can advise us." So we returned. But the specialist quickly delivered his discouraging verdict: the quality of the soil was very poor and the water supply difficult; there was no direct road

to Cairo and all products would have to be transported via the ferry on the Ismailia Canal. The general opinion was that the land was not suitable.

But overnight I reached a decision—and by the next morning I knew I wanted to buy this piece of land. If biodynamic farming and everything else I envisaged could thrive in this wasteland and under such extremely adverse conditions, then it would be possible to transfer this model to easier environments and we would develop immense energy by overcoming such difficulties.

As soon as I had signed the bill of sale the problems began. When I tried to get the plans to mark out the boundaries of my 70 hectares of land, I was told that although the state administered the land, it could not find out about it that easily. There were no surveying points. I soon noticed that the Egyptian land surveyors responsible for this area had trouble dealing with plans and committing themselves. In those days it took three hours to drive to the Ismailia Canal from Cairo, and I had to regard it as a favor if the surveyors even managed to arrive at my plot of wasteland, though they were paid to do so. When I asked Kamel Zahran for advice, he only said with *Schadenfreude*, "Didn't I tell you it wouldn't work?" But I was not put off by all this. Quite the opposite: it made it all the more attractive and strengthened my resolve.

After buying the land I began a period of intense planning. I tried to survey the 700 x 1000 metres myself by borrowing the necessary equipment. I struck iron poles into the sand at specific spots, and carefully drew everything on paper. For 10 years, I only had a vague idea of the boundaries, although later corrections were surprisingly minor.

First I marked out the roads: I wanted a main road to go right through the middle of the plot, lengthways from northwest to southeast. I then planned further roads branching off at right angles to the right and left of that one, dividing the land into about three-hectare plots for fields. In my mind's eye the roads were lined with shade-giving trees. I wanted a 30 meter-wide band of trees to encircle the entire grounds, to protect the developing life of the plants, animals, and humans. I used the image of a cell for inspiration, as it is surrounded by a membrane. What the clear blue sky and warmth-giving sun means for a European is a shade-giving tree for the desert people. They like to spend time in the cool shade and at the same time protect themselves from too much sun.

Water is crucial for life to flourish in the desert. I decided to bore wells, one in the northwest near where I wanted to build the stables, and the second one in the southeast near the planned houses and living quarters. I left a long strip of land in the west for a school, a medical center and an institution for movement, art, and social activities. Right in the middle of the grounds I left a space for the businesses. I intended for them to earn profits that could finance the establishment and development of the cultural institutions. I drew round flowerbeds on the distinctive right-angled road crossings to add some artistry to the desert from the outset.

This first plan still exists. When I look at it today, I can see myself striding alone over the bleak stony ground, sketching and planning, unprotected from the

sun and wind.

Economic beginnings

The biggest question was how to finance the whole venture. Even if we had managed to finance everything up to this point, the grounds were basically still a desert. Where would we get a new source of income for houses, plants, and animals? I realized we needed businesses, where people could earn money to finance the cultural institutions I had planned for the distant future. I tried to find out how I could use my pharmacological knowledge to produce things for the people of Egypt and for the export market. It was time to get off my tractor, don a suit and tie, and drive into Cairo to talk to people.

I went to visit Ahmed Shauky, my father's tax consultant, and asked him to take over this task for Sekem. I explained my vision in the desert to this elderly, distinguished man. He turned out to be delighted and very interested. His son had been following our discussion attentively and said, "I have heard that an American business is looking for an extract of the plant *Ammi majus* from Egypt. Maybe you could do that!" I immediately ordered a report from the company and invited the Americans to meet me in Egypt. Until then I had never heard about this plant, a medicinal herb for healing disturbances in skin pigmentation. Nor did I know how to get the extract. The company only wanted the crystallized active ingredient, ammoidin, which is present in the seeds.

I needed to start learning again. I spent hours in the library until I had found out all I needed. *Ammi majus*, known in English as Bishop's Flower or Laceflower, is a wild medicinal plant that grows in both the desert and the delta. A member of the *umbellifera* family, it grows about as high as fennel or aniseed and is a weed in alfalfa fields. I observed the *Ammi majus* seeds exactly so that once people were sifting them, I could explain how they were different from other seeds.

I spent many nights planning the buildings for the extraction plant. As part of this process I became acquainted with Hassan Fathy, who was awarded the first Alternative Nobel prize and is known for his traditional clay buildings. I deliberated about the machines, calculated the cost of the project, and realized it could become a lucrative business. So I started building the workshop, bought stainless steel, and constructed machines for the venture. After we finalized the contract with the American Elder company in Ohio, we had camels and trucks with sackloads of *Ammi majus* seeds coming to the farm for years.

I wanted to enter into a partnership with a bank for this huge project that I could not finance myself. I chose an Islamic bank recommended by a friend as a co-investor, as I assumed it worked according to Islamic principles. In Islam, Allah says that the earth and the ground are only given to us to care for. He alone owns the ground. It is the same with money: we can manage it for the good of the people, but should not call it our own. Allah says that whoever enters into trade works together with Allah and, following his principles, should give the proceeds to the poor and needy by giving up his own possessions. In light of this Islamic esoteri-

cism I perceive modern joint-stock companies as inappropriate: they act as if God's legacy were their own. The interest and the resulting riches they receive are not their own achievement, because even intelligence and individual abilities are the gifts of Allah, even if modern humans think their success is solely due to their own efforts.

These Islamic ideas appealed to me, particularly the idea that money is not a commodity that can be bought and sold again with interest. Thus I was happy to have found an Islamic bank where I could work together in a like-minded partnership—or so I hoped. But it turned out the practices of this so-called Islamic bank were the same as any other financial institution.

One day my lawyer came to me and said, "Listen, if you give the bank's lawyer 10,000 pounds then he will accept the estimated value..."

The Sekem Company was established as an investment company right at its start. Because I needed at least three people to start a company according to Egyptian law, I included Helmy and Mona in the business, even though they were still under age. The bank wanted to inspect everything and I had to open my books for them. The negotiations were tough, and we only succeeded once the bank director had become sympathetic to the idea of Sekem. We agreed on the bank having a 40% share of the business. Because Sekem was seen as a foreign company, the state had the right to some control. The company itself was protected, but the state had to give its permission for the bank to invest in us. The bank agreed, got a provisional authorization for the *Ammi majus* project, and signalled that we could go ahead with the project. I ordered the first extraction machines from Denmark and the bank paid for them.

After some time, the state investment authority asked to look at our account books. It did not want the book value, but the estimated value. So an estimation committee worked on the farm for several days, reexamined everything, and found that the estimated value was far higher than the book value. This meant the bank had to pay more for its involvement in the project. But the bank was reluctant to accept this finding, and began to doubt everything and try to get out of the contract. It demanded back the 150,000 pounds it had already paid out for the Danish machines, but I needed this money to develop the farm and could not spare that amount. Thus we began a protracted struggle. An arbitrator was employed and it took months for our two lawyers to decide on a third party to mediate.

During this process a small event shed light on the way the negotiations were held. One day my lawyer came to me and said, "Listen, if you give the bank's lawyer 10,000 pounds then he will accept the estimated value." "My friend," I said to him, "you know me. I will not pay bribes. That does not correspond to Islam!"

Once you have a dispute with one bank, all the other banks and the central bank know about it. This meant I was always rejected when I attempted to find a new investment partner for my project. The banks always told me to settle my disagreement with the Islamic bank before further negotiations with them would be possible.

Then one day a relative visited me and introduced me to an Egyptian who had just come from Saudi Arabia and had a lot of money. He thought he would be the ideal partner for me. The man, called Mohammed, became inspired very quickly and invested 100,000 pounds. But after only two months he came back to me with the excuse that his wife wanted to go back to Saudi Arabia and he needed his money back immediately. I had already spent his 100,000 pounds on an important machine and could not give it back to him immediately. The debts and conflicts grew! I had met another "friend" during my search for suitable partners, but they were all people who did not understand my vision and only wanted to make a quick buck.

It now looked like the *Ammi majus* project might fail, and the farm's survival was threatened. I decided to put all my eggs in one basket and went to visit the director of the Egyptian National Bank. I explained everything to him, and ended with the words, "If you do not help me and lend me money against the security of the land and houses on it, the project will die!" The director of the bank could immediately see that his money was covered by our contract with the American company. There was hardly any risk involved for him, and he decided to finance the project. "Don't worry about anything else, it's all settled," he said. At long last we could start the contract with the American company.

The dispute with the Islamic bank was only resolved years later. Its pullout created great setbacks, as it stopped us from entering a new partnership, and forced us to get a loan. In the end we paid them back three times the original amount to finally have peace. We had to give a piece of land to Mohammed from Saudi Arabia, who was demanding his money back with threats. This seemed like a great loss to me in those days. By now we have bought back most of the land and the dispute has been resolved.

With the money from the National Bank I started building a laboratory and the processing rooms to extract the active ingredient, ammoidin. The American company sent me instructions on how to deliver the substance and my earlier training in technical chemistry turned out to be very useful. I did nearly all the experiments necessary for the production process myself. For the extraction we needed a steam generator, which was very expensive. Then I discovered an old German wood-powered steam locomotive at a scrap dealer. I had it disassembled and brought it to Sekem. It still stands at the back of the farm as a kind of museum piece.

The extraction building also needed a chimney, 30 thirty meters high and 40 centimeters around. To build it, we placed single pipes, each four meters long, on top of each other. I planned this undertaking carefully: we built wooden scaffold-

ing so that the workers could pull the pipes up with ropes and place them on top of each other. But after only 10 metres the scaffolding started to sway and everyone ran away. Helmy bravely continued helping me with the building. He stood right at the top and had the pipes handed to him, and encouraged the others to follow his example. I supervised the building process continually. The accidents happened when people were left to work by themselves, which was sometimes necessary. For example we bought a tank for the diesel oil needed to power the steam engine. To save money we purchased an old tank, had it cleaned it inside and out, and painted like new. The man who sold us the tank wanted the work to be carried out on-site. A young man went into the tank to clean it from the inside using gasoline, and then lit up a cigarette during his break—with tragic results. Such tragedies happened repeatedly when I was not present.

For years we worked well together with the Americans, until one day I received a phone call from the Elder Company in Ohio asking me to come visit them. Once in America they offered me the chance to buy the company. They told me the director had died and his children were not interested in continuing his business. They were asking a reasonable price, but unfortunately I did not have the money, particularly as they had failed to pay regularly towards the end. So our mutual business ended. Despite initial difficulties it had helped me establish the farm, and I now had to find a new line of business.

Meeting Resistance

Administration in Egypt was extremely complicated and tedious in those days when I was trying to start the initiative, as indeed it still is now. One time, for example, I was supposed to explain biodynamic agriculture and composting to the Egyptian agricultural ministry. When they read my explanations, they decided to ban the project on the spot. What had I done wrong? After I questioned them persistently they revealed that according to my description bacteria multiply in the compost, and they were worried that we would infest the whole country. They could not permit something so irresponsible. It took weeks to correct this disastrous mistake, even to get the professors and administrators back together to negotiate. Then I was told I did not know anything about agriculture as I was not a farmer.

So I had to argue, provide literature, and explain the process of composting exactly. I started studying throughout the night so I could offer them answers. By the morning I had all the answers ready and gradually I was able to persuade more and more people to trust me on the topic of composting. But I had to work on each person separately! I learned a lot during this process. But the decision was still postponed. Meanwhile, I continued working on my project in the desert, until one day the police arrived, saying, "You are not allowed to continue working!" They declared it was not clear yet whether permission would be granted at all.

For nearly 12 months I had to struggle with huge difficulties, until it all suddenly changed. The ministry let me know they would send inspectors to the farm

to see how the soil evolved after treating it with compost. A scientist came and took a sample of soil to analyze. This process was repeated regularly over ten years. In the end that was the best thing that could have happened, as the ministry could see our methods improving the soil a bit at a time. I won many friends at the ministry and never tired of talking to them about my ideas and vision for the country.

Despite all the resistance, my vision of an oasis in the desert from which I could draw water for plants, animals, and humans, slowly began to take shape. Gradually all the tasks were working well together. The trees we had planted were three years old and had grown to a good height; the greedy goats could no longer reach them.

Despite all the resistance, my vision of an oasis in the desert from which I could draw water for plants, animals, and humans, slowly began to take shape... But one morning, when I drove to the farm from Cairo as usual, I could not believe the sight I saw: bulldozers were pulling down thousands of trees. I was met by soldiers with machine guns and suspicious expressions. I found out that a general had ordered our grounds to be made into a military area.

But one morning, when I drove to the farm from Cairo as usual, I could not believe the sight I saw: bulldozers were pulling down thousands of trees. I was met by soldiers with machine guns and suspicious expressions. I found out that a general had ordered our grounds to be made into a military area, even though it was only through our efforts that there was even a water supply on our land. They wanted me to leave without further negotiations. This felt like a declaration of war! My violent temper emerged, and for the moment I managed to stop further destruction by protesting loudly and standing fast. But I had to go to Cairo to start diplomatic and political negotiations to obtain a more long-term solution.

I had already had to spend days in Cairo setting up the administration office. Now I had to abandon my direct work in the desert for a time and fight to continue my project. Anwar Sadat, the president of Egypt, was a good friend I had gotten to know during our adolescence, so I went to see him. In the government

palace I also met the minister Shabaan, who headed the office of then Deputy President Hosni Mubarak. I explained everything that had happened, and he promised to help me. I was so angry and upset that I made everyone's life miserable and repeatedly visited or phoned the minister to hurry up on the resolution. Still, it took weeks before all the military machinery was removed.

The concept of compensation does not exist in Egypt; the best one can hope for after a mistake has been made is an apology. The responsible general apologized for his behavior and took sole responsibility for it. I accepted his apology. Later he was transferred to another area. His successor, General Ali Siku, immediately became my friend. We visited each other and became acquainted. Together we established a cooperative with single plots of land for officers on three thousand hectares of desert. I had discovered that this had been the original plan of the transferred general, and he had wanted me out so he could implement his idea on my land. Now I followed up this idea and discussed it with Ali Siku. I explained that it was not necessary to start this venture on the same land I occupied and had made fertile. Eventually we agreed on this point and became good neighbors. I helped him establish the cooperative materially and conceptually. The land surrounding Sekem was divided into small plots of five to ten hectares for each officer. The green cultivated countryside visible today around Sekem belongs to this cooperative.

Despite the opposition, I also experienced moments that gave me courage and spurred me on. Since adolescence I have done regular spiritual work, which gave me great spiritual energy. I always had a deep inner desire to observe the times of prayer and to meditate on the verses of the Koran, particularly the 99 names of Allah. After I encountered anthroposophy, I started studying it along with continuing my meditations and prayers. I read that for some people, everyday life constitutes a more or less unconscious "initiation," and that suffering, disappointment, and failure can be seen as a chance to strengthen our courage and inner steadfastness. Then I felt that the obstacles I encountered were not sent to destroy me but to steel my resolve. Such resistance must be met with greatness of soul and continual energy.

The presence of nature also gave me strength. The dark green leaves of the trees were gradually starting to enliven the desert grounds around the farm. I could always find beauty to admire: sunrises and sunsets, sparkling stars in the night sky, or glittering dew drops on the leaves. I observed that we had more insects and birds on the farm, attracted by the trees and our good treatment of the earth. I felt Allah's creative omnipresence through bird calls and animal sounds, smells and the wind, and in the blossoming and flourishing around me. The Koran relates how Adam and Eve lived in paradise before satanic whispers led them to the forbidden tree and they were expelled. But the Koran promised to return the Garden of Eden to believers as a most beautiful reward for their devoutness—the god-fearing will live forever in gardens. "Gardens, in which rivers flow" are mentioned more than 30 times in the Koran. The greatest source of joy for people liv-

ing in arid surroundings is green gardens, with shady oases and flowers and trees. It also gave me the greatest fulfilment to watch Sekem flourish.

Export-Led Growth

I was sitting in my office when a lively, active businessman from the Greek part of Cyprus introduced himself to my secretary. Soon he told me about a project that he had set up in my birthplace, Mashtul, in Egypt: "I have transformed vast areas of land into a vegetable producing venture, built a packing house, and bought refrigerated vehicles that deliver the fresh produce to the airport. From there they are flown to England."

"Very good, Mr. Takis. And is there a problem?"

"All the Egyptian banks have advised me to enter into a partnership with Sekem."

"Why?"

"Because we people from Cyprus do not know how to deal with the way Egyptians work, and have suffered financial losses for years because of it!"

Up to that point he had tried to run his business exclusively with workers from Cyprus. I thought about it: So far Sekem had only produced fresh foods for its own use. Should we start trading in fresh produce? Listening to him, I realized that he had been doing something I had always wanted to do: sell fresh produce. Finally, I asked him, "How do you cultivate the vegetables?"

"With artificial fertilizers and pesticides, of course."

"Where do you get your seeds from?"

"They are hybrid seeds from England."

Now two souls were struggling within me. On the one hand, this man had experience in marketing fresh produce. On the other, I objected to the chemical methods he used. I made a quick decision to go with the project. His experience was the decisive factor. Everything else could be tackled later.

Helmy travelled to Mashtul to look around Mr. Takis's business. He was horrified when he came back. "It's not a food business!" he exclaimed. "It's just artificial fertilizers and pesticides."

I replied, "Then we'll have to transform it into an organic farm."

Together we founded the Libra Company, in which Sekem had a 50% share. We gained much valuable information about logistics and customer care from our partner. Mr. Takis often came to visit Sekem, and we showed him the biodynamic way of farming and its effects on the health of humans and the earth. He also saw the damage conventional farming did to the earth and the plants—but the businessman in him saw profits. In his opinion, organic farming made the products prohibitively expensive.

I asked Mr. Takis to travel to England to find out about the market for organic produce there. At first he refused, but eventually he was persuaded, although he returned without much enthusiasm. In the meantime I met with Volkert Engelsmann, our Dutch business partner, and asked him, "What would you think

if we started producing fresh organic vegetables?" He answered, "That would be great!" So I asked George Merckens, an expert in biodynamic farming, to come visit us; we discussed how to establish a business with fresh organic vegetables. Then we started cultivating vegetables on the other farms belonging to Sekem.

Despite all our previous learning and observing, this enterprise became costly. First, it was hard to get seeds for the kinds of vegetables customers wanted. Then the yield was about one half of what we calculated because of adjustments we had to make. We also had to inspect for insects frequently. And a sandstorm raged over the farm for a few days, tearing the greenhouse apart and destroying all our work.

During this time Helmy travelled all over the county providing advice to farmers. Our deficits grew, just because we had decided to do business with fresh organic vegetables without sufficient farming experience. But we wanted to set an example for Egypt, to prove it was possible to produce organic food here. Every time something went wrong, or we looked at the figures, we clapped our hands together in a friendly way and chanted, "We will manage! We can continue and we will not give up!" Sometimes we would joke, "If only we had a factory making screws. We could be millionaires by now with the amount of time and energy we've invested in this project!" We remained certain throughout. With that amount of commitment, our good spirits would not abandon us.

We founded a new company for the fresh food enterprise: Hator. This branch of our venture, we realized from previous experience, would need a logistics genius to manage it, someone who could also assert himself. This person would have to make sure that the produce was delivered from the fields at a certain time so it could be cleaned and packed in time to be shipped. At the same time, the necessary customs documents had to be presented to ensure that the produce would get to the ships and airplanes to Europe as planned—or, alternatively, be delivered daily to Egyptian grocers. The coordination had to be performed with military precision to avoid the great financial losses caused by spoiled food.

Finally, my wife Gudrun started managing Hator, as she had experience with novel and challenging tasks. She taught the employees, about 70 young girls, with untiring commitment and dedication. Her training courses were held in Mahad, our center for adult education founded in 1987. There she taught the hygienic measures necessary for dealing with food, starting with washing hands, wearing gloves, and using special protective clothing and hats. She checked the quality of the vegetables the farmers delivered, and made sure they were cooled correctly. She also ensured that all the necessary processes were performed in swift sequence.

Eventually we ended our partnership with Mr. Takis by mutual agreement, as he wanted to follow his own business. We were grateful to have learned about the requirements of marketing fresh produce from him, and we still remain in friendly contact.

A Successful Demonstration

One day pesticide tests performed on our medicinal plants showed traces of residues. We were rightly outraged. Where did these pesticides come from? We were certainly not using them. After excluding a whole range of possibilities we finally realized that they had been sprayed onto our fields by the dusting planes that were applying pesticides to neighboring cotton fields up to 20 times a season.

Once I realized this, I complained to the Minister of Agriculture. "We want to cultivate organic produce on our farms without using poisons," I said, "and you are destroying our efforts. We are powerless against crop dusting!"

He looked at me with astonishment: "What do you want me to do? Is there an alternative?"

"Stop spraying the pesticides!" I said.

"Do you know what will happen if we do that?" he asked. Only then did I realize that this man was in a difficult position with the chemical companies.

I discussed the problem with Helmy and Georg Merckens and asked Georg whether he knew of an organic method to protect the cotton plants. He advised us to study the insects that harmed the plants and to learn their way of life. We asked an entomologist to explain the behavior of the insects in question and to find studies of their developmental stages. Then we asked several scientists how we could stop these insects from multiplying, using organic methods.

Two Egyptian scientists, Dr. El Araby and Dr. Abdel Saher, helped us by starting to examine the test fields we had prepared for this purpose. They soon corrected the problem, and in a short time the insects were doing less damage than on conventionally cultivated fields being sprayed with chemicals.

Once we had weighed our first harvest, we found we had a 10% higher yield of raw cotton than the average in the area. This was a result to be proud of, and we attributed it to our methods of biodynamic farming that enlivened the earth and enhanced plant growth.

Once we thought we had solved the problem, and thought that dusting pesticides over the fields was superfluous, we sent out invitations to the world's first international organic cotton conference, held in Cairo. About 120 specialists attended. As part of the conference they were able to visit the nearest of the 19 biodynamically farmed cotton fields during the harvesting process. Egyptian television also attended and broadcasted a very positive report. People greatly admired our success. The agricultural minister had followed our progress with interest and arrived at the conference with his staff. In his speech he said something to this effect: "You have my great admiration for your efforts. But who knows if you can achieve such success again. First you will need to prove your results more than once!" So, we had to continue testing our methods of controlling pests. Every year the minister chose some of the most polluted areas on a map and said if our methods succeeded there, he could make his decision. I thought he was acting as a responsible person.

The testing fields were spread out across all of Egypt; Helmy spent all his time travelling. The fields had to be supervised day and night, and he had to be on site if quick action became necessary. Helmy's efforts alone would not have sufficed without the support of his wife, Konstanze, whom I greatly valued. Because of her upbringing she saw leisure time as important. But here she had to live with the opposite. She and their four children had to get along without Helmy for long periods of time; often he would only come home late at night, exhausted.

The minister kept his word and reacted with courage, ordering the planes to stop applying pesticides to the fields. First an area of 200,000 hectares was cultivated completely without pesticides. Then, one year later, this area was expanded to 400,000 hectares, which incorporated the entire extent of cotton cultivation in Egypt.

After three years we had finished testing and were able to present the results. The minister kept his word and reacted with courage, ordering the planes to stop applying pesticides to the fields. First an area of 200,000 hectares was cultivated completely without pesticides. Then, one year later, this area was expanded to 400,000 hectares, which incorporated the entire extent of cotton cultivation in Egypt. Organic methods of controlling the cotton plant pests were employed in the entire country.

It is hardly possible to describe the repercussions of this decision. The chemical industry could no longer deposit 35,000 tons of pesticides on the fields each growing season. The people involved had opposed organic cultivation and had gotten the press involved. We took it with equanimity, reacting calmly to any bad news. I believe the attacks we had to withstand could have destroyed our community. I will describe one particularly harsh attack later.

We had succeeded in several ways. First, one of the most poisonous chemicals had been banned. Dr. El Beltagy of the state agricultural research institution said in a speech that even if the United Nations had decided that Egypt should practice pesticide-free cultivation, they would not have succeeded in implementing it. Moreover, the scientists in all the universities of the country would never have come to an agreement on the matter. It was solely the effort and willpower of the Sekem community that achieved this healing act for the country.

The "Sun Worshippers"

Before the government banned the practice of crop-dusting planes applying pesticides over the cotton fields, it had established contracts with the crop-dusting companies and the chemical industry. These contracts prevented the Minister of Agriculture from agreeing to our demands to stop the spraying after the first year. But after three years, once we had demonstrated a viable organic alternative on our test fields, he cancelled the contracts. This was a courageous step. Some people in the ministry were still saying that we were destroying the country. Naturally we tried to counteract this view by explaining our work. But during this time I often prayed silently that everything would turn out well!

A few weeks later, articles started appearing in the large daily papers in Cairo that declared that only the rich profited from organic farming, as they were the only ones who could afford the expensive prices. This was all highly exaggerated. Other articles stated that not even the people of rich industrial countries could afford organic produce—and if even they could not, then poor countries certainly could not. How could hundreds of millions of people in the world be fed if the crops were not improved by artificial fertilizer? Organic farming was declared to be a loser's method. We were even accused of wanting to let people starve. Sekem was mentioned by name in many articles and I received anonymous threatening phone calls. But there were also encouraging voices that said, "Don't give up! You are doing good work!"

There was a general atmosphere of conflict across the country, and the subject became widely discussed, which could only be good in the long run. We noticed that the attacks did not influence the sales of our companies' products, even though they were supposed to damage our reputation. We were called an "elitist company," supposedly only catering to Germans.

We were able to cope with all the attacks until one day an extensive article appeared in the local paper with the title "The Sun-Worshippers." A journalist had visited Sekem without our knowledge and had photographed us standing in a circle on a Thursday afternoon, at our end-of-week assembly. He asked what we were doing, and then answered it himself: we were worshipping the sun! He had photographed the Round House, and mentioned other round shapes in and in front of the company buildings. According to him they were all symbols of the sun! Finally, he cited a man from the education authority:

> Dr. Abouleish stood in front of the class and asked the children, "'Who is your God?" The children truthfully answered, "Allah!" Then he told them, "No, not Allah. I am your Allah!" I experienced this myself...

These were all lies from the supposed education inspector.

For Muslims, worshipping the sun is like worshipping Satan for Europeans. People were indignant, in turmoil. Something like that in their country! Sekem workers were harassed: "Is it true? Are you sun worshippers?" Stones were thrown at us. The article circulated throughout Egypt.

Then I got a telephone call from the head of the secret state security police, who invited me in for a visit. When I entered his office I saw the article lying on his desk. He pointed to it, and asked, laughing: "What do you say to that stuff?" Because I did not know his view I waited in silence. He continued: "We here know that not a word of the accusations against you is true. But I advise you to defend yourself and take legal action against these people. You cannot let them get away with these accusations!" Now I had proof of what I had always assumed: like all large companies, Sekem also had spies from the state secret services placed among its workers, because the state feared fundamentalists. I followed his advice and started a court case against the paper, knowing well it would take years.

[T]he prayer leaders in the mosques around Sekem started to stir up animosity toward us, spreading the word that we did not worship Allah, but the sun... I began to fear that the chemical companies had won after all.

Based on this article, the prayer leaders in the mosques around Sekem started to stir up animosity toward us, spreading the word that we did not worship Allah, but the sun. Among their worshippers were Sekem workers, who knew this was not true. But nobody would be allowed to stand up in front of all the people and say something against the imam! I began to fear that the chemical companies had won after all.

Should we fight against the animosity, or choose another way, one that was peaceful and took the wind out of the enemy's sails? I decided on the latter course. I entrusted 10 of my staff members with the task of inviting to Sekem all of the people mentioned in the article, as well as the mayor and influential sheiks of the area. We fixed a date and I stressed that everyone was responsible for ensuring that the people assigned to them actually came. On the chosen Thursday I met up with them in the Mahad. They entered, a large group of men in long flowing gowns. I welcomed them, offering my hand to shake, which they did unwillingly. But I stayed calm. Once everyone was seated, I asked a sheik to read a verse from the Koran, which he did with his beautiful voice. Once he had finished, I beckoned Sekem musicians into the room to play a Mozart serenade. Suddenly a man jumped up furiously, banged his fist on the back of the chair, and shouted, "We will not listen to this work of the devil!" While the musicians bravely continued playing, I walked up to him and said, "Calm down and listen." After that episode all the visitors let these "terrible" sounds wash over them.

Once the musicians had left the room I invited the men to express themselves. One stood up and shouted, "Music and art are forbidden in Islam. The Prophet

said so!" I calmly asked, "Does it say so in the Koran?" "No," he replied, "the Prophet said it!" I answered, "I believe every word in the Koran, and also those of the Prophet. I only need to see it first!" He said, I'll bring it to you." I replied, "Good, I'll wait until you bring it!" This is how the meeting started. The atmosphere was terribly strained and threatened to escalate out of control at any moment.

Because of the questions, I started telling them that Allah had chosen human beings out of all of his creations to be his successor. Some of them nodded, because I verified everything I said with verses from the Koran, quoting them by heart. Allah says, "We are responsible for the earth, the plants, and the animals." Allah had initially given responsibility to the heavens and the mountains, but they had refused. It was too much for them. Only the humans took it upon themselves. Now I continued talking about the dead and living Earth. As is written in the Koran, "Allah is the divider of the seed kernel and the fruit kernel. He can pull the living out of the dead and the dead out of the living." (6.95).

Now I experienced the difficulty I had already frequently met when training the farmers. These people were used to understanding the words from the Koran in an abstract sense and tended not to think of concrete examples when listening to them. I now showed them, using appropriate examples, what these verses full of images could mean for their practical life. I explained about the millions of microorganisms and their work in the earth and told them that the living earth was connected to the heavens. Then I quoted the Koran again: "The sun and the moon pursue their ordered course. Then plants and the trees bow down in adoration. He raised the heaven on high and set the balance of all things, that you might not transgress it. Do not disrupt the equilibrium and keep the right measure and do not lose it." (55.5-9).

Then I asked: "How can we assist in this connection to the heavens? What is the essence of a plant? Is it just a seed we place in the earth, or does this seed receive life from Allah, so that out of it all the different types of plants can grow? Because Allah says, It is not you who cultivates, but Allah who cultivates. He lets the plants grow!"

As I talked, I paused briefly to allow time for questions. Then I spoke about biodynamic farming, about the composting process and preparations for it. I described exactly how this process enlivens the soil. I explained how we wait for specific starting constellations before we plant; thus we are inspired by Allah to act correctly. Then I led the discussion toward the arrogance of science, which states that it is only physical substances that allow plants to grow, and not Allah. Because of this people use artificial fertilizers and chemical poisons, ignoring their effects on people's health and the consequences of insect infestation.

Suddenly one of the men stood up, came to me and hugged and kissed me. I noticed that another one had tears in his eyes. What had touched these conventional men? Many were shaken by the concreteness by which one could under-

stand the verses of the Koran. They obviously felt that my explanations had deeply acknowledged their religion.

Over the course of the day, the grim bearded men who had arrived in the morning became my guests. They said their farewells heartily and with deep feeling. I knew they would meet again on Friday in the mosques and would spread the word about the mistake they had made. I let them go with words from the Koran, "If someone comes to you and tells a rumor, then do not believe them, but verify it yourself." They passed this message on exactly. They explained that Islam lives deeply in Sekem, as nowhere else in the country. And to commemorate their visit they gave us a plaque, written in beautiful calligraphy in golden letters: "That the community of sheiks verifies that Sekem is an Islamic initiative. The plaque now hangs in the entrance area of the school.

Creating Institutions: "New ways of working together"

Shortly before my 49th birthday I became seriously ill for the first time in my life. This development seems quite obvious to me in retrospect, after seven years of establishing a venture and rarely getting enough sleep. All the years I had worked out of a feeling that I needed to give the Sekem initiative enough of my excessive energy. Now I realized I had limits.

On the night of March 21, I awoke with a stabbing pain somewhere near my heart and had difficulty breathing. I was taken to hospital immediately; the president of the General Medical Council, a cardiologist, was my friend. He was called, but the examination revealed no acute danger. Still, I could hardly breathe and had to depend on oxygen.

After three weeks I could take my first steps. Every day I managed to walk one step further. Gradually I was able to forget all the difficulties that had placed such terrible pressure on my soul. Between late March and June I recovered. I spent a week in the Black Forest and learned to live and breathe again.

Then I received a phone call from Graz. An old friend involved in medicinal research asked urgently for help and advice. I called my friends Elfriede and Hans: "See, I can dance again, let me fly!" Eventually they agreed. So I flew from Stuttgart to Graz via Vienna.

But during the first flight I suffered another heart attack and on arrival was immediately taken to the intensive care ward of the nearest hospital in Vienna. I could hardly speak when I awoke, but I let a doctor I knew in Vienna know about my condition and he came to look after me at once. Nobody else knew where I was. The tests showed a heart thrombosis; the doctors said I needed surgery immediately, or at least a catheter examination. But I refused both of these options and only wanted to lie still and be looked after.

Now I was seriously at the edge. My whole lifestyle would have to change if I wanted to remain alive. I would never be able to work again in the same way: I felt terribly weak. Internally, I started to take leave of Sekem, my family, my friends, everything. After three days my Viennese friends managed to get in touch with my

friends Elfriede and Hans in Oschelbronn; they flew to Vienna immediately. They supported my decision to refuse the operation. Hans looked after me using special medicines. When I could travel again, I returned to the clinic in Oschelbronn in a specially reserved train compartment. My recovery began anew.

After six months of recuperation, my friends took me back to Sekem. Helmy had taken over my duties, with close help from Gudrun and Mona, and had grown into the task. In a meeting with all the staff, I described my illness and the experiences involved. Afterwards an Egyptian employee jumped up and spontaneously hugged Hans, thanking him in the name of all the other workers for restoring "their doctor." After my illness, we decided to reorganize the entire initiative and lay a new foundation stone. The stone-laying ceremony was accompanied by music and recitations from the Koran. Everyone present and involved in the project signed the foundation stone document and then the stone was lowered into the central room of the Round House. It was all very festive. Everyone was aware of the importance of this moment.

Humans Cannot Work Alone

I am often asked about the spiritual background of Sekem. Sekem developed out of my own vision. My spiritual inspiration came out of very different cultures: a synthesis between the Islamic world and European spirituality. I moved around freely in these different areas as if in a great garden, picking the fruits of the different trees. I would have felt restricted if I had to limit myself to one way of thinking. But I felt enough inner space for everything in myself.

But I am also aware that I am limited. After my death, the practices we have established in Sekem will have to continue developing in an organic way. We need people who can guide Sekem according to the original vision, and who understand clearly why it was established.

A circle of people are entrusted with the actual running of Sekem. They constitute the center of the venture and we call them the "Council of the Future." One task of this council is to maintain a living connection to the well of spiritual inspiration. Another task is for them to experience the connection to others as enrichment and completion. Moreover, every individual must be aware of all the others, knowing their conditions and the tasks they are working on.

Another task is to be willing to continue learning. A defining factor of a functioning shared leadership is that the people of the council have more knowledge of the venture than the other employees. They know the background behind decisions; they are aware of the risks and sometimes also of the conditions that must be met. The group can deal with these tasks courageously because of their trusting work together. During the gradual development of Sekem, I always encountered questionable situations and great risks, which I took upon myself because of my trust in Allah's leadership. But we can meet problems with more objectivity if we look at them from different angles. Discussions with those inside and outside Sekem, and the attitude that every problem has a solution, let people can grow and

work together. They become able to stand up consciously for the development of people and the world. Their dealings are led by the same trust that carried me alone at the beginning.

HELMY ABOULEISH: A HOLISTIC MODEL

Growing up with Sekem, I always saw principles in action, especially corporate responsibility. At Sekem, the philosophy is all about human development; nothing else matters. Profit was never an end in itself.

Like others elsewhere, we at Sekem have learned that in the global economy, you must be globally competitive. Over 20 years of working in the Sekem initiative, I have learned that human development is a wonderful strategy for achieving sustainability and impact. In the long term, competitiveness is all about human beings and individual capacity. Workers whose skills are developed in a learning-living situation are self-motivated and eager to succeed. Right now, Sekem employs 2,000 people in its businesses and hundreds more on the social side, serving some 40,000 people in the community. We aim to develop our natural and human resources together in an organic way: our holistic approach is integrally linked to our drive to be globally competitive and successful.

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I was always on the farm; it was always part of the adventure. My attachment to the farm grew by the day. When my father fell ill in 1984, I took over Sekem's administration, marketing, and sales. Before that, I was a farmer, driving a tractor, but then I had to go to banks. That changed everything. When he came back a year later, we kept it as it was and he went to the farm.

The Sekem Development Foundation

Sekem today is comprised of two integrally linked elements. The business side is made up of a number of distinct ventures, described above and summarized in

TEXT BOX 1. Sekem Companies

Isis

In 1983, Isis launched Sekem Herbs, its first line of herbal remedies. Now it produces and packs organically certified herbal teas, dairy products, oils, spices, honey, dates, organic coffee, juices and conserves for consumers in Egypt and abroad. It employs 230 people in its factory alone.

Hator

Established in 1996, Hator produces and packs fresh fruit and vegetables. Every day employees pack about four tons of fresh tomatoes, beans, peppers, oranges, grapes, etc.; large volumes of potatoes, onions, and oranges go to European markets via container ships.

Atos

ATOS, established in 1986 as a joint venture with the German Development Bank and Dr. Schaette AG, brings physicians and pharmacists together to research and develop medicines from natural sources. Qualified employees visit Egyptian doctors to introduce those products and the concept of using safe and effective plant-based drugs to treat medical conditions ranging from the common flu to complex urological and cardiovascular problems.

In 1992, ATOS secured a license agreement with the German firm Weleda to manufacture and market natural cosmetics in Egypt. In 1997, the Sekem group of companies received the ISO 9001 certification.

Libra

Established in 1988, Libra Egypt supplies the raw materials that the various Sekem companies process and produce, arranging favorable long-term agreements between cultivators and traders.

In 1994, Libra started to grow 1,000 acres of cotton biodynamically, based on intensive cooperation between scientists, manufacturers, and farmers. Trained and experienced advisors help small-scale farmers, visiting different regions weekly to answer questions and solve urgent problems, such as insect development.

Naturetex

In collaboration with scientists and with Egyptian companies that spin, weave, dye, and finish fabrics, Sekem developed ways to produce cotton fabrics without using harmful chemicals. Daily, over 200 Naturetex workers use state-of-the-art machinery to produce up to 3000 pieces of high-quality clothing for babies and children, mostly for export to the U.S. and Germany.

TEXT BOX 2. The Sekem Development Foundation

The Sekem Development Foundation (SDF) makes its services available to all local people so they can improve their lives in meaningful ways, moving the entire community towards development. In focuses on three development sectors: education, health, and economics.

Educational Programs

The Sekem School, founded in 1989, lies about 30 miles northeast of Cairo on the fringe of the desert. It serves 300 kindergarten, primary, and secondary students of all social levels, mostly local. It enrolls Muslim and Christian children alike, encouraging them to live in harmony and to respect one another's religious practices.

Approved by the Egyptian Ministry of Education, the school uses the Egyptian state curriculum but also promotes new forms of pedagogical and social interaction to nurture children socially, culturally, and intellectually. Thus it also offers courses in crafts, drama, dance, movement, and music.

Though child labor is illegal in Egypt, it is widespread, involving about 1,600,000 children under age 14. In response, Sekem designed the **Chamomile Children Project**, where 80 children, aged 12 and up, work on the Sekem farm, but under excellent conditions. For about half the work day, specially trained teachers and social workers provide classes in reading, writing, singing, history, religion, and the arts. This gives children a genuine opportunity to pass the primary school exams, which they need in order to start formal vocational training. This education is also holistic, nourishing their minds, bodies, and souls. The children do well on the exams; many become regular employees, often working in agriculture or textiles. It shows that children who have had a poor start can still shine and contribute to society, if given a fair chance.

Text Box 1. Phytopharmaceuticals, organic health food and garments made from organic cotton are the most important products these companies develop, produce, and sell.

Very strong growth on the business side has allowed Sekem to develop a cultural and social dimension to its activities, organized through the Sekem Development Foundation (SDF), a private nonprofit organization founded by my father in 1984 under the name "Egyptian Society for Cultural Development." [See description in Text Box 2.] In addition to funds from the business side of Sekem, the SDF's program activities are supported by a variety of organisations and donors, private, governmental and non-governmental, local and international.

The mission of the SDF is "To elevate the total welfare of the Egyptian people by enabling them to determine and realize their own socially unique and culturally appropriate development path." The foundation strives to create culturally and

The Handicapped Children Program supports children with all types of disabilities so they can exercise their full rights as independent human beings. Many individuals with disabilities have been successfully integrated into Sekem's various workplaces.

The Adult Education Center provides literacy training (reading and writing), English language classes (incorporating computer literacy), computer training, and courses on hygiene in the workplace, as well as arts, music, and sports. It also offers seminars and lectures.

Health Care Activities

SDF's modern **Medical Center**, located on the Sekem farm, can offer comprehensive health care services to more than 120 patients per day, including local residents. Doctors skilled in a dozen specialties treat eye problems, skin diseases, internal ailments, infectious and endemic diseases, etc. A fully-equipped pharmacy is next door. The clinic also provides education on all aspects of public health, including environmental health, women's health issues, family planning, and sanitation practices. Its outreach program, involving its mobile clinic and several social workers, provides modern health care and educational programs to 30,000 rural people.

Economic Activities

The **Vocational Training Program** provides young people with specific skills for self-employment in a labor market with few opportunities. Each year 50 trainees begin a two-to-three year program that guides them in every aspect of their chosen profession; when they graduate they are skilled enough to start their own business or find work. They can train in such areas as carpentry, electrical installation, textile production technology, and general administration. Short courses offer training to local adults who want to start or enlarge their own businesses.

socially legitimate forms of development that contribute to local, national, regional, and international development. Thus it serves as both a local and a global model of sustainable development.

Egypt's problems are numerous and interrelated. Overpopulation, environmental degradation, and lack of adequate education, health care or awareness all combine to constrain Egypt's inherent dynamism and potential. Neither the health nor the education systems have been able to keep pace with the present population growth rate of 2.2% (or one million more people every eight months).

In particular, the educational facilities are severely overstrained. Schools are overcrowded and lack resources, often accommodating three shifts of children per day. The overall illiteracy rate of 26.6% for urban areas and 56.9% for rural areas continues to be one of the highest in the Middle East. Training and vocational programs are insufficient to meet the demand. Structural unemployment primarily

afflicts those lacking appropriate education and skills. The official unemployment rate in Egypt is 9.8%, although World Bank estimates place this figure as high as 17.5%.

Community health is another major challenge in Egypt, especially for the poor. Access to adequate health care, while ostensibly universal, does not exist in many marginal and rural communities. Exacerbating this situation are extremely low levels of health awareness. Consequently, many diseases and conditions that are easily curable or preventable with proper education and facilities are endemic.

Agriculture still accounts for 40% of employment and yet remains the least developed sector within the economy. The use of non-organic agricultural methods has contributed to chronic environmental degradation, severely impairing the productivity of agricultural land. Consequently, the cost of production has increased while the resource base has shrunk. Meanwhile, Egypt has become one of the world's largest importers of food.

Human development has many facets, including the social, cultural and economic spheres of life. The activities of the Sekem Development Foundation are founded on the belief that society's problems cannot be tackled in isolation.

Human development has many facets, including the social, cultural, and economic spheres of life. The activities of the SDF are founded on the belief that society's problems cannot be tackled in isolation. Accordingly, the SDF's development methodology stresses integration. The process of community development must be viewed as a totality composed of a multitude of interrelated components such as literacy training, vocational training, and primary health care. Since communities act as holistic units, targeting any single activity runs counter to the conception of integrated development. Thus, any one component of the SDF's activities is but one element of an all-embracing comprehensive strategy.

Speaking from a National Platform

In 2004 the position of executive director of Egypt's Industrial Modernization Center (within the Ministry of Trade and Industry) became open. I had about a half hour to decide whether to take it on. Someone has to do it, and a public-private partnership as a model for strategy can function well. I accepted

Egypt has 20 million young people in its workforce. In 2025, that figure will swell to 40 million. It's starting from 800,000 new entrants to the job market each year now and going to 1.2 million a year. Studying the best-practice examples of

Malaysia and Eastern Europe and studying job creation in Egypt, I see no sectors other than those related to industry that will absorb these workers.

Industry must be the agent of growth. Right now, Egypt creates about 350,000 new jobs per year. The partial breakdown is about 75,000 in industry, 65,000 in agriculture, 60,000 in services, and 150,000 in to the public sector. Every job created in industry will create one job in services.

This became clearer to me when I was on the board of the Industrial Modernization Center (IMC). I went back to Rachid Mohamed, the Minister of Trade and Industry, and said, "We have to do something. We must promote industrial development and therefore be able to grow faster." The industry was slowing down because it was always lower than GDP growth.

Through industrial growth, investment will increase. Through the IMC, I had to push industrial growth, through FDI and exports. It was clear what we were going to do. It's easy to get industry to improve with a business community taking an active role in the IMC.

We grant assistance to companies based on their ability to export. Out of 10,000, about 800 are able to export. As soon as the market opens, the other companies will leave the market because places like China and India will come in to it. This is a clear message that has never been delivered.

Our capacity at the IMC has increased tenfold in the last eight months since I took office. If over the last year they secured 400 companies, we will serve 3,400 companies. They were acquiring 25 new companies per month; we are serving 250 per month. The companies are only paying 15% of their development investment. We have pledged the other 85%.

Our immediate challenge is to provide land and infrastructure. In just a few weeks, we had over 600 requests from international investors in places like Qatar, Japan, China, and Turkey. They wanted land where they could set up whole industrial parks. We must focus on the sectors that create the most jobs, including textiles, food, building, engineering, and furniture. Now, the IMC is exactly the idea these companies need. Invest in your people. The only competitive advantage we have is our people.

The biggest challenge is not the capability. Egyptians own and run very successful companies that are competitive with anyone in the world. The perception I'm fighting is that changing the path of development is a task for someone else or for the government. The perception now is that it's big brother's responsibility to feed and educate, find the right girl for you, find you a flat, and in the end to bury you. When you think this way, you can't take the future of your country into your own hands.

I'm very happy with the level of commitment top government officials have shown, but this will need time to trickle down. The new cabinet is doing a lot to help. Of course, some had reservations about the IMC; some people are still not happy. I think this is natural; not everyone will agree, but we have more and more companies joining, and I'm very happy with the results of new investments in

industry.

The same is true on the political level: those in power were not happy. But these changes are the only hope, because the challenges are so great.

CONCLUSION

Sekem is a business. It is a community. It is a shared vision for Egypt and the world. These three elements are not mutually exclusive. They are interconnected.

For us, the creation of a garden in the desert was a very tangible experience. It has taken 30 years to make a vision a reality: a place where we work, a place where we greet visitors, and a place where we share and reflect.

But the garden, and the desert, are also metaphors. Wherever people are isolated from one another and disconnected from their physical environment, a desert exists. Wherever people do violence is to the land, or to other people, a desert exists. The enduring garden that we have created at Sekem is the internal garden that links each person in the Sekem community to each other, to our land, and to all with whom we work.

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1. This part of the narrative draws from a memoir written by Sekem's founder, *Sekem: A Sustainable Community in the Egyptian Desert*. Edinburgh, UK: Floris Books (2005).
2. This part of the narrative draws from a May 2006 interview of Helmy Abouleish published in *Business Today-Egypt*.
3. This philosophy is based upon the works of Rudolf Steiner.

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