



HOLISTIC
LEARNING
INNOVATIONS

OPEN KITCHEN GARDENS

Country: Kenya

Target Age: 8-10 Years

Learning Areas: Science | Health and Nutrition |

Climate Awareness | Numeracy | Taking

Responsibility | Leadership

THE CONTEXT

Three schools — Ziwa la Ng'ombe, Makande, and Saint Mary's Comprehensive — sit within or adjacent to some of Mombasa's most densely populated informal settlements, including Bangladesh, the second largest slum in East Africa. Together they serve over 3,000 students. Overcrowded classrooms, chronic food insecurity, and high absenteeism are everyday realities here, compounded by a limited understanding of climate change and how to respond to it. For many learners, the school environment offers little connection between what is taught and what is lived.



Bangladesh – The Second Largest slum in East Africa; Photographer: Anthony Kalume



A grade three learner tending to plants as part of the management practices



Crops grown in the kitchen garden

THE CHALLENGE

How might we improve nutrition, reduce absenteeism, and build resilience against the health and food security challenges caused by climate change?

For Grade 3 learners across these three schools, hunger and poor nutrition were directly affecting attendance and engagement. Without reliable access to food at home or school, many children simply couldn't be present — or present enough to learn effectively. At the same time, students had little practical knowledge of where food comes from, how to grow it, or how climate change was threatening their communities' food systems.

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“Our kitchen garden has helped me how to plant, tend plants, and even take care of them together with my friends. The sukuma we harvested we can go home and cook – it gives us health and sweetness. My mother is very happy.”

Ruth Esther, Grade 3 learner

THE SOLUTION

OPEN KITCHEN GARDEN

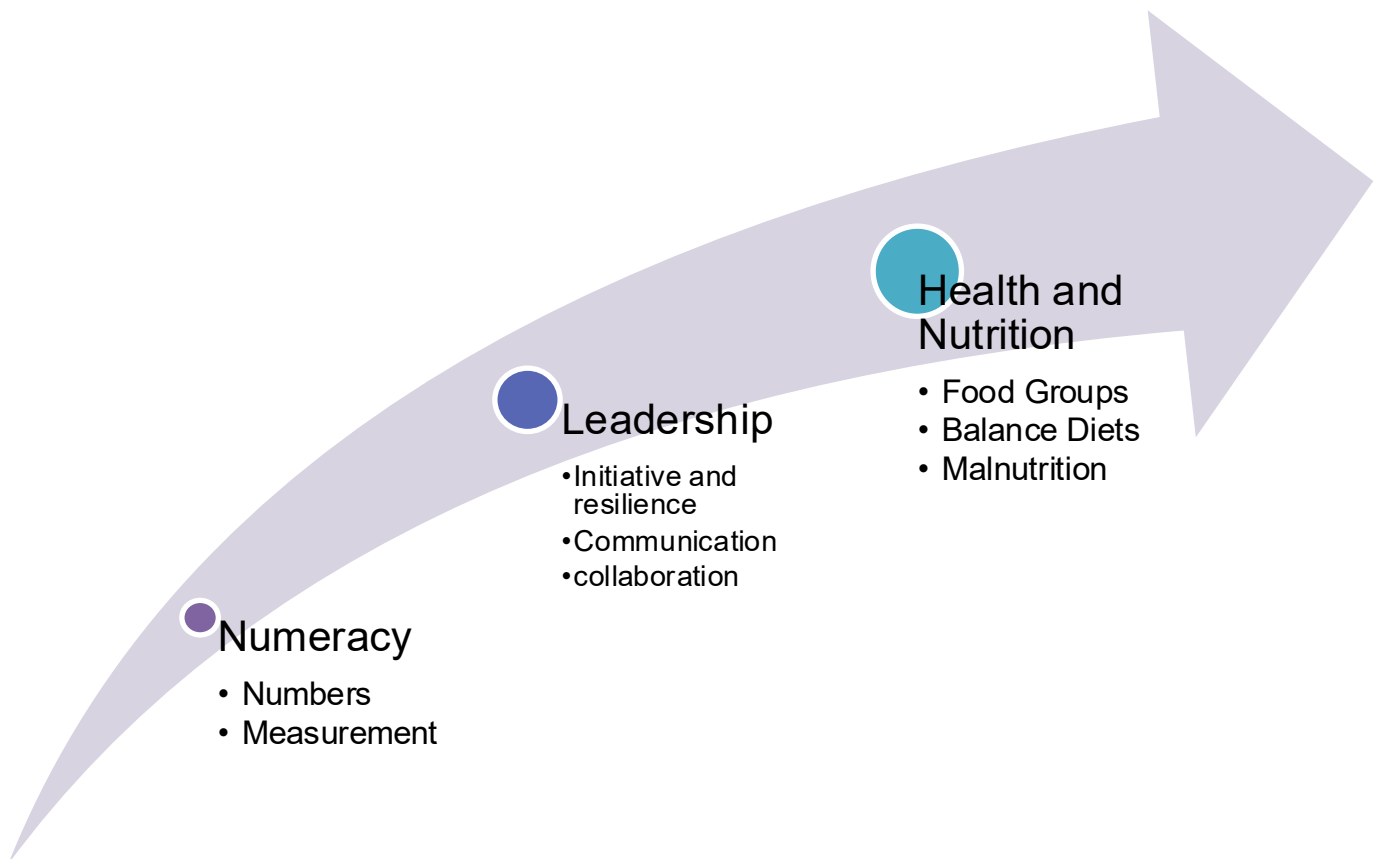
The Open Kitchen Garden transforms unused or underused school land into a living classroom. Grade 3 learners take part in every stage of the agricultural cycle — land preparation, seed planting, transplanting, crop management, and harvesting — integrating hands-on practice with routine classroom assessments to deepen and reinforce learning.

The model is deliberately community-facing. Parents and school leaders are involved from the outset, and students are encouraged to take their skills home and start gardens with their families. The approach hasn't been without its challenges — pest outbreaks, security concerns in Ziwa la Ng'ombe, monkey disruptions in Makande, and issues like plant dwarfism have all required adaptation — but these obstacles have become part of the learning, building resilience and problem-solving alongside agricultural knowledge.

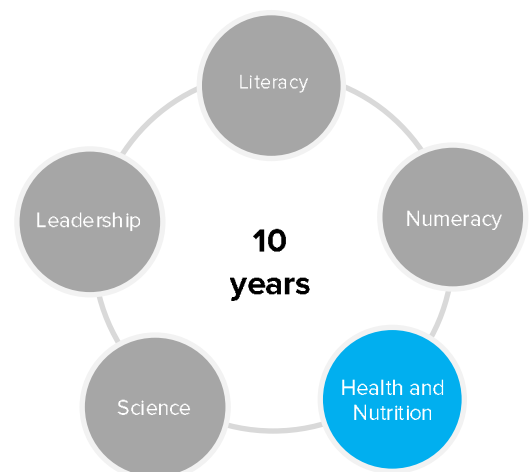
Grade three learners taking part in land preparation



Competencies Targeted



The learners apply knowledge in health and nutrition, and environmental education while connecting learning to real-life needs. In addition, learners develop essential cognitive and life skills such as communication, collaboration, leadership, critical thinking, and self-confidence; that empower them to become proactive, responsible, and solution-oriented individuals. By engaging in teamwork and problem-solving, learners cultivate a sense of ownership and agency that extends into their homes and communities.



THE IMPACT

Improved nutrition, reduced absenteeism, and stronger community food resilience across three schools.

The kitchen gardens have delivered measurable results across all three schools. Makande and St. Mary's both recorded a 20% improvement in academic performance, with Ziwa la Ng'ombe seeing a 10% gain. Beyond the scores, each school has seen its own distinct shifts: Ziwa la Ng'ombe has reported stronger learner communication, collaboration, and performance in health and nutrition; Makande has seen reduced absenteeism and truancy, better parental engagement, and a positive change in attitude towards school; and St. Mary's has recorded notable growth in learner self-esteem, leadership, and confidence.

The ripple effects have extended well beyond the school gates. Families have begun replicating gardens at home, strengthening food security at household level, and the model has inspired neighbouring schools to adopt similar approaches. Sustainability has been built into the initiative from the start: school leaders, parents, and community members have been involved throughout, ensuring ongoing support and oversight rather than relying on any one teacher to carry it forward.



Learners taking part in harvesting: Photographer: Kerry Ndoro

SUSTAINABILITY

Looking ahead, the team has set out an ambitious replication strategy: mentorship programmes running from teacher to teacher, teacher to learner, and learner to community; collaboration with the Ministry of Agriculture for technical support and wider expansion; and sharing of success stories and practices online to inspire other schools. The long-term goal is a generation of young people with the agricultural knowledge, practical skills, and environmental awareness to lead locally-rooted solutions to food security and climate change.

"Kitchen gardening supports our vision of a hands-on, holistic education. It teaches responsibility, sustainability, and teamwork — values that go beyond the classroom."
— Mwanamisi Matano, Head Teacher, Ziwa la Ng'ombe Comprehensive School

Meet the Teachers



KERRY NDORO

Teacher

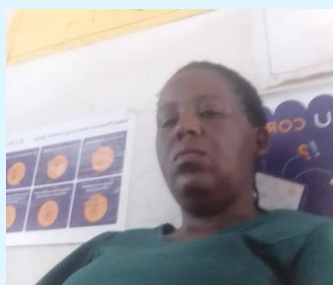
My name is Kerry Ndoro, a teacher at Makande Comprehensive School. I have been implementing the Kitchen Gardening solution for the past nine months. My favorite aspects of this work include the supportive community I am inspired by the learners' intrinsic motivation towards gardening and the adoption of gardening skills by learners, teachers, administrators, and parents alike. The positive feedback from parents and administrators, regular follow-up sessions by AKF, and the rewarding experience of harvesting after planting have made this journey deeply fulfilling.



REGINA MAINA

Teacher

Regina N. Maina is a passionate teacher at Ziwa La Ng'ombe Comprehensive School with 19 years of experience nurturing learners' academic and personal growth. She promotes inclusive, student-centered learning and leads initiatives like the school's kitchen garden. Outside the classroom, she enjoys gardening, volunteering, and reading, which keep her inspired and balanced.



CECILIA MULI

Teacher

Cecilia Muli is a teacher at St. Mary's Comprehensive School, Bangladesh. For 10 months, she has led a kitchen garden project with Grade 3 learners and the community, fostering knowledge, skills, and positive habits, with the goal of improving food security for the future.



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