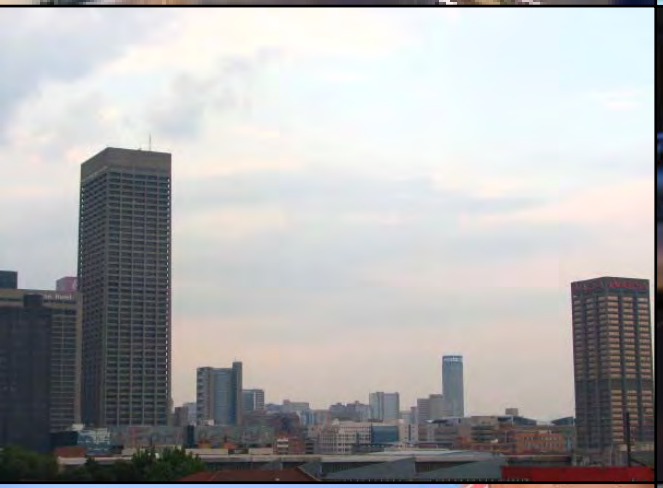
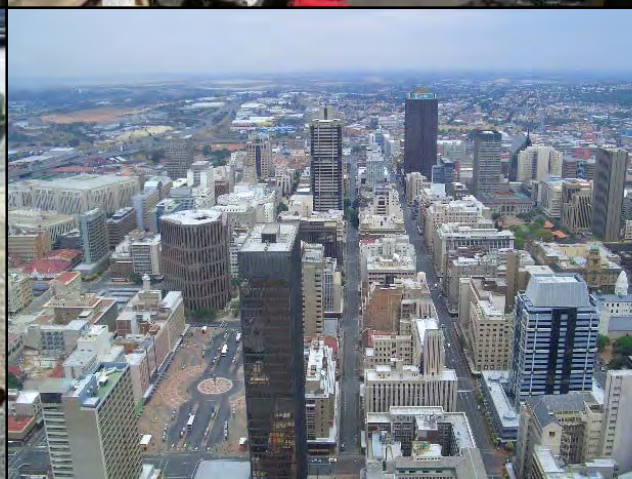
HILLBROW COMMUNITY
HEALTH CENTRE





- Currently, inner city residents comprise of the poor and unemployed, with women,children, the elderly and PLWAs being the most vulnerable
- Urbanisation places a huge burden on the city's natural and environmental resources
- The creation of 'green spaces' can significantly improve living conditions
- Greening JHB beautifies city; added benefit of attracting 2010 tourists
- Successful implementation requires collaborative involvement

Urbanisation in South Africa:

- In 2000 urbanisation was 55%;by 2030 increase to 70.1%
- Rapid urbanisation places huge demands on land, water, housing, transport and employment
- The inner city is characterised by excessive congestion, unfavourable living conditions and insufficient infrastructure, - lead to environmental degradation
- This leads to an increased incidence & prevalence in disease

Effects of urbanisation:

- High levels of pollution from vehicles, cooking and heating
- Environmentally damaging patterns of resource use
- Health problems due to extreme overcrowding
- Flood problems due to concentrated urban development
- Loss of access to agriculturally productive land

Greening JHB has other fundamental benefits:

- Improves access to inexpensive and nutritious food
- Yields a variety of entrepreneurial opportunities for employment
- Affords aesthetically pleasing environments, conserves energy, preserves wildlife, recycles waste and offers educational opportunities
- Addresses environmental hazards such as flooding, and improves the quality of air, water and climate for all

Food Security

- Access to sufficient food is the right of all SAs
- Currently, 35-42 Joburg poor are vulnerable to food insecurity
- The main nutritional problems include stunting, low body weight and micronutrient malnutrition
- Chronically malnourished children suffer from decreased physical activity and lowered immunity
- Nutritional wellbeing requires access by *all* people at *all* times to adequate food, health, education and social care

Key practices/programs that address food security include:

- Increase the access of food-insecure communities to land, technology, and training
- Support job creation through local food production enterprises
- Invest in environmentally sustainable technologies for small-scale gardeners/producers
- Link women, youth and gardeners to the economic mainstream
- Research establishes the value of nutrition and medicinal plant use in mngt of HIV/AIDS and opportunistic infections
- Preferable to promote adequate nutrition through food-based approaches rather than through multivitamin supplementation
- The promotion of sustainable urban agriculture represents one of the most direct and enduring strategies

- *“Aim of the SIYAKHANA FOOD GARDEN project is to establish a model/demonstration site urban agriculture initiative that showcases an integrated food garden/agro ecology system for food production, education, research, and empowerment of the community, through training, employment and income-generating opportunities.”* stakeholder’s knowledge of nutrition and providing them with experience in food production and resource management

Objectives

- Improving the lives of of vulnerable groups by supplementing their nutritional programmes
- Increasing the children attending ECDCs
- Unites key players at national, provincial and local government, thereby facilitating the development of a provincial policy framework and implementation for urban agriculture
- Training in the planning and management of food gardens
- Developing a range of teaching materials
- Provides a advice on garden development and management, nutrition and medicinal herbs
- Engages the local community
- Carries out relevant action based research
- Agri business/entrepreneurship

PROJECT ACHIEVEMENTS

- Demonstrated a garden that produces a range of foods
- Conserve water and other natural resources
- Plant, process, harvest and prepare foods for optimal nutritional value and income
- Practise proper food safety, personal hygiene and sanitation
- Work in a group and solve problems
- Adopt and healthy diet and lifestyle,
- Establishing a nursery, green house and pond for harvesting rainwater
- Harvesting vegetables, herbs and grains for distribution to beneficiaries
- Setting up irrigation systems and producing compost
- Offering training and work opportunities for children from shelters/unemployed youth/adult farmers/private
- Providing a site for volunteers to work in the garden
- Research
- Public awareness; TV, radio, newspapers,newsletter

KEY PARTNERS

Collaboration with organisations include:

- **Food and Trees For Africa**
- **Gauteng Dept of Agriculture,Conservation and Environment**
- **Gauteng Dept of Health**
- **Gauteng Dept of Labour**
- **Gauteng Dept of Education**
- **Joburg City Environment**
- **Joburg City Parks**
- **Joburg City Properties**
- **Joburg City Social Development**
- **A range of Wits Faculties, schools and units**
- **National Development Agency**
- **NGO'S ECDC's**
- **Private Companies**

MOBILISING PARTNERS

ROLE PLAYER	POTENTIAL ROLES
Jo'burg City	▪ Channel rates and taxes to urban greening initiatives ▪ Develop and support the management of green space
NGOs and CBOs	▪ Act as intermediary for community participation in urban greening interventions
Dept of Agriculture, Conservation & Environment	▪ Provide agricultural resources ▪ Provide specialist knowledge in landscaping and horticulture
Dept of Health	▪ Educate community about health benefits of urban greening ▪ Engage with community on nutritious food choices
Dept of Education	▪ Link urban greening issues to the curriculum ▪ Support and initiate school greening projects
Dept of Housing	▪ Support establishment of new green housing projects that could incorporate green spaces in inner city and informal settlements
Dept of Labour	▪ Support the creation of job opportunities
Private Nurseries	▪ Provide free trees, plants and seeds ▪ Donate gardening equipment
Academic Institutions	▪ Mobilise academic departments to provide research ▪ Implement training courses on relevant topics
Private Companies	▪ Provide sponsorship to specific areas of urban greening ▪ Encourage voluntary participation from company employees

Public health - better natural resource management

- The ecosystem approach identifies and evaluates the importance of the various determinants of both the health of an ecosystem and the health of the people who live in it.
- These determinants can be used to develop an appropriate social response & to measure the effectiveness of interventions.
- The ecosystem approach draws on science and technology as well as traditional knowledge to explain the causes and effects that harm ecosystems and public health, and especially linkages between them.
- a multidisciplinary approach is essential to evaluate the impact

Integrative sciences weave disparate strands of knowledge into a broader tapestry of insight.

The ***big picture***, the emphasis is on ***synergies*** and ***relationships***.

APPLICATION-ORIENTED KNOWLEDGE SOCIAL RELEVANCE

Seminal documents on public health (Ottawa Charter; Lalonde Report) → shift towards a broad, ecosystemic approach to health.

Relationships with NGO's → partnership with WITS HPU to implement a food garden project.

A site was identified, and negotiations with various civic and municipal organisations ensured access to and usage of this land.

FTFA training in **Permaculture**.

Ecological Health Promotion

*“not only to **preserve** the state of **health** of a region's inhabitants **by better management of the ecosystem**, but actually to **improve** the local state of **health** through certain judicious interventions.”(Forget &Lebel)*

Various functions and infrastructure are required:

Soil analysis
Shelter
Irrigation
Water Harvesting
Pest Management
Food Storage
Identification of Plants
Benefit from Produce
Energy
Sanitation
Enterprise management & funding
Nutritional & Lifestyle training
Social Mobilisation & Organisation
Transport & Communication
Dealing with cultural diversity and social tensions

How to leverage, coordinate and integrate such a complex array of knowledge and skills?

Permaculture as guideline:

To cultivate a diverse but coherent and context-sensitive knowledge-system, including research, experimentation and training – ***an ecology of knowledge.***

As a design methodology, permaculture is organised around several ***design principles.***

They are ***useful guidelines:***

to meet the challenges inherent in ecological health promotion

to organise the transdisciplinary research and collaboration it requires.

facilitate the functional integration of complex systems

Care for the Earth,
Care for People,
Share Surplus

Mirrors the ***triple bottom line*** of environmental, social and economic sustainability.

Failure to accommodate these factors manifests in illness, poverty, and resource degradation.

This forms the ethical foundation of the project, and a yardstick for interventions.

Work with Nature

Allow environmental context to inform design.

In Siyakhana: project requirements and context have set impulses for research, training and infrastructural development.

Academic Involvement

Soil analysis: Environmental Analytical Chemistry – Prof Ewa Cukrowska

Shelter: Open Synergy & Dept of Architecture & Planning

Water Harvesting: Runoff catchment system by Civil Engineering – Prof Taigbenu

Irrigation**:** Human-powered pump by Dept of Mechanical Engineering – Theresa Hattingh & Rob Crichton

Pest Management: Animal Plant & Environmental Sciences

Food Storage: Refrigeration unit by Dept of Mechanical Engineering – Theresa Hattingh

Academic Involvement

Plant Identification & Documentation: Herb monographs by Pharmacology – *Sandy van Vuuren and Lisa du Toit*

Beneficiation: Home-scale essential oil still Prof David Glasser & Prof Diane Hildebrandt

Energy: Flexopower mobile Photovoltaic system to power field office laptop & communications

Sanitation: Ecosan composting toilets, solar water heaters & greywater system designed by Open Synergy.

Enterprise management: Eco-entrepreneurship support by WITS Enterprise

Green Gym: Centre for Exercise Science and Sports Medicine

Nutritional & Lifestyle training: WITS HPU & Open Synergy

At Siyakhana:

research has generated impulses for cross-disciplinary collaboration and research

e.g. health promotion - ethnopharmacology – chemical engineering – environmental analytical chemistry

Collaboration

Future research and development will build upon the insights gained.

Biomimicry – Copying Nature's Designs

Communication, feedback and coordination – each arm “talks” and “listens” to all the others!

Urban Agriculture in Johannesburg – Risks, Constraints and Strategies based on the Siyakhana Experience

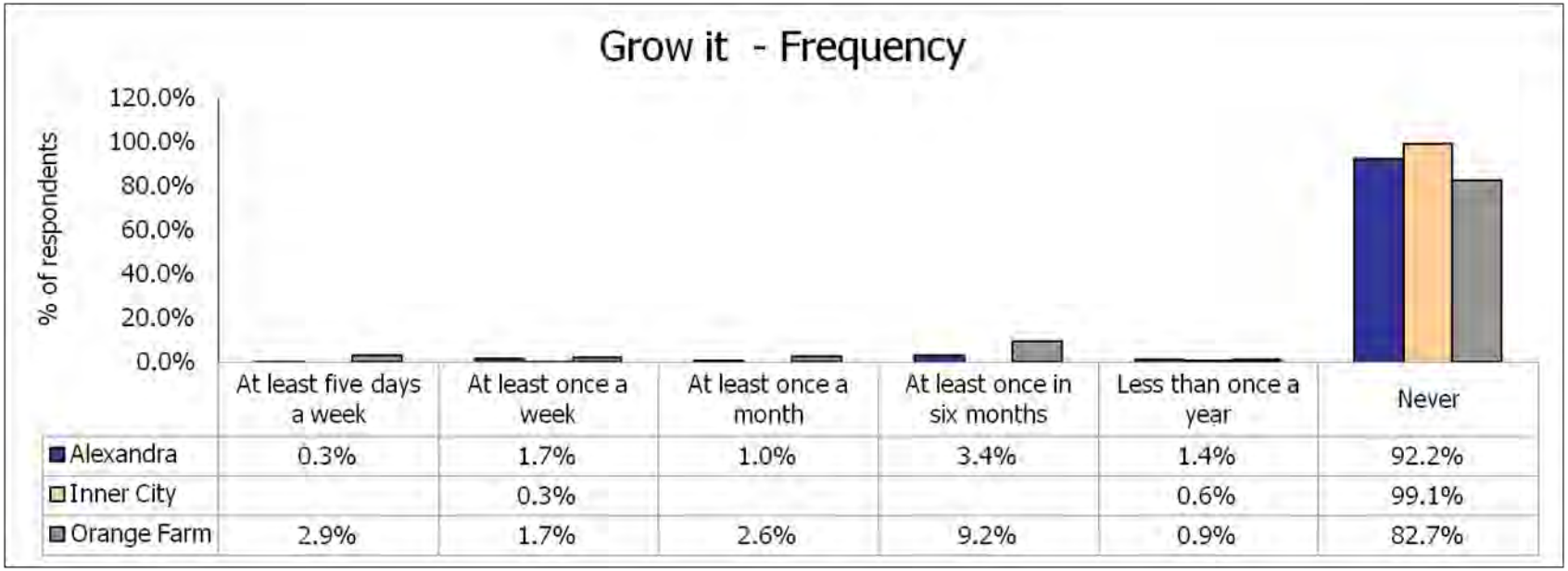
Perceived Potential of UA

- UA seen as strategy to:
- Mitigate food insecurity,
- Improve nutrition
- Encourage alternative livelihoods
- Generate social capital
- Improve urban environment
- Tap into urban waste streams

Marginal Role of UA in Joburg

However, despite the purported benefits, UA remains challenging, and appears to play a very minor role in Johannesburg.

- Up to 95% “failure” rate



	At least five days a week	At least once a week	At least once a month	At least once in six months	Less than once a year	Never
Alexandra	0.3%	1.7%	1.0%	3.4%	1.4%	92.2%
Inner City		0.3%			0.6%	99.1%
Orange Farm	2.9%	1.7%	2.6%	9.2%	0.9%	82.7%

Siyakhana Project - Action Research on sustainable UA

Siyakhana as action-research project into sustainable UA.

Long-term nature of project and strong university involvement has afforded us an insight into many challenges and constraints.

Resource constraints in UA

- Land
- Transport & Market Access
- Seeds
- Fertiliser
- Water & Irrigation
- Security
- Knowledge & Skills
- Capital

Environmental Constraints

- Scarcity of land in dense urban environment
- Cold, dry winters
- Erratic & torrential rainfall
- Extreme weather events, e.g. hailstorms
- Degraded & polluted soils
- Poor organic waste management → rats

Culture, attitude & mentality

- Stigma - UA associated with
  - Poverty
  - Desperation
  - Backwardness
- Paradigms of traditional & industrial agriculture
- Idealisation & Romanticisation by Intellectuals

Inadequate Institutional Support

- Coherent policy?
- Sustainable programmes?
- Expertise & Capacity of extension workers?
- Appropriate legal frameworks (associations? Co-operatives?)
- Obstructionist bureaucracy
- Interdepartmental collaboration?

Civil Society & NGO's

Perceived Lack of Govt Capacity

→ CSI imperative

→ International & Local Development Funding

→ Prominent Role of NGO's & CBO's

Limitations & Challenges of NGO's

- Ideologically motivated,
- Not evidence-based
- Not informed by development methodologies
- Charity paradigm
- Competitive funding environment
- Commoditisation of poverty for CSI Greenwashing
- Short funding timeframes (annual CSI budgets)

Limitations & Challenges of NGO's (cont.)

- Quantity or Quality?
- Dependency on Volunteerism → skills retention??!
- Long-term mentoring & support?
- One-size-fits-all programming?
- Sustainable resource management?
- Expertise and skills of extension workers
- The eternal beneficiary: Dependency on Inputs

Risks

- Marginality
- Inefficiencies → lack of viability & lucrativity
- Cynicism & disillusionment of “beneficiaries”
- Polluted soils → toxicity of produce?

UA resource centres

- Need for sustained investment into UA development nodes
- Tangible examples & hands-on practical training
- Access to locally-appropriate training, mentoring & advice
- Long-term, secure land tenure to develop sustainable production systems (perennial crops)
- Access to appropriate inputs, infrastructure & microfinance

UA resource centres

- Long-term monitoring, evaluation & research
- Implementation & testing of appropriate processes & technologies
- Independence from corporate funding
- Development of local genetic resources
- Integration with local markets and waste management streams
- Strong linkages with local and municipal institutions

UA resource centres

- Alignment with and influence on policies:
  - Land-use
  - Skills development
  - Job placement
  - Education
  - Environment
  - Health

SIYAKHANA FOOD GARDEN