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Food Security Through Garden Projects



# Introduction and Problem Description

Gauteng faces a persistent and concerning challenge of food insecurity, with many households lacking reliable access to nutritious food. Despite being South Africa’s economic hub, the province has high levels of poverty and unemployment, which, combined with rising food prices and the effects of climate change, leave millions vulnerable to hunger and malnutrition.

Community and household food gardens offer a practical and sustainable way to improve food security in Gauteng’s urban and peri-urban areas. By enabling residents to grow fresh fruits and vegetables, these gardens help reduce reliance on purchased food and can generate supplemental income. They also promote healthier diets, strengthen community networks, and build skills that support long-term resilience.

However, establishing and maintaining food gardens in Gauteng can be challenging, especially in densely populated informal settlements where access to land, water, and gardening knowledge is limited.

This report investigates examples of successful food gardening initiatives within Gauteng, analyses their approaches and outcomes, and provides recommendations to support wider adoption of these practices. By highlighting effective local models, the report aims to demonstrate how food gardens can empower communities, contribute to Sustainable Development Goals (SDG 1: No Poverty and SDG 2: Zero Hunger), and promote sustainable livelihoods across the province.

# Research Title

**Investigating the Role of Community and Household Food Gardens in Enhancing Food Security in Gauteng, South Africa**

This research title reflects the main purpose of the study—to identify, document, and analyse food gardening initiatives at both community and household levels within Gauteng. It focuses on understanding how these projects contribute to improved food security, poverty reduction, and community resilience in the province. The study aligns with global Sustainable Development Goals and emphasizes a comprehensive approach: mapping existing gardens, evaluating their practices and outcomes, and generating actionable recommendations to support their wider adoption across Gauteng.

# Aim and Objectives

**Aim:**

**To investigate community and household food gardening initiatives in Gauteng, South Africa; analyse their practices and outcomes; and develop recommendations for expanding and improving food gardens to enhance food security and reduce poverty in the province.**

**Objectives:**

1. **To identify and document at least five active food garden projects within different communities in Gauteng, including both urban and peri-urban settings.**
2. **To analyse the successes, challenges, and sustainability practices of these gardens.**
3. **To use photos, videos, and credible sources to illustrate and support the findings.**
4. **To develop clear, practical recommendations for strengthening existing gardens and establishing new ones, with a focus on increasing community participation and ensuring long-term sustainability.**
5. **To present the research findings in a well-organized formal report and an accompanying website, making the information accessible to a broad audience across Gauteng.**

# Case Studies

### Case Study 1: Siyakhana Food Garden, Johannesburg

Siyakhana Food Garden is an inspiring example of urban agriculture located in the heart of Johannesburg. This permaculture project transforms 1,500 m² of unused city land into productive vegetable beds, yielding approximately 1.5 tons of fresh produce per year and serving around 50 families monthly.

A key factor in Siyakhana’s success is its efficient use of limited space through vertical gardening, which allows higher yields in a small urban plot. The garden also relies on drip irrigation to conserve water; however, frequent municipal restrictions, especially during drought periods when Johannesburg’s dam levels drop below 60% (City of Johannesburg reports, 2023), often force the team to limit planting. Water use reaches about 25,000 liters per month during peak growing seasons.

Maintaining soil fertility requires 5–10 tons of compost annually, but rising costs and difficulties sourcing organic material create ongoing challenges. Pest management is handled organically through intercropping, reducing chemical dependence but requiring constant monitoring.

While Siyakhana generates some income through produce sales, its operating expenses average R15,000 per month and remain largely dependent on donor funding — an unsustainable model over the long term.

Recommendations:

* Install a 10,000-liter rainwater harvesting system to reduce reliance on municipal water.
* Establish local compost collection partnerships to secure affordable organic material.
* Expand produce sales at local markets, which could generate up to R8,000 monthly and help close the funding gap.
* Increase community workshops on composting and garden management to build local capacity and encourage broader resident involvement in maintaining and expanding the garden.

### Case Study 2: Orange Farm Backyard Gardens, Gauteng

In Orange Farm, many families have transformed their backyards into food gardens, using small plots to grow vegetables for household consumption and occasional sales. Surveys indicate that approximately one in four households (around 4,000 families) maintain gardens averaging 20 m², providing enough produce to feed a family of four for 2–3 days per week during the growing season.

These gardens largely depend on seasonal rains, with limited rainwater storage—only about 15% of households have tanks, while most rely on municipal standpipes. As a result, water shortages during dry months frequently lead to reduced yields. Water availability remains the main factor determining planting schedules.

Soil fertility is another significant challenge. Many gardens are established on degraded soils, which can lower productivity by up to 40% compared to plots that receive regular composting. In addition, limited access to gardening knowledge makes it difficult for first-time growers to improve practices.

Recommendations:

* Subsidize 1,000-liter JoJo tanks for backyard gardeners to improve water security and stabilize yields year-round.
* Launch a community-led training program on composting kitchen waste and soil improvement to boost harvests by an estimated 25%.
* Form cooperatives to bulk-purchase seeds and tools, reducing costs and improving access to essential resources.

### Case Study 3: Abalimi Bezekhaya Soweto Garden, Gauteng

Abalimi Bezekhaya’s Soweto project focuses on empowering women to grow food in community and household gardens. A defining factor is the social dynamic: women lead these gardens while balancing childcare and other responsibilities. On average, each gardener spends about six hours per week tending her plot.

The project supports 200 women managing small gardens of 10–30 m², producing 50–100 kg of vegetables annually. Rainwater tanks supply around 60% of irrigation needs, helping stabilize production, although droughts still require significant cutbacks. Limited land in densely populated Soweto constrains how much each family can grow, and security issues such as theft and vandalism further undermine morale and investment.

Recommendations:

* Train gardeners in high-density planting techniques, which could increase yields by up to 30%.
* Establish a fenced cooperative plot to improve security and enable shared labor during peak seasons.
* Organize local markets where women can sell surplus produce, creating additional income and incentives to sustain gardens.

### Case Study 4: Diepsloot Organic Gardens, Gauteng

Diepsloot Organic Gardens trains community members in organic farming, transforming vacant plots into productive spaces. The project covers 5,000 m² of reclaimed land, producing enough vegetables to support 100 households and generating monthly sales of R2,500–R5,000.

A major challenge is insecure land tenure: 70% of participants report fear of losing access to their gardens, which discourages long-term investment and planning. The soil is compacted and low in organic matter (1.5% vs. the recommended 3–5% for vegetables), requiring significant compost inputs to maintain productivity. While rainwater tanks help with irrigation, drought periods still strain the gardens.

Although the community benefits from occasional grants, the project lacks stable, ongoing funding to expand and sustain operations.

Recommendations:

* Secure formal agreements or leases with local authorities to provide land tenure security and encourage long-term improvements.
* Establish a shared composting hub to process around 20 tons of organic waste annually, improving soil fertility and reducing input costs.
* Explore partnerships with local businesses to diversify funding sources and strengthen financial sustainability.

### Case Study 5: Kasid Gardens Pilot Project, Pretoria

Kasid Gardens partners with schools to establish food gardens, using vertical gardening to maximize limited schoolyard space. Each of the three participating schools cultivates about 50 m² of vertical racks, producing 200–300 kg of vegetables per term.

Coordinating planting with the school calendar is both an advantage and a challenge: gardens thrive when classes are in session but often suffer neglect during the 3-month school holidays, when up to 80% of crops die without maintenance. Although rainwater tanks and greywater systems help with irrigation, inconsistent upkeep further threatens plant survival.

Another barrier is limited gardening knowledge among staff—surveys indicate only 20% of teachers have experience, reducing students’ opportunities to learn practical skills.

Recommendations:

* Establish holiday garden clubs involving parents and local volunteers to maintain gardens year-round.
* Integrate a 10-hour basic gardening module into the curriculum to build teacher confidence and sustain student engagement.
* Provide periodic training workshops to strengthen skills and reinforce good gardening practices among school communities..

# Key Observations Across Case Studies

1. **Water security is the most universal challenge; every project struggles during droughts or has limited irrigation resources.**
2. **Soil quality varies widely, but enriching soil with compost is essential for maintaining productivity in all gardens.**
3. **Space constraints are significant in urban areas; vertical gardening and high-density planting provide practical solutions to maximize yields.**
4. **Training and ongoing education are critical; successful gardens prioritize capacity building for participants to improve skills and sustainability.**
5. **Security concerns, such as theft and vandalism, impact garden maintenance and morale; projects with stronger community ownership and protective measures tend to thrive.**
6. **Financial sustainability is a common issue; many gardens rely on external funding or donations, highlighting the need for income-generating activities and diversified revenue streams.**
7. **Community involvement and social dynamics strongly influence success; gardens led by motivated groups, especially women, show greater resilience and impact.**
8. **Access to resources—including seeds, tools, water storage, and compost materials—varies and often limits productivity; cooperatives or partnerships can improve resource availability and reduce costs.**
9. **Integration with local institutions, such as schools or municipal programs, enhances support and visibility for food gardens.**
10. **Monitoring and evaluation are often lacking but essential to track progress, demonstrate impact, and inform improvements.**

# Recommendations Across All Projects

# Promote rainwater harvesting systems to enhance water security and reduce dependence on municipal supplies.

# Support and expand local composting initiatives to improve soil fertility and reduce input costs sustainably.

# Implement community-led, ongoing training programs to develop gardening skills and promote best practices.

# Encourage the use of vertical gardening and high-density planting techniques to maximize yields in areas with limited space.

# Develop and strengthen local cooperatives to facilitate bulk purchasing, improve market access, and increase bargaining power.

# Advocate for secure land tenure or formal agreements to provide gardeners with confidence for long-term investment.

# Facilitate income-generating activities, such as local markets or produce sales, to improve financial sustainability of gardens.

# Foster strong community involvement and ownership to improve garden maintenance, security, and social cohesion.

# Integrate food gardening projects with local institutions (e.g., schools, municipalities) for broader support and resource sharing.

# Establish regular monitoring and evaluation systems to assess garden performance, identify challenges, and guide improvements.

# Method of Data Collection

**This research used secondary online sources to gather information on food gardening projects in Gauteng. Data came from NGO websites, news articles, videos, and project reports. Visual materials were collected to support case studies. Information was organized using Word and Excel, with team collaboration through cloud platforms. Findings will be presented in a report and website, with sources cited.**

**Key steps included targeted internet searches, reviewing NGO materials (e.g., Abalimi Bezekhaya), watching relevant videos, analyzing news coverage on urban agriculture in Gauteng, and summarizing details from five selected projects.**

# Conclusion

This research highlights the critical role that community and household food gardens play in enhancing food security within Gauteng. The case studies demonstrate that, despite challenges related to water availability, land constraints, soil quality, and financial sustainability, food gardens offer a viable and practical strategy to improve access to fresh produce and support vulnerable populations.

Key factors influencing success include effective water management through rainwater harvesting, soil fertility enhancement via composting, capacity building through ongoing training, and strong community involvement. Additionally, securing land tenure and establishing cooperative structures are essential for long-term sustainability.

The findings and recommendations presented provide a foundation for policymakers, practitioners, and stakeholders to support and expand food gardening initiatives in Gauteng, contributing to broader goals of poverty alleviation and improved nutrition in the region.

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