



BUSINESS PLAN

AëroGärdən

Urban Aeroponic Farming System

*Changing Lives as It
Redefines Local Food*

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Business Plan for the Financing, Construction, and Operations of **AëroGärdən**, an urban aeroponic farming system, in Addis Ababa, Ethiopia

Introduction

The world's food system is pushing nature to the brink. We see poverty, drought, and hunger as recurring threats around the globe with individuals and families left vulnerable. And even though the right to food is a universal human right, millions of people are still hungry, especially in African nations such as Ethiopia. Something must be done to change this situation to ensure that everyone has access to a healthy diet. Access to enough nutritious foods should not be for the privileged, it should be for all. A revolution of sorts needs to take place in finding better methods and solutions to feeding those in the ever-growing, over-populated cities of the world. This is



precisely why Addis Ababa, the capital city of Ethiopia in East Africa, is ripe for a structural transformation when it comes to urban farming.

Urban farming is not a new concept to the Addis Ababa region, as farming has been a significant part of the urban scene since the beginning of the city's development when it was permanently fortified as a city in the early-mid-15th century. In spite of there being a long history of urban farming in the surrounding area of the city center, research shows that there are no comparable commercial urban aeroponic farming systems today using AëroGärdən's model. AëroGärdən uses stacked trays of seeds in vertical greenhouses *without* the use of the sun, soil, fertilizer, or pesticides. AëroGärdən can offer what no other agricultural farming system can offer in the bustling urban city of Addis Ababa: a way to change the city's inhabitant's lives by redefining its local food. With the pressing need to feed the estimated 7.8 million people in Addis Ababa alone, not to mention the 110 million (2019) throughout the entire country, new models of urban farming and agricultural systems must be developed, and fast.

With this in mind, AëroGärdən offers the perfect business opportunity for investors as urban aeroponic farming systems are the wave of the future. AëroGärdən has the solution to keep pace with the need to feed growing populations.

Dedication:

AëroGärdən's Business Plan is dedicated to those men, women, and children who lost their lives shortly after take-off from the capital city Addis Ababa on Sunday, March 10, 2019. In the midst of preparing this report for investors, I learned of the Ethiopian plane crash that killed more than 150 people, from 35 different countries. The deaths included 19 United Nations staff from the WFP, UNHCR, ITU, FAO, IOM, UNSOM, and UNON all who were working diligently to improve the lives of Ethiopians, as well as those from across the globe. We are saddened that so much potential for good was lost and gone forever on that day. AëroGärdən extends its deepest condolences to all the families and loved ones of those that perished in such a horrible tragedy. You will always be held in AëroGärdən's memory.

Melissa A. Rendsburg, Founder & CEO
AëroGärdən, Addis Ababa, Ethiopia, East Africa
Sunday, May 5th, 2019

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1. Executive Summary

AëroGärdən: Changing Lives as It Redefines Local Food

Overview

There is a systemic problem here on Earth. There is a problem because there are groups of people on the planet that are not receiving adequate nourishment to sustain their lives. This problem is heightened in developing nations states, such as Ethiopia in East Africa where there is a need to find innovative solutions to solving the world's food insecurity and to preventing potential food shortages caused by overpopulation and disruption of crops due to climate change.

Ethiopia is one of the most populous countries in Sub-Saharan Africa, and it also happens to host the highest numbers of extremely poor people in the world. To make significant progress towards reducing extreme poverty, while feeding the people of this ancient country, new models and methods for food sustenance and sustainability must be made available.

As it stands now, there are 7.8 million people that need to be fed daily in the capital city of Addis Ababa. Being that Ethiopia is a predominantly agricultural country with more than 80% of the population living in rural areas, conventional agricultural farms sit too far outside the city center. Those living in populated urban towns and cities where land is scarce, must have their food transported into the densely crowded cities to order to reach them. Many processes must take place to produce that much food, for that many people. For instance, packaging and shipping vegetables across vast distances, storing it, and selling it to the local markets costs money. Consequently, trucks carrying agriculture from the countryside into the city areas leave a large carbon footprint. When gasoline from trucks burn, it releases carbon dioxide, methane, nitrous oxide, and other compounds into the atmosphere causing the Earth's atmosphere to warm. This results in changes to the climate and creating environmental pollution. It goes without saying that from start to finish, many resources are needed to be deployed at every step along the long chain of getting vegetables from the fields into the hands and mouths of city dwellers.

This is precisely why an urban aeroponic farming system would provide an innovative and revolutionary way to grow vegetables. AëroGärdən would maximize land use in the

surrounding periphery of the capital's city by stacking trays of seeds 10 or 100 high in vertical greenhouses, not only producing a much higher yield than traditional farming methods, but also impacting the environment much less. Aeroponics uses an air mist environment that sprays water and nutrients onto dry roots of plants *without* sun, soil, fertilizer, pesticides, herbicides, or fungicides. With the use of artificial LED light, the plants grow faster as they are no longer limited by periods of sunlight throughout any given day. As the yield rate increases significantly, so do the financial returns.



Aeroponic Urban farming

The concept of aeroponic farming started first with Dickson Despommier, an American microbiologist and ecologist from Columbia University, who had grave concerns about protecting food crops from climate change and the severe weather that he was seeing with floods and droughts. This is what gave him the idea of raising crops vertically indoors. As a result, this type of farming method became what we now know as “vertical farming.” Through his research, Despommier found that seeds or cuttings of a plant could be suspended mid-air in a chamber where nutrient-laden water was sprayed on the roots of the plants allowing crops to be grown indoors all year-round, with rows stacked upon rows. However, it must be mentioned, that Edward Harwood, an American inventor was the one to get the aeroponic technology to work (United States Patent No. 8,782,948), making growing crops vertically a reality. These discoveries led to using advanced technology where the plants could be protected in a climate-controlled environment and where environmental conditions such as temperature and humidity could be regulated through intelligent computers. With the combination of plant science and computer technology, it was discovered that aeroponic farming delivered greater yields on the return.

Market Opportunity

Aeroponic farming reduces water consumption by 98% (since the water is recycled and reused), fertilizer by 60%, and pesticides by 100%. Other advantages to aeroponics are that crops can be grown all year round, they take up less space, and are less labor intensive since there is no need for weeding, fertilizing, or pest control. Aeroponic farming is also environment-friendly as it reduces the potential for water pollution from any runoff of agricultural fertilizers. And since the produce is grown in a protected environment, no pests or diseases are concealed in the soil. Because of this, farm workers are protected against toxic substances. And for those concerned with the nutritional differences in growing vegetables using artificial LED lights rather than naturally under the sun, studies have shown that there is little to no nutritional difference between the two.

According to the most current research, there are no direct competitors in the aeroponic farming sector operating currently in Addis Ababa, Ethiopia. Nevertheless, this does not mean that AëroGårdæn would be left alone to grow its business without competition. For example, there is an Israeli AgTech farm that is looking to join the emerging market of aeroponic farming in Ethiopia. The Israeli company is named “Aleinu Greenhouse” (the word means both “upon us,” and “our leaves” in Hebrew) and it is turning rooftops in the desert between Jerusalem and the Dead Sea into aeroponic farms. At Aleinu, Jews, Arabs, and immigrants work together to produce lettuce and herbs with a model similar to that of AëroGårdæn. Aleinu has a comparable goal of achieving agricultural sustainability and is looking to expand its operations into Ethiopia. This company could eventually pose a threat to AëroGårdæn. Aleinu has teamed with a group of leading scientists from Nigeria, Ghana, Kenya, and Ethiopia with an interest in establishing an alliance of Israel-Africa Agriculture Innovation Center. AëroGårdæn would need to do the same early on in its startup process to ensure that it has African partners interested in creating their own alliances.

Management

Melissa A. Rendsburg, founder, CEO, and visionary behind the AëroGårdæn concept has spent her career working in support of those in developing nations. Ms. Rendsburg has years of professional management experience throughout her career. Ms. Rendsburg admires the hardworking ethic of the Ethiopian people and supports promoting healthier and more sustainable communities in the world. She is a vegan and promotes veganism and vegetarianism, environmentalism, sustainability, and ecological conservation. Ms. Rendsburg is eager to bring AëroGårdæn to the beautiful people of Ethiopia.

Financing & Financial Projections

Ethiopia is one of the top performing Sub-Saharan African economies. It has an average growth rate of 11% over the past seven years with agriculture being the mainstay of its economy. Ethiopia relies nearly entirely on agricultural commodities to boost its economy; agriculture is what drives the country's growth. However, in spite of such statistics, do not be mistaken that the urban farming industry is the way of the future and urban farming will revolutionize the way crops are grown. And not only in providing food security, stability, and sustainability across the world, but it has already proven that investing in urban farming technology will provide large dividends to investors that will shape all future trends. In some estimates, the aeroponic farming industry could be worth as much as \$3 billion (USD) by 2024 – less than five years from now.

AëroGärdæn has every intention of being an integral part of the urban farming revolution and is seeking \$2.4 million (USD), with an 18% equity stake in investments.

Snapshot of AëroGärdæn's startup costs in its first year:

Startup costs Year 1	\$ US Dollar
Secure Location Costs	\$950,000.00
Equipment Costs	\$700,000.00
Operational Costs	\$706,500.00
GRAND TOTAL	\$2,356,500.00
Seeking Investment Dollars	\$2,400,000.00
Equity Stake	18%

2. AëroGärdən: Proposal

➤ 2.1 Opportunity Snapshot

Name: AëroGärdən
Country: Ethiopia
City: Addis Ababa
Industry: Urban Aeroponic Farming System
Stage: Start-up
Investment size: \$2.4 million (USD)
Equity Stake: 18%
Motto: AëroGärdən: Changing Lives as It Redefines Local Food



➤ 2.2 Mission Statement

Transforming the lives of urban Ethiopians by “redefining their local urban food.” AëroGärdən will provide those in the capital city with nutritious foods grown in local neighborhoods using the newest technology in urban agriculture. Through urban aeroponic farming, AëroGärdən will redefine the understanding of what it means to provide sustainable food locally in densely populated cities.

➤ 2.3 Summary of Proposal

AëroGärdən is an Ethiopian urban agricultural startup business on a mission to grow healthy and nutritious foods just outside the center of Addis Ababa, Ethiopia’s capital city. This business will be at scale and for profit where its product can be transported directly from ‘urban vertical greenhouses to fork and mouth’ in just under 15 miles (24 km) of transportation time. Because food is grown in urban centers, in essence, shortening the supply chain, transportation costs and environmental impact are minimal. AëroGärdən is a sustainable business model that can be replicated in other developing nations across the world.

➤ 2.4 Mission & Services

AëroGärdən transforms life for Ethiopians by improving their health and well-being through the newest technology in urban agriculture.

AëroGärdən is an organization that works to improve the lives of Ethiopians in Africa through the development of “air gardens” in urban areas. It produces highly nutritious and

sustainable foods that stack trays of seeds in vertical greenhouses without using sun, soil, fertilizer, pesticides, and only very little water.

The company name, AëroGärdən, is derived from the Greek word for ‘air’ and the Old French word for ‘garden’ – *aëro* and *jardin*. The noun also sounds sufficiently close to its Amharic equivalent: *gännät ayyär* means “garden of air.” Furthermore, Ethiopia’s capital, Addis Ababa means “New Flower” in Amharic, while AëroGärdən’s founder and CEO’s name, “Melissa” translates to “bee” in Greek. The language of Nature is thoughtfully implemented by design into the company’s name.

AëroGärdən’s mission is to support the people of Ethiopia – especially the women and youth in Addis Ababa, providing a sustainable and environmentally friendly approach to fresh food while supplying a strong and much-needed competitive workforce with a decent living wage and stable jobs for employees. AëroGärdən strives to encourage self-sustainability with its aeroponic farming communities to encourage prosperity, specifically among women and youth and to help in equipping them with skills and developing income-generating opportunities for them. AëroGärdən has no intent of benefitting only a few, it intends to benefit all.

Another side factor of AëroGärdən’s mission is to do no harm to the Earth as it spreads the understanding that nutritious plants will provide humans with the sustenance they need to lead healthy and productive lives. And equally important to its mission, AëroGärdən will promote a shift of mentality away from foods that are sourced from animals, especially red meat, that have a relatively high environmental footprint per serving compared with other food groups. If everyone were to switch to a plant-based diet, at least one third of Earth’s land could return to its original use. AëroGärdən will work to educate its employees, as well as the community at-large of the benefits of eating a plant-based diet and eliminating meat altogether.

➤ 2.5 Revenue Assumptions

Agriculture plays a central key role in the life and livelihoods of most Ethiopians; there are approximately 12 million smallholder farming households throughout the country accounting for 85% of all employment. And though the Ethiopian Government has formulated a series of policies and programs to promote the advancement of agricultural development, not all smallholder farmers can subsist as farmers. Many end up moving their families into the capital city looking for work. This is where AëroGärdən can provide stable jobs for smallholder farmers that

already have developed farming skills. AëroGärdən will hire these men and women to work in its business.

At its start, AëroGärdən plans to build a 10,000-square foot (1,000 sq. meters) greenhouse facility that can harvest up to 8,000 heads of lettuce each day, including various fresh herbs. After its initial growing season, AëroGärdən will add additional greens and vegetables to its crop.

Everything that gets harvested from AëroGärdən will be sold directly to the Addis Ababa community. The business model is constructed to sell directly to retailers without a middleman handling produce distribution. In other words, AëroGärdən will sell freshly packed deliveries to local cafés, restaurants, hotels, farmer's markets, and independent grocery shops. Such entities emphasize fresh ingredients in their own businesses and want only the finest quality from AëroGärdən and when selling to its customers. These businesses understand the value of having locally sourced, sustainable, and nutritious produce to entice its customer base.

AëroGärdən has also agreed to a Memorandum of Understanding (MOU) with the Addis Ababa University (AAU) Catering Service Management. AAU has given AëroGärdən the rights to supply each of its thirteen AAU campuses. This further assumes that there will be a steady flow of revenue coming from the university's catering services. With the University's motto, "Seek Wisdom, Elevate Your Intellect, and Serve Humanity," AëroGärdən feels confident working with the Catering Service Management of the Addis Ababa University. Students studying at the oldest university in Ethiopia will come to enjoy the readily fresh, vitamin-packed greens grown locally shortening the time from greenhouse to plate.

AëroGärdən does not give terms, and thus all employees, inventory, and operating expenses will be paid in the month in which the expenses were incurred, or the following month they are incurred. This will depend upon payment terms that are agreed upon between AëroGärdən and its vendors and suppliers.

The model will assume a low price point for large quantities of produce sold during startup stages with a zero-level distribution channel transferring goods from point of production to the point of consumption. After the initial startup phase, the model will move to a one-level channel – Producer → Retailer → Consumer. Thereafter, the price point will increase as demand for the product moves through the retailer to consumer, including using selective high-quality packaging, as requested, for higher-end markets.

3. Industry Analysis

Urban farming is not new to Addis Ababa as it has been a major part of the urban scene since the beginning of the city's development as the capital of Ethiopia. For migrants, it was also a way to cultivate crops to supplement their livelihoods, and it has remained a permanent feature of the city's landscape. However, urban aeroponic farming has not yet been introduced to this region of the world.

But what if there were a more efficient way to grow crops without using intensive irrigation techniques? And what if less water was used from the Little Akaki river that currently irrigates traditional urban farms along the outskirts of the country's capital? Would the locals be willing to participate in aeroponic farming and forego other techniques? AëroGärdən would like to think so.



Being that conventional agricultural farms sit far outside the city center, it is not unusual for produce to reach consumers 5 to 7 days after it has been harvested because it is grown on land hundreds of miles outside urban areas. Therefore, AëroGärdən will grow vegetables and greens just 15-20 miles (20-25km) outside the capital city close to the urban center of Addis Ababa. And because the food will be grown in urban centers, the supply chain will be shortened, and transportation costs will be lower making less of an impact on the environment. Deliveries would be made immediately after harvest with the customer and consumer receiving the freshest of greens as if they grew them in their own household gardens.

➤ 3.1 Theory & Change

AëroGärdən is a for-profit social enterprise that will not only create profits for its investors, combining financial and social returns on their investments, but it will also help the people of Ethiopia, especially those youth living in and around the capital city of Addis Ababa.

AëroGärdən believes that every single person in Ethiopia has the right to access healthy and nutritious food. We believe that through the process of a large commercial urban aeroponic farming system, a new way of developing food production on the outskirts of Addis Ababa is in reach. AëroGärdən believes that it can be instrumental in healing not only the current generation of

Ethiopians through healthy, nutrient-filled foods, but that we can help the older generation regain their health and vitality through providing them with locally grown foods so that they can lead more productive lives.

These "gardens in the air" are run by Ethiopian men, women, and youth all participating in the growth of urban agriculture. With the help of AëroGärdæn, Ethiopians will be able to work their way out of poverty and malnutrition. Not only will AëroGärdæn provide jobs tackling unemployment, but it will also set up business training, microloans, and other financial services. As more and more small farm holders from the countryside move into the city equipped with farming skills and knowledge, these farmers will make for prime candidates as employees.

And since the majority of farms in Ethiopia are run by families, those families that move to the city and are no longer working the land, will be hired by AëroGärdæn as a complete family unit as they are supported through means of employment and continuous training opportunities.

Those that develop their skills and experience working with AëroGärdæn will gain competencies that will make them become lifelong leaders in the industry. In turn, offshoot companies may develop, and eventually, all agriculture in the country will be grown through urban aeroponic farming systems alleviating the pressure that has been placed on the soil for thousands of years. The degradation of the Earth's soil has released about 78 billion tons of carbon dioxide into the air, and though healthy soils are one of the biggest challenges to achieve, vertical farming can also be a complement to tackling the issue of how to allow the soil to regenerate itself.

Aeroponic farming is in its infancy stage in Ethiopia. Currently, there are no large scale commercial aeroponic businesses operating in the region. And thus, the Ethiopian Government has developed packages of incentives to encourage private investors and investment. The Ethiopian Government is welcoming investors, foreign and domestic, to engage in new enterprises and expansions, across a range of sectors. This includes those that are looking to build new business models for agriculture, such as the AëroGärdæn model. These incentives are now available for all investors. The Ethiopian Government is providing 100 percent exemption from the payment of import customs duty and other taxes levied on import is granted to investment capital goods and construction materials necessary for enterprise as well as spare parts worth up to 15 percent of the value of the imported capital goods. And according to the Ethiopian Investment Agency:

“Investment capital goods imported without the payment of import customs duties and other

taxes levied on imports may be transferred to investors enjoying similar privileges; Any income derived from an approved new manufacturing, agro-industrial or agricultural investment is exempted from the payment of income tax ranging from 2-8 years depending up on the area of investment, the volume of export and the location in which the investment is undertaken.”

With generous support from the Ethiopian Government to foreign investors, investing in AëroGärdæn Ethiopia makes sound, logical sense.

➤ 3.2 Emerging Markets

When it comes to urban vertical farming, all of Africa has been slow to enter this rapidly growing market. Whereas, in comparison, the Asia Pacific has shown the highest growth rate in using vertical farming methods. Aeroponic, Aquaponics, and hydroponic methods are all used and in high demand in Asia.

The product market has become popular especially in southeast Asia due to land scarcity and high food imports. Countries like India, South Korea, and Taiwan are developing this technology as each country’s cultivated land space becomes less and less. The Asian market uses various vertical farming technique to grow kale, arugula, watercress, and many other salad greens without sunlight, soil, or pesticides. The foremost players in the vertical farming market are an international lot: Plantagon International (Swedish), American Hydroponics Inc. (North America), Sky Greens Farm (Singapore), Mirai Farms (Japanese), Urban Crop Solutions (Belgium), Koninklijke Philips N.V. (Dutch), Green Spirits Farms (American), and Spread Co. (United Kingdom).

➤ 3.3 Technology

AëroGärdæn brings technology and plant science together under one roof by using the most cutting edge in technological development. AëroGärdæn uses hundreds of thousands of data points during the growing stages of every harvest. The plant scientists must constantly monitor, review, test, analyze and improve on every data point in order to obtain the best growing result and successful harvest. And because the data can be monitored and controlled 24-hours a day, there is less risk involved in the produce getting spoiled or ruined by insects, inclement weather, and anything else that could go wrong, as is often the case, using conventional agriculture methods.



4. Operational Plan

AëroGärdən will ensure that a state-of-the art aeroponic farming system is built and developed to serve the Addis Ababa (Ethiopia, East Africa) region.

AëroGärdən will develop a series of meetings with investors to secure \$2.4 million (USD), with an 18% equity stake to begin the project. Along with an experienced management team of expertise in the area of aeroponics, horticulture, bioengineering and biochemical engineering, and agriculture and biological engineering, AëroGärdən has the best in technological know-how.

There is a single founder and CEO of the company, with managers, staff, and key personnel to handle the day-to-day operations. Ethiopian men, women, and youth will be given priority over non-Ethiopians. The main target market will be women, as women often manage restaurants, hotels, and are the catering managers at the universities. In Ethiopia it is the women and the managers who make the majority of decisions regarding the food for the family and what food is to be sold in cafes, restaurants, and hotels. Women tend to entice and encourage other women to participate. Men and youth males can help with the transportation (trucks, cars, carts), while adult women and female youth can help with the sales and distribution, by going to restaurants and other places of business to sell the product. AëroGärdən plans to hire entire families into the

workforce easing their family's economic impact.

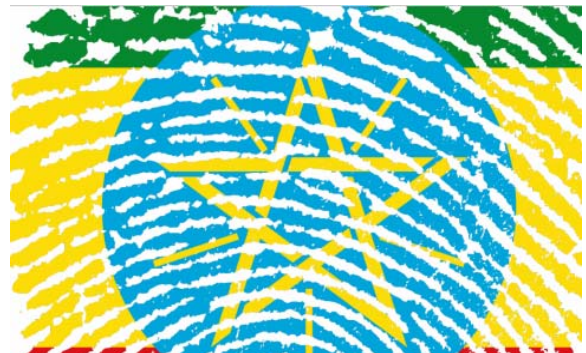
The startup and expansion stages of business will begin with one 10,000 sq. foot greenhouse, to start, and then branch into more regional greenhouses. At this time, AëroGärdən is not looking at international markets outside Ethiopia, but the goal is that once AëroGärdən has developed and built a solid foundation within Ethiopia, then the model will be taken to other African countries on the continent. Our intent is to become the largest urban aeroponic farming system in Africa. At AëroGärdən, we are looking to be instrumental in shifting the mentality from foods that are sourced from animals with a relatively high environmental footprint, to local urban farming that produces a healthy array of vegetables to promote a plant-based diet.

➤ 4.1 Management Approach

At AëroGärdən we understand that management with a good organization structure plays a crucial role in making a business a success. And good leaders are essential for any organization and its employees, as if a leader is not capable of handling situations or problems well, the entire organization from the management level to the daily workers interacting with customers can be affected in a negative capacity.

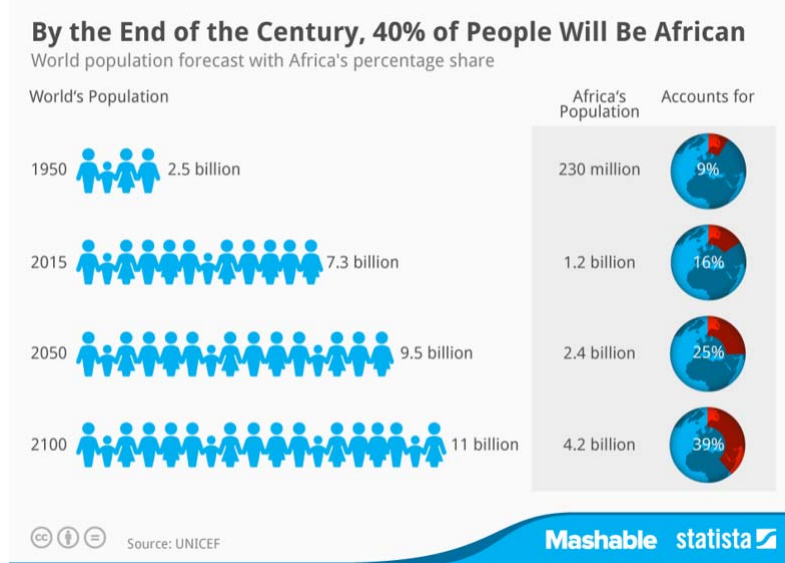
Therefore, we have assembled an excellent team of dedicated individuals that share a passion and purpose of “changing lives as it redefines local food” in Ethiopia, East Africa. AëroGärdən has expert advisors across business, law, plant science and pathology, microbiology, ecology, engineers, and biochemical engineers, nutrition, and food safety and quality assurance. AëroGärdən has a flexible approach to management allowing for the business to adapt to changes that may occur from internal or external environmental circumstances. As AëroGärdən's main office is situated in Addis Ababa, Ethiopia, it must be flexible to move with the laws and regulations of that country.

AëroGärdən is interested in working with like-minded visionaries that will create investment partnerships alongside us to help spread this innovative urban agricultural technology around the world. As AëroGärdən partners with investors, we hope to disperse the economic good to the urban community of Addis Ababa, and then eventually throughout the developing world.



➤ 4.2 Location

According to UNICEF, “by the end of the century, 40% of people will be African.” And this gives even more reasons behind why Ethiopia is to be a prime location to develop a new agriculture system. Ethiopia is a developing country that is showing great signs of a strong market economy. And though there are risks that



investors and entrepreneurs need to be aware of when investing in a developing country, being that it has much to do with an underdeveloped economic and legal institution that often leads to corruption, political instability, lack of transparency, and due process of law.

Studies have shown that in the area 15-mile (20 km) area outside of Addis Ababa where AëroGårdæn will build its greenhouse, there is enough room and connected infrastructure systems to build a 10,000 sq. ft. greenhouse without concern.

➤ 4.3 Hiring Ethiopians: Men, Women, and Youth

Ethiopia continues to face challenges when it comes to its economic growth, while at the same time working towards the acceleration of reducing poverty throughout the country. In order to manage both growth and poverty reduction, it requires that there is significant progress towards job creation. Due to the high youth unemployment rate, Ethiopian youth have been making an exodus from the country taking unimaginable risks to find work elsewhere. Some walk across the Sahara Desert, or attempt to cross the Mediterranean or Red Sea in order to reach Europe or the Middle East in search of work. Others find it challenging when there is social unrest at home, while other men and youth become so desperate that they become vulnerable to extremist groups. Youth unemployment is most prevalent in urban areas, including Addis Ababa, where unemployment among youth is the highest in the country. Both men (15%) and female (28%) youth are experiencing unemployment in urban areas. This often leads to physiological, social, and economic adversities such as increased crime rates, low self-esteem, drug addiction,

and influence from extremist groups. Though the Ethiopian government is investing millions of dollars into funds to help budding entrepreneurs build businesses by providing microfinancing and employing youth into the projects that will help develop the economy, not all youth are finding the employment they seek. This is where AëroGärdän and urban aeroponic farming can bring people from various parts of society together to enhance each other's lives through job creation with mutual respect and coexistence.

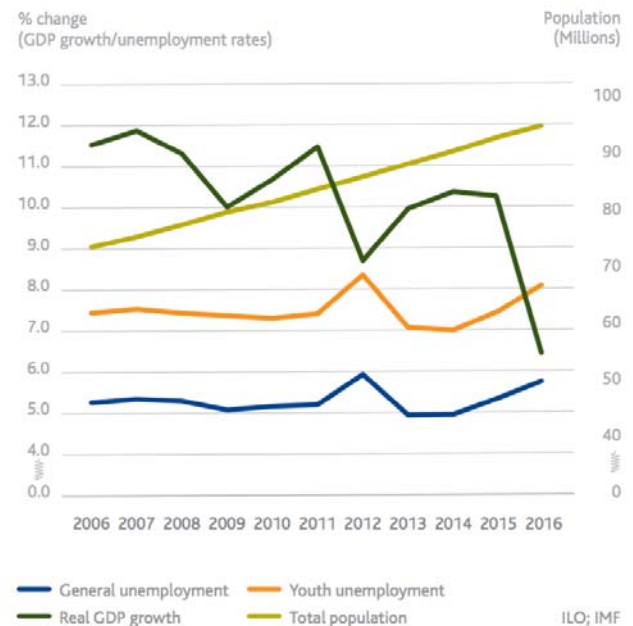
Youth: The Youth of Ethiopia have the potential to play a significant role in the country's socio-economic development, and this is why AëroGärdän will hire youth from the Addis Ababa area and will pay them a decent wage. By hiring and training the youth of tomorrow, AëroGärdän will instill a sense of entrepreneurship that will inevitably promote entrepreneurialism as a means to quell extremist organizations and recruiting



activities. With business skills in hand, the youth will be able to participate more broadly in building a democratic and fair governance system that would benefit many. Through their work with AëroGärdän, Ethiopian youth will learn strategies that will allow them to become involved in the decision-making processes at both the local and national level of their country. That is why it is of importance that AëroGärdän participates in hiring Ethiopian youth.

Youth led-efforts to prevent violence and build peace in their communities is not easy, but there are groups of youth seeking peace that demonstrates that young people are truly positive towards finding ways to sustain peace. By providing jobs and food that help in this way, will stop youth from joining extremist organizations.

General unemployment, youth unemployment, real GDP growth and total population, Ethiopia



➤ 4.4 Risks and Obstacles

AëroGärdən is aware that there are some risks and obstacles to running an urban aeroponic farming system in Ethiopia. For examples, there is a higher cost and a larger carbon footprint with indoor vertical farming that might be generated in comparison to traditional farming methods. However, it is agreed by researchers that the long-term advantages outweigh the higher cost of doing business. Especially since urban farmers using aeroponic growing techniques produce higher yields that are more pest-and-disease resistant, resulting in a greater profit margin and the ability to keep up with customer demand.

While traditional farming techniques make the most of sunlight, indoor farming relies heavily on artificial lighting that consumes a lot of electricity. When artificial light is used to replace sunlight, the business becomes energy intensive. Humidity control, ventilation, heating, and cooling all must be factored in the amount of energy that is required to operate an indoor farming system. Other areas to consider is that producing greens indoors will have a carbon footprint that is up to 7 to 20 times greater than production outdoors. Even with all of this energy usage, however, in the long run, the AëroGärdən model still uses less energy overall.

➤ 4.5 Evaluation & Assessment

As AëroGärdən prepares for the future with nearly 80% of the Earth's estimated 10 billion people residing in urban areas, leading to an increase in demand for food and the efficiency to obtain such food, it must be prepared for any challenges that it may face with its aeroponic farming system. There are disadvantages that must be taken into consideration that could risk the entire operation if AëroGärdən is not prepared. To illuminate, as AëroGärdən grows it is possible it may encounter the following:

- Startup costs for an aeroponic farming system is expensive. AëroGärdən is requesting \$2.4 million USD dollars from investors for startup costs as well as one year of coverage;
- It is a well-known secret that social entrepreneurs in Ethiopia face challenges when it comes to inefficient regulations and laws when starting a business in Ethiopia. Entrepreneurs may not be aware of all the required procedures and thus it tends to cost more time and capital to operate a business than originally intended;
- Aeroponic farming requires technical expertise and constant supervision of data, and thus this becomes a huge challenge. Educated technicians will need to be hired to handle the data sets.

At least 40% of AëroGärdən’s staff will be involved in research and development;

- The aeroponic system will need a steady stream of electricity, and lots of it, that is not susceptible to power outages. A backup power source must be put in place. AëroGärdən counters this argument by using renewable energy, derived mainly from solar panels on the roof. AëroGärdən believes that it is far greater to grow food locally outside large cities with artificial lighting, than it is to leave larger footprints by transporting produce from long distances away;
- And though AëroGärdən shows great promise, other similar companies have failed in their efforts. Google’s Alphabet X tried an automated form of vertical farming, but the company had to abandon the project as it was unable to produce a single staple crop with their technique. Another company, VertiCrop declared bankruptcy after only three years. But they did not build their greenhouses in Ethiopia, and the technology they needed was not yet readily available. Since VertiCrop’s attempt at vertical farming, computer technology has advanced exponentially.

➤ 4.6 Competitors

As mentioned previously, there are no direct competitors in the aeroponic farming sector in Addis Ababa, Ethiopia. However, there is an Israeli AgTech farm, named “Aleinu Greenhouse,”



that is turning rooftops in the desert between Jerusalem and the Dead Sea into aeroponic farms. Aleinu uses a similar model to that of AëroGärdən, and with the same goal of agricultural sustainability. Because Aleinu is looking to expand its operations into Ethiopia, there is concern that this business would be a tough competitor

since it has already begun forming alliances with leading scientists in the area.

Another competitor that is growing fast in the region is the French company Agricoool that is growing urban farms in recycled freight containers known as “coolainers.” Agricoool is not only growing vegetables in Central Paris, but they are also developing their market to branch out internationally. Ethiopia is one such emerging market that this business is planning to expand into.





5. Financials

*You don't build a business –
you build people and then people build the business!*

Ethiopia is a landlocked country in the Horn of Africa with more than 107 million people. The people of this nation-state rely on the variability of rain to feed its crops and livestock for food and income to survive. However, having to rely on agriculture has left families vulnerable due to consistent droughts, hazards from environmental challenges, extreme poverty, and conflict and displacement. The average adult does not have enough food to eat, and more than 3 million children continue to be malnourished. This is where AëroGårdæn can help. By creating sustainable agriculture for families using the urban aeroponic farming system technique that uses less water and does not deplete the soil, this systemic approach for taking care of the people, be it providing sustenance, taking care of the environment, and providing good habits will heal the bodies and minds of the Ethiopians, as it does the Earth.

In October 2018, Ethiopia made the unprecedented move in electing a 68-year-old woman as its first female president, Sahle-Work Zewde - the only female head of state in all of Africa. Also,

(see page 23)

➤ 5.1 Deliverables Table Chart

This deliverables chart provides investors with the costs needed to fund AëroGärdən:

AëroGärdən: Transforming life for Ethiopians through the newest technology in urban agriculture	
Deliverables Table for AëroGärdən	
Secure financing (\$2.4 million USD) from investors	
Secure location and property permit for commercial aeroponic farming structure	
Locate contractor to build indoor aeroponic farming facility	
Ensure water, electricity, and temperature control supply	
	Costs
	Estimated Cost: \$2.4 million USD
Total #1	\$950,000.00

Excavate and build 10,000-square foot (1,000 sq. meters) greenhouse facility	
Equipment Cost	<i>Equipment</i>
Purchase back-up generators and water tanks in case of failure	
Purchase aeroponic farming equipment: watering system with high pressure pumps and sprinklers	
Purchase hoses, applicators, thermometers, buckets	
Purchase draining system	
Purchase seed boxes	
Purchase seedlings - arrange for future seedling delivery	
Purchase nutrient solution	
Artificial lights and bulbs	
Virus diagnostics	
Protective clothing: rubber gloves, hairnets, coverall suits	
High-powered fans	
Smart computer data system	
Cold storage unit	
Trucks	
Total #2 - Equipment Costs	\$700,000.00

➤ **5.1 Deliverables Table Chart (continued)**

	<i>Equipment Cost</i>	\$700,000.00
Operational costs	<i>Operational Cost</i>	
Recruit and hire management		\$55,000.00
Recruit and hire bioengineers and biochemical engineers		\$92,000.00
Recruit and hire agricultural and biological engineers		\$92,000.00
Recruit and hire aeroponic farming experts to jump-start operation (1-year hire)		\$200,000.00
Arrange for security guards to patrol property		\$25,000.00
Establish rules and regulations for staffers - create Staff Handbook		\$30,000.00
Training		\$500.00
Recruit talented staff: include women and youth		\$70,000.00
Labor: Aeroponic farmers, administration, drivers		\$66,000.00
Fixed costs/overhead: Utilities, communication costs, accounting/bookkeeping, advertising & marketing		\$30,000.00
Business development		\$24,000.00
Total #3 - Operational Costs		\$706,500.00
GRAND TOTAL		\$2,356,500.00

(continued from page 20)

a prominent lawyer and women's rights activist, Meaza Ashenafi, was appointed as the country's first woman Federal Supreme Court President. Change is coming to Ethiopia, with revolutionary new ideas and systems. That is why AëroGärdən is positioned to be the future of urban agriculture in Africa.

AëroGärdən is requesting \$2.4 million USD dollars from investors for startup costs with an 18% equity stake. With AëroGärdən, food would be grown locally, without sun, soil, much water, pesticides, herbicides, or fungicides, decreasing environmental degradation.

With Ethiopia's skyrocketing population growth, Ethiopians must be ensured that there will be an innovative way to feed their people without being vulnerable to food shortages.

➤ 5.2 Funding

AëroGärdən is committed to evolving its financial partnerships and will seek to work directly with The United States Agency for International Development (USAID) Mission in Ethiopia through their local entrepreneur program that offers grants and financial awards to for-profit businesses. AëroGärdən is currently in talks with The Bill & Melinda Gates Foundation as they have shown interest in providing the business with a sizeable grant to help deliver new and innovative technology for those living in poverty, while 'doing the most good for the most people.'

CGIAR (formerly the Consultative Group for International Agricultural Research), the world's largest global agriculture innovation network has shown great interest in AëroGärdən and has offered generous funding in the near future.

It must also be noted that the nature of a business like AëroGärdən means that it will always be needing to raise capital to support its growth and development.



6. Social Entrepreneurship

Entrepreneurs are a rare breed. They must have a unique bold vision and insight that allows them to see a problem, and then be able to tackle it by finding solutions that will fix the problem. They must be innovative and have leadership in capturing markets where there aren't any, or bring value to a place where there are market gaps that need to be filled. Basically, entrepreneurs are problem-identifiers and problem-solvers. They build businesses that create value, while generating profits along the way.

But a *social entrepreneur* takes entrepreneurship to a completely different level, far above the rest. A social entrepreneur goes about establishing an enterprise that is aimed at improving or solving a social problem through their businesses. They build new paradigms. In turn, creating social change. Social entrepreneurs are the change makers that transform and benefit society.

This new model of entrepreneurship combines that of business with governmental and social organizations, taking the business model of practices and principles and combining that with passion *and* compassion that is required to create a fair and just world. In other words, this



innovative idea of taking a business model and coupling it with a charity model forms an entirely new model that provides shareholders profits (business) while tackling social issues (charity). It becomes a win-win for all.

This is why it is vital to invest in those social entrepreneurs who are

building the tracks of the future. Those such as AëroGärdən. AëroGärdən is proud to have a for-profit business model with inspiration, creativity, courage, and fortitude needed to step out of the box to think differently in business, while maintaining its perspective in helping create positive change in the world. AëroGärdən hopes to influence other businesses through strategic partnerships and to have them, and others, follow our lead in creating initiatives that encourage others to live their best lives.

7. Conclusion

We have reached that time when the most pressing challenge we face is how humanity will go about feeding the 10 billion people expected to inhabit the Earth by 2050. If food production uses 50% of habitable land of which 75% is used for livestock production, then how will we improve the productivity of the food system by 50% so that not a single person goes hungry? And as the world's population centers continue to shift to overcrowded cities, how will we deal with feeding the masses? The answer is AëroGärdən, which will change lives as it redefines local foods.

AëroGärdən, an urban farming method that takes agriculture into the cities where people live and empowers them to eat well will have significantly impact and benefit entire communities. AëroGärdən will be able to provide up to 25 different greens and herbs that are nutritious and environmentally sustainable for those in and around the Addis Ababa, while cutting down on transportation and waste that places undue strain on additional environmental resources. In fact, what is needed is to be supported through funding by the Ethiopian Government and food councils, public institutions, and/or private investments.

Building a world that can safely and humanely sustain 10 billion people will be the greatest challenge humanity has ever attempted, and AëroGärdən will be active bringing fresh local food to the people.

Summary of AëroGärdän's Business Plan

- ❖ By the year 2050, nearly 80% of the Earth's estimated 10 billion people will reside in urban centers, so how will traditional farming methods keep pace with the need to feed this growing population?
- ❖ **AëroGärdän**, based in Addis Ababa, Ethiopia, has the solution: it will change lives by redefining local food.
- ❖ **AëroGärdän** is an urban aeroponic farming system, that stacks trays of seeds in vertical greenhouses using little water, and *without* soil, fertilizer and pesticides. Because the food is grown in urban centers, transportation costs and environmental impact are minimal.
- ❖ **AëroGärdän** sells freshly packed deliveries to local restaurants, cafés, hotels, and Addis Ababa University.
- ❖ **AëroGärdän** establishes stable jobs and income opportunities for the women and youth of Ethiopia's capital city.
- ❖ **AëroGärdän** seeks \$2.4 million dollars USD in investments to bring this cutting-edge urban farming revolution to light.



