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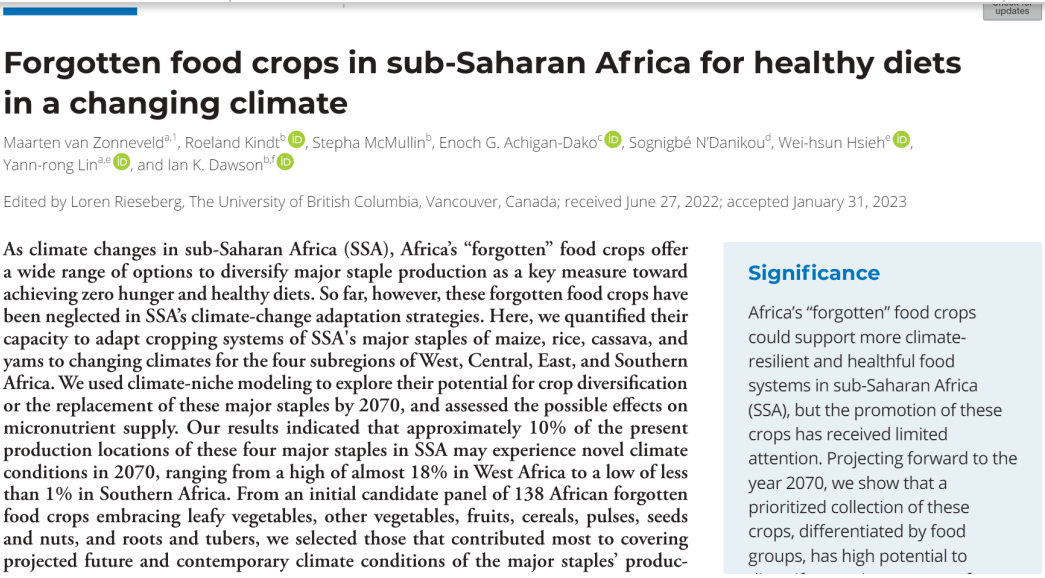
World Vegetable Center

Healthier lives, more resilient livelihoods through greater diversity in what we grow and eat

Top stories



Forgotten food crops in sub-Saharan Africa for healthy diets in a changing climate

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Edited by Loren Rieseberg, The University of British Columbia, Vancouver, Canada; received June 27, 2022; accepted January 31, 2023

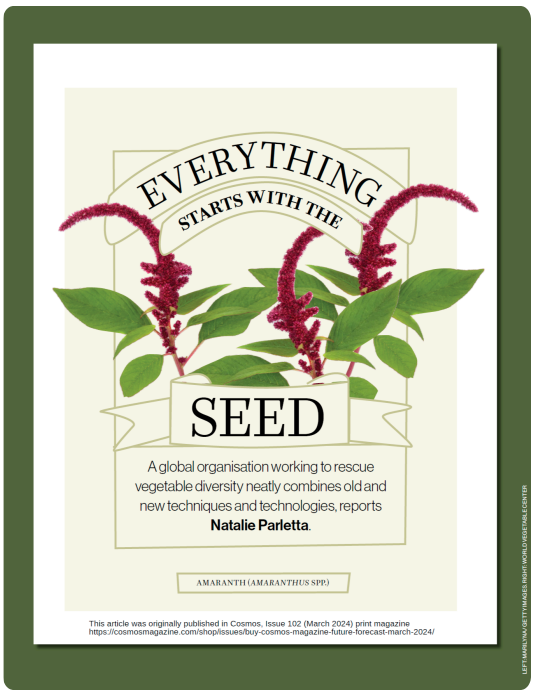
As climate changes in sub-Saharan Africa (SSA), Africa's "forgotten" food crops offer a wide range of options to diversify major staple production as a key measure toward achieving zero hunger and healthy diets. So far, however, these forgotten food crops have been neglected in SSA's climate-change adaptation strategies. Here, we quantified their capacity to adapt cropping systems of SSA's major staples of maize, rice, cassava, and yams to changing climates for the four subregions of West, Central, East, and Southern Africa. We used climate-niche modeling to explore their potential for crop diversification or the replacement of these major staples by 2070, and assessed the possible effects on micronutrient supply. Our results indicated that approximately 10% of the present production locations of these four major staples in SSA may experience novel climate conditions in 2070, ranging from a high of almost 18% in West Africa to a low of less than 1% in Southern Africa. From an initial candidate panel of 138 African forgotten food crops embracing leafy vegetables, other vegetables, fruits, cereals, pulses, seeds and nuts, and roots and tubers, we selected those that contributed most to covering projected future and contemporary climate conditions of the major staples' produc-

Significance

Africa's "forgotten" food crops could support more climate-resilient and healthful food systems in sub-Saharan Africa (SSA), but the promotion of these crops has received limited attention. Projecting forward to the year 2070, we show that a prioritized collection of these crops, differentiated by food groups, has high potential to

A step forward in turning 'forgotten foods' into 'opportunity crops'

The paper won the prize in the Applied Biological, Agricultural, and Environmental Sciences category. Research was led by Maarten van Zonneveld, World Vegetable Center Head of Genetic Resources, with co-authors Roeland Kindt, Stepha McMullin, Enoch Achigan-Dako, Sognigbé N'Danikou, Yann-rong Lin and Wei-hsun Hsieh and Ian Dawson from different institutions including WorldVeg, CIFOR-ICRAF, University of Abomey-Calavi, National Taiwan University, and Scotland's Rural College.



"Everything starts with the seed" – a story about the work of WorldVeg

With the subtitle "A global organisation working to rescue vegetable diversity

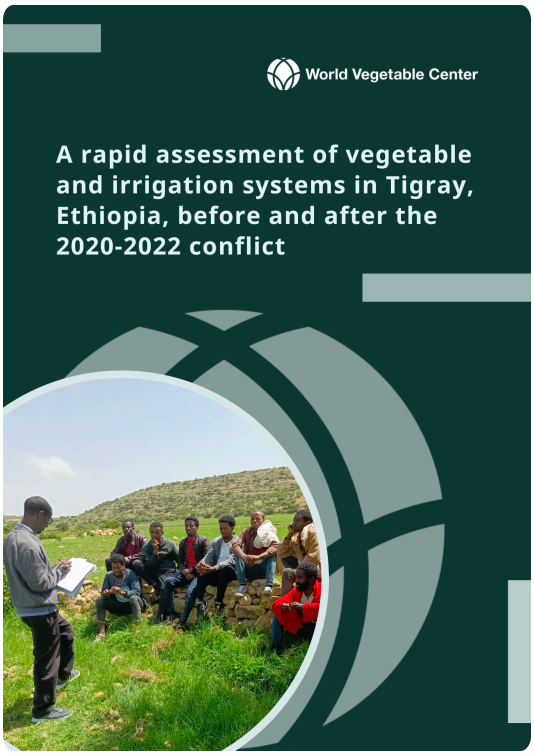
WorldVeg, committed to the Vision for Adapted Crops and Soil (VACS) initiative

The Vision for Adapted Crops and Soils (VACS) launched on 30 January 2023, marks a pivotal moment in the journey towards climate resilient food systems in Africa. Spearheaded by Cary Fowler at the Office of the Special Envoy for Global Food Security in the US Department of State, in partnership with the African Union and FAO, VACS aims to empower African governments,

presents a most informative description of the wonderful world of vegetables, and the role of WorldVeg. Over ten colorful pages, the article describes numerous facets of how the Center contributes to safeguarding and sharing this biodiversity, that is essential for a more resilient future for farming, food production and the livelihoods of smallholder farmers, processors and traders alike.

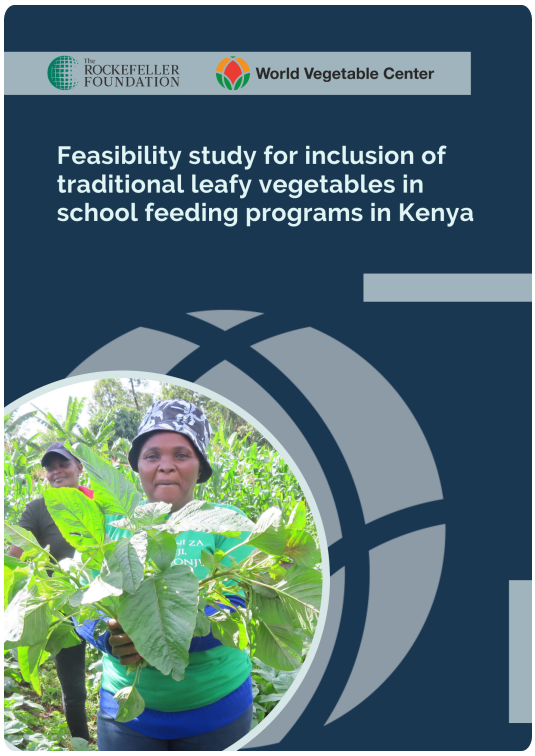
the challenges posed by climate change.

New research reports



A new report assesses vegetable and irrigation systems in Tigray, Ethiopia, before and after the 2020-2022 confilict

Before the 2020-2022 conflict in Tigray, most people relied on smallholder agriculture for food and income. But the



Nutritional and economic benefits of including traditional leafy vegetables in school feeding programs in Kenya – new report

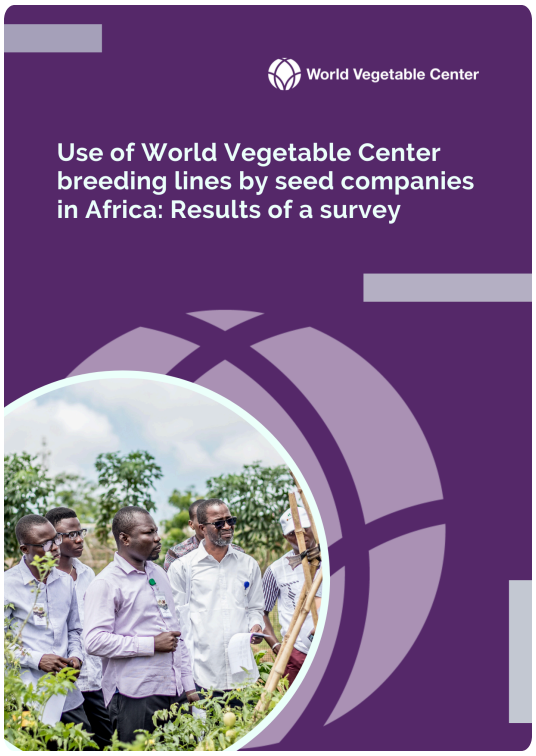
Producers and consumers in the study areas in Kenya expressed a strong willingness to include vegetables in school meals. With tasty recipes for

The extent of impacts on vegetable production was not known, however, so this assessment was undertaken on vegetable systems, including irrigation which is a key resource for production.

The impacts of school feeding and school gardens in Eswatini, on children's dietray preferences and practices - a new report

Can involving children in school gardens, and contracting local farmers to supply vegetables to school canteens, increase children's knowledge, enjoyment and intake of vegetables? This study in 24 primary schools across Eswatini evaluated the impact of improved school gardens and home-grown school feeding programs, with a focus on traditional African vegetables. It was funded by the Ministry of Agriculture and Ministry of Foreign Affairs, Taiwan, through the Taiwan Africa Vegetable Initiative.

meal programs could change the dietary preferences of young children that would have a lasting impact, hence creating long term health benefits.



Use of WorldVeg breeding materials by seed companies in Africa – results of a survey

This report results from the first survey among seed company members of the Africa Vegetable Breeding Consortium (AVBC), that was established in 2018 as a partnership between the African Seed Trade Association (AFSTA) and the World Vegetable Center. AVBC had 54 members in 2022, of which 44 are seed companies (full members) and 10 are associate members including knowledge partners such as universities and NGOs interested in vegetable variety development.

Africa

PRESS RELEASE - Research paper on Africa's 'forgotten' foods wins prestigious Cozzarelli Prize in Washington, DC

An international research team led by the World Vegetable Center (WorldVeg), and including scientists from the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF), has won the 2023 Cozzarelli Prize for an article on the potential of 'forgotten' food crops in sub-Saharan Africa to provide healthy diets in a changing climate.

Celebrating the amazing achievements of the Taiwan Africa Vegetable Initiative

The Taiwan Africa Vegetable Initiative (TAVI) end of project workshop took place on 14 March 2024 in Manzini, Eswatini, attended by more than 150 participants – a day full of festive mood given the remarkable impacts that the project had. There were speeches celebrating the partnerships and collaboration between the governments of Eswatini and Taiwan, the World Vegetable Center, TAVI implementing partners, and many other stakeholders.

Africa's Vegetable Genebank opens, in Tanzania

The World Vegetable Center officially opened Africa's Vegetable Genebank on 19 March 2024, at its regional center for Eastern and Souther Africa, in Arusha,

A new genebank for southern Africa and the SADC region, in Eswatini

A new genebank at the National Plant Genetic Resources Centre of the Eswatini Ministry of Agriculture was inaugurated at Malkerns Research

established in 1992, later upgraded into a genebank in 2017. The new infrastructure was constructed and equipped with generous funding from the Republic of China (Taiwan) through the TAVI project.

Tshawuka, Minister of Agriculture, Kingdom of Eswatini. Other special guests included His Excellency Ambassador Jeremy Liang of the Taiwan Embassy in Eswatini; Grace Lin, Department of External Affairs, Ministry of Agriculture, Taiwan; Sydney Simelane, Principal Secretary, Eswatini Ministry of Agriculture; Justify Chava, Head of the SADC Genetic Plant Resources Center; and Marco Wopereis, WorldVeg Director General.

Amaranth – a new crop becomes a turning point for women in Zanzibar

Through the AID-I (Accelerated Innovation Delivery Initiative) project on Zanzibar Island, WorldVeg is promoting home gardening among women, with over 500 participants actively engaged in cultivating vegetables. By introducing a variety of vegetable varieties to the Island, these women have not only increased the availability of quality vegetables but have also attracted customers, thereby contributing to the local economy.

Sowing 'seeds of change' in Kenya: impacts of the Greener Greens project

World Vegetable Center (WorldVeg) and SNV concluded phase one of the Greener Greens project in Murang'a County, Kenya, with an engaging two-day workshop from 28th to 29th February 2024. The event gathered government representatives, civil society organizations, research institutions, universities, input suppliers, and local farmers.

Farmers were enlightened and excited about what they saw and heard during a field day on 29 February. It was a multifaceted event that aimed to empower farmers with new knowledge on good agricultural practices, and provide a platform for information exchange and networking across the value chain.

high quality vegetable seeds in Djibouti

The Djibouti government is increasingly prioritizing local food production to reduce its dependency on imports. But there is currently no local seed production, and in response to this, the World Vegetable Center is supporting the Ministry of Agriculture (MAEPE-RH) to develop the vegetable seed sector, in partnership with national institutions including the Life Sciences Institute of Djibouti Centre for Studies and Research (ISV-CERD) and the Directorate of Agriculture and Forestry (DAF).

Asia

Saving and sharing Asian vegetable biodiversity – an international learning experience

Vegetables are hugely important for human nutrition, and for diverse and resilient farming systems that generate income for smallholder producers, processors and traders. But, due to changes in diets and the climate, urbanization and other land use change, crop diversity is being rapidly lost, alongside wild species and varieties that could hold valuable genetic material for breeding higher yielding and more tolerant crops in the future.

Making mungbean more productive and profitable at the 2024 International Mungbean Congress

More than 100 participants from 25 countries gathered for the 2024 International Mungbean Congress in Bangkok, Thailand from 5-7 March. Major stakeholders of the mungbean industry had the rare opportunity to listen to each other, discuss current status, and plan for the future.

Revolutionizing food safety in Cambodia with new pesticide residue testing technology

In a pioneering initiative, WorldVeg collaborated with the University of the Philippines Los Baños (UPLB) and the Bureau of Plant Industry (BPI) to host a series of farmer field days to promote good agricultural practices for key vegetable crops, part of the Fruit and Vegetables for Sustainable Healthy Diets (FRESH) project. The first event was on

Building capacity to accelerate vegetable breeding in Nepal

Low investment in vegetable research and development in Nepal has meant that there is limited capacity strengthening and resources for much needed large scale breeding programs. This results in high dependence on other countries for an adequate supply of seeds, as well as produce. Farmers face unstable seed supplies of inconsistent quality and of poorly

came to Dolores barangay, Santo Domingo, Nueva Ecija, hosted by Aurelio Rodriguez on his farm to look at eggplant production.

Unveiling tomato genetics: Exploring exclusive lines adapted to India's agricultural landscape

In the dynamic agricultural landscape of India, the World Vegetable Center has for many years been leading a strategic mission to evaluate and select tomato lines adapted to the diverse conditions found in the country. As part of this ongoing work, a team of researchers came together in March 2024 at the WorldVeg South and Central Asia regional center in Hyderabad, to undertake a meticulous appraisal of exclusive tomato lines selected for members of the WorldVeg Asia-Pacific Seed Association (APSA) consortium.

and loss of incomes.

Unveiling new knowledge on plant resistance to insects at a landmark symposium

Drawing an audience of almost 100 experts from 17 countries for four enriching days, the 26th Biannual International Plant Resistance to Insects Symposium (IPRI 2024) was held this on 22-24 April at the World Vegetable Center headquarters in Taiwan. A collaborative effort between the World Vegetable Center, National Taiwan University and the National Chung Hsing University, this had particular significance this year, as it also celebrated the 50th anniversary of IPRI.

Americas

Promoting proficiency for breeding new vegetable varieties in the Americas

With the support of the Government of Taiwan, WorldVeg began a project in 2021 with a major focus on developing a vegetable network in the region to improve production and introduce and promote new vegetable varieties for domestic and export markets to sustainably improve the livelihoods of resource-poor populations in seven countries in Latin America and the Caribbean.

Upcoming events

APSA-WorldVeg Vegetable Breeding Consortium Annual Workshop, Taiwan

7-9 May
WorldVeg HQ, Shanhua, Taiwan

29 May - 6 June
WorldVeg HQ, Shanhua, Taiwan

8th Asian PGPR international conference for sustainable agriculture

24-27 September
WorldVeg HQ, Shanhua, Taiwan

New projects

[Onion Value Chain Improvements in Odisha State-Phase 2]

[A Sustainable Agrifood Systems Approach for Sudan (SASAS):]

[Vegetables for Income, Nutrition and Employment in Sudan (VINES), 2022-2024]

Loofah Project

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(January-April 2024)

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