

Urban Food Growing in eThekweni (Durban), South Africa

an urban food growing + composting initiative



Who are we?

Bioregional SA – local npo promoting One Planet Living – framework of ten principles of sustainability as a way of operationalising the SDG’s to create sustainability action plans – with outcomes, actions and indicators

‘local production for local needs’

One Planet Cities programme – last three years – schools, businesses, civil society organisations

Lead – Green Economy workstream, EEC



One Planet Living video



<https://www.youtube.com/watch?v=JZ0erjJFiCE>

And there is an online digital platform to make it easy now too, to create online action plans

www.oneplanet.com

Definition of food security

Wikipedia:

‘Food security speaks to the availability of food in a country and the ability of individuals within that country to access, afford, and source adequate foodstuffs.’

UN Committee on World Food Security:

‘Food security means that all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their food preferences and dietary needs for an active and healthy life.’

“Over the coming decades, a changing climate, growing global population, rising food prices and environmental stressors will have significant yet uncertain impacts on food security”

International Food Policy Research Institute (IFPRI)

How we got involved: Sisonke Garden + composting

- Sisonke Durban Garden is a food garden started by homeless men during lockdown, in North Beach, Durban.
- After eighteen months, the garden needed reinvigoration - the soil had degenerated - compost was needed.
- The quality of fresh produce needed to improve such that the men could earn a living.
- Men with experience in food growing, had left.

One block away is a hotel that has >1,3 tonnes of food waste going to landfill every month. Also nearby is a public sports fields with a ready supply of grass clippings. And street trees with plenty of leaves.



REALISATION: We could make our own compost at the garden which had the space, by collaborating with partners.

‘Ubuntu’ - I am because you are

What we did

- With a little surplus funding, employed a permaculture mentor one day a week, to train the remaining men on site.
- Started approaching people / organisations who we knew would be helpful to the project – e.g. Botanic Gardens, local municipal Parks department, the Elangeni Hotel.
- Started doing more social media posts.
- Got approached by corporates, who wanted to help.
- Made a list of what was needed in the garden e.g. fencing, water tanks, tools – and asked corporates / interested parties for this.
- Bioregional started the composting pilot project – approached the Elangeni Hotel for food waste.
- Bioregional also started thinking about access to markets (and this being Durban, three distinct markets – Indian, isiZulu and ‘mhlungu’ or European market – all who eat slightly different things! We now grow accordingly).
- Research – what is going on elsewhere.
- Access to more assured ‘person power’ – students?

Where are we at?

- Thriving urban food garden!
- One year pilot composting project
- circa **12T of food waste** and **30T of green/brown waste** diverted from landfill.
- This has created some **10T of compost**, all used to improve the vegetable production at Sisonke Durban Garden
- **Upfront costs: nil** – as sealable collection drums for hotel food waste were donated and **Elangeni Hotel purchases the Bokashi Bran** monthly (Effective Microorganism activator – can compost cooked food, protein + dairy)
- Sisonke Garden (April 2022) made over R2000 profit for three homeless men, in vegetable sales – no further external compost required; December 2022-January 2023 – **R7000 in fresh produce sales per month!**
- Composting works! Keeps waste local to where it is needed as a resource to regenerate soil, it leads to employment, potential food security in local food gardens where compost can be used – it is time to scale → **demonstration phase.**



The logo for Sisonke Durban Garden features four hands of different skin tones (black, brown, tan, and light skin) holding each other in a circle. The hands are labeled: 'Homeless' (black), 'Civil Society' (brown), 'Municipality' (tan), and 'Business' (light skin). The word 'Sisonke' is in the center, and 'Durban Garden' is written across the bottom of the hands. Below the hands, it says 'Together we can.' To the right of the logo are two photographs: the top one shows people working in a garden, and the bottom one shows fresh produce like onions and potatoes in crates.

Local Production for Local Needs

By purchasing our FRESH PRODUCE you are:

reducing food miles and easing poverty by creating local employment - all as a boost to local economic development.

Fresh from our garden to your table!

Thank you for your support!

Sisonke Compost

The world would be a better place if we diverted all food and organic waste from landfill, valuing 'waste' to now being a 'resource'.

Our mission is to provide a product that

- tackles climate change
- builds resilient communities, and
- regenerates the living systems of our planet earth.

Sisonke – together - we can do this



The Food Waste Problem

- *40% of any waste stream is compostable food/green/ brown waste.*
- estimated at **10.3 million tonnes in 2021**, or 34.3% of local production (CSIR).
- 2013 figure: food losses **equivalent to 2.1% of the national GDP**
- **Costs** – transporting food waste + landfill charges
- **Emissions footprint** – again transporting food waste and from the GHG's that landfills emit. **Composting ↓GHG's by 98%**. (est 2 million tonnes of CO₂e/annum, from food waste alone.)
- The SA government has mandated **100% diversion of organic material from landfill, by 2030**
 - **National Waste Management Strategy, 2020;**
 - **The Waste Act 2008** – source separation, food waste diversion.







Compost making



Successes!

- Garden with onsite composting project has been going for over a year – no external additives for the garden
- Current earnings have increased month on month, with over R7000 now being earned by the men each month (December 2022 and January 2023 respectively), from fresh produce sales. The highest earnings yet! And despite the hot weather.
- Opportunity for great corporate relationships, for funding e.g. water tanks and some drip irrigation donated, money for assets on site – e.g. fencing, gates, some tools
- Some donations e.g. tools, seeds and seedlings, working with collaborators e.g. local government, Botanic Gardens.
- Opportunity to establish great partnerships e.g.
 - with Durban University of Technology (DUT) – final year Horticulture students gaining work in learning experience for 5 months each year (two semesters)
 - Future Farmers Foundation – to place a qualified AgriSeta graduate at the garden
- Replicable exemplar for further gardens



Davenport Park Urban Garden Project



Four months on



Davenport Park Community Garden (cont)

- Initial funding by the local Business Forum and Urban Improvement Precinct organisation
- Two previously unemployed men now employed and being paid until such time as the garden yields
- Two DUT students on site for work experience
- Continued employment of the permaculture mentor
- Nearby local restaurants identified for food waste and for delivering into, once fresh produce has grown
- Already improving a previously derelict site / site of social ills, to one that is going to be productive, 'community owned' and provide healthy fresh food
- Sense of positive place making – other two thirds of the site likely to be used for a crèche to move to, and to create a children's play area.

And there are more gardens in the pipeline ...



Lessons Learnt

- Need an overall project manager in the beginning, to share the vision, plan, identify and bring all stakeholders together, to identify markets and end users, to bring the right persons to the gardens e.g. students and potential garden manager (e.g. the AgriSETA graduate) and to overcome problems! BUT funding is often tricky to get / takes time.
- Work with the willing! e.g. PEP programme
- Plan for an exit strategy, as the ultimate aim is for these gardens to be stand alone micro economic businesses that benefit the people who maintain them.
- Bring business skills training to the relevant managers e.g. graduates, so they have the methodology to continue the business once it has been set up.
- *'we should be doing all that we can, to lift the absolute poor, out of absolute poverty as by doing so creates a localized approach to environment as they stop needing to think only about the moment (of survival only) and so can think more of their surrounding environment'*

Challenges

- Difficult working with local government! (finding the right person, no one person can make decisions so timelines slip / deliverables are slow to be delivered on)
- Urban environment – therefore perhaps theft? Not yet, thankfully!
- Large waste companies – want a piece of the pie. Free economy?!?
- New way of thinking – small scale economic approaches, numerous sites, cutting out waste, organic / permaculture gardening, decreasing travel [delivery] distances, etc. Most people still think can't make money this way / large scale agriculture is the only way to go / tradition business model.
- Water – not a challenge in Durban, in fact the opposite – flooding can be an issue. Sensible use of water by capturing rainwater for the winter months.

Imperative for local urban gardens

EAT Lancet Commission Brief for African Cities, 2022

“We can feed 10 billion people a healthy diet within environmental limits by 2050 – but this will require significant efforts to shifts to healthier ways of eating, **reduce food waste and loss by half**, and sustainably increase food production to close yield gaps.”

“The challenge and the opportunity are both to ensure healthy quantities of a diversity of high quality, affordable, and safe foods for the continent’s growing **urban** population.”

eatforum.org



Further Imperative

Fining supermarkets and restaurants for wasting food

In Spain, the government is aiming to reduce the 1,300 tonnes of food wasted every year in the country -around 31kg per person- by drafting an ambitious bill to cut food waste. **All companies involved in the production and supply of food must plan to reduce waste or they could face fines of up to €60,000 - and up to €500,000 for repeat offenders. (R1 million – R8.3 million)**

Global food crisis looms as fertilizer supplies dwindle

Western sanctions on Russia, bad weather, export cuts from Eastern European chemical producers: all of these things have combined to create a severe shortage in agricultural. The chemical fertilizer trifecta that tripled global grain production—nitrogen (N), phosphorus (P), and potassium (K)—enabled the greatest human population growth the planet has ever seen. Now, it is in short supply, and farmers, fertilizer companies, and governments around the globe are scrambling to avert a seemingly inevitable tumble in crop yields.

Regulatory Approvals in SA



Currently allowed to make up to 10T / day of compost on one's own property, without needing a Waste Licence.

Need to **comply with the registration** section of Norms and Standards for organic waste composting set out in June 2021 but yet to be promulgated. Essentially this will entail **providing basic detail to the provincial authority** e.g. location, size, land owner, zoning.

And to end

- Times really are a-changing bought on by climate change; in this country inefficiencies, corruption, joblessness leading to social fervent, increasing fuel and consumer goods prices, broken supply chains, and more.
- Further afield, there is the war between Ukraine and Russia, gas and oil supply/price issues. In my province KwaZulu Natal, last year – floods and civil unrest / riots – people had to queue for food, for hours.
- People need some good news, and people need solutions, including a revival of healthy eating!
- **There needs to be systemic change; we need to adapt our cities and regions in a way which regenerates the living systems on which we depend.**





Thank you!

Give a man compost and he will use it till it is finished; show him how to make compost and he will regenerate the world!

The glory of gardening: hands in the dirt, head in the sun, heart with nature. To nurture a garden is to feed not just the body, but the soul.

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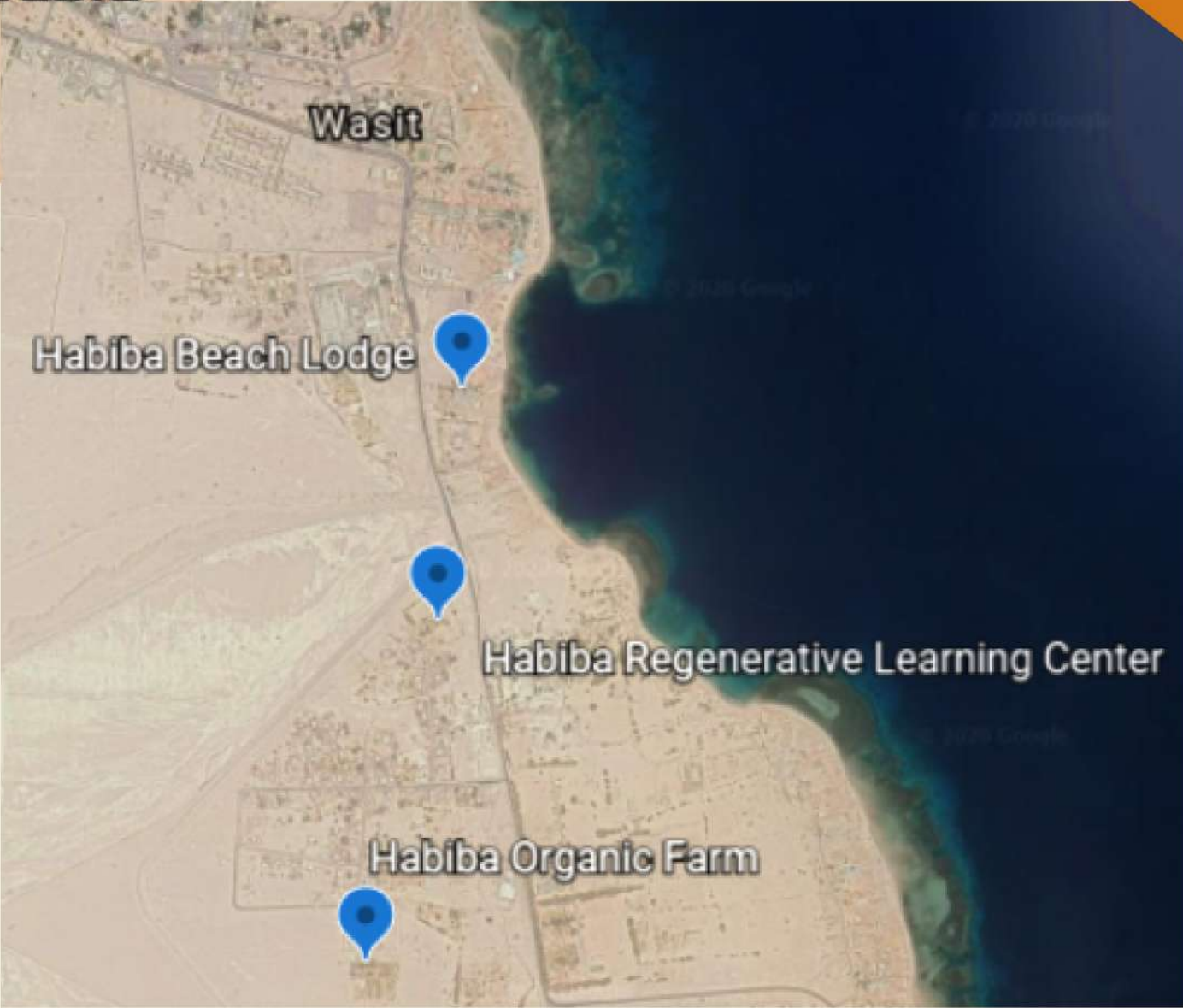
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Habiba Community

Synergizing differences

Our Location



Environmental Challenges

1
Water supplies

2
Soil fertility

3
Sewage and waste management

4
Desertification

5
Flash-floods



Social Challenges

4
Health

2
Youth issues

1
Gender segregation

3
Education



Economic- Political Challenges

1

Seasonal and mass
tourism

2

International crisis

3

Regional instability



Sinai's Conditions

Sinai falls in the arid and semi-arid region, which is characterized by unpredictable rainfall patterns, sometimes of high intensity, short duration, and uneven distribution.

In early 2000, the economic, social and political challenges made Sinai a difficult region in which to live.

The Egyptian companies and the 3 Bedouin tribes of the area were depending on seasonal and mass tourism without thinking about the environmental consequences.



Timeline



1994

Habiba Beach
Lodge



2007

Habiba
Organic
Farm



2009

Certified Model
of WWOOF
International



2011

Certified as
Organic Farm.
Voluntourism,
and
Agritourism
model



2013

Learning
Center, and
The Sinai
Palm
Foundation

Timeline



2015

Womad



2019

Habiba
Regenerative
Farm



2020

Recognized as
a Global
Ecovillage and
as an
Ecosystem
restoration
Camp



2022

Partner of the
Center of
Excellence for
Water and
The Weather
Makers



Our Mission

Synergizing
differences, greening
the desert, providing
food security and
education.

Our Holistic Vision

2

Encourage

Expanding Agriculture Opportunities for Local Families
Stability, less reliance on tourism, as a non-secure income.

3

Secure

Sinai Palm Date Foundation
Plant a palm for tomorrow, providing income for the Learning Center.

1

Prepare

Food Security

Local access to safe and secure nourishment, improving nutrition, decreasing food waste and carbon footprint.



Our Holistic Vision

5

Integrate

Agriculture, Education, & Tourism

Promoting sustainable agriculture, spreading self-sufficiency awareness, preparing a new generation for upcoming challenges.

6

Innovate

Scientific Research Hub

Leading scientific research regionally, supporting accessible facilities for professionals, students and enthusiasts.

4

Engage

Voluntourism

Encouraging young people to engage and volunteer while exploring a new culture, spreading the philosophy, and being the change.





Habiba Organic Farm

Founded in 2007, Habiba Organic Farm acts as a community-based farm that benefits the people of South Sinai. The farm serves as a beacon to what can be accomplished through sound organic farming practices in the desert.

Despite the desert-like nature of the location, there is so much to plant, harvest, learn, and space for growth.

Local people have seen the result, and today agriculture is beginning to flourish across the region.



Regenerative Farm

Founded in 2019, it is the hub that connects people that are facing agricultural challenges, such as water and food insecurity, by using knowledge transfer to create sustainable solutions through local natural resources.

In cooperation with research institutes, the Regenerative Farm aims at becoming an open-air lab for trial experiments and pioneer projects.

It has now become a benchmark for the Beduin community, interns at Habiba use this space to conduct tests on water and soil samples from different farms to find solutions to the local challenges.

Our techniques



For soil preparation, nutrition, and restoration:

- Traditional Compost (kitchen waste, garden waste, mud, manure).
- Compost Tea (for nitrogen, phosphorus, and potassium).
- Molasses (for microorganisms, manganese, and iron)
- Eggshells and Vinegar (for calcium).

Organic mixes to keep invasive insects away:

- Infusion of chilly, garlic, onion, and lemon.
- Sulfate.

To keep the natural humidity in the soil:

- Mixing together sand and compost.
- Covering the field with straw (it helps to protect the soil from the sun).

Our impact

3,500



Trees Planted
(2021)

25



Research Projects
(2019-2021)

40



Families Started
Farming (Since 2013)

250



Kids At The Learning
Center (Since 2013)

10



Women Daily Involved In WOMAD
(Since 2015)

35



Women Involved In Diamonds Of
Sinai (2020)

10



Widows Trained To Farm Their
Backyard (Since 2018)

Long-term objectives

The holistic approach that Habiba is following is focused on sustainability in the long term, by ensuring quality education, natural ecosystem preservation, food security, and the well-being of the community.



QUALITY EDUCATION

- Having an accredited master's degree in Habiba.



INDUSTRY, INNOVATION AND INFRASTRUCTURE

- Having lab equipment for water and soil analysis.



SUSTAINABLE CITIES AND COMMUNITIES

- Becoming an even more integrated community.

Conclusions

Habiba has now a network of 75 farms spread throughout Nuweiba which cooperates on a daily basis to ensure:



**Access to
food**



**Local Economic
Growth**



Education



Health



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Thank you!

