



A mini Barefoot Guide
Agroecology Series

SURVIVING COVID-19

THE
NEGLECTED
REMEDY

By the Natural Food
Barefoot Guide Writer's Collective
2020

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THE NATURAL FOOD BAREFOOT GUIDE

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ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA

A PUBLICATION OF THE ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA (AFSA):

"The Alliance for Food Sovereignty in Africa (AFSA) is a broad-based alliance of different civil society actors that are part of the struggle for food sovereignty and agroecology in Africa. These include African farmers, pastoralists, fisherfolk organisations, indigenous peoples' networks, faith-based institutions, youth and women networks, African indigenous NGO networks, consumer movements in Africa, international organisations which support the stance of AFSA, and individuals. It is a network of networks and currently with 40 active members. It is the biggest civil society movement in Africa and members work in 50 of the 55 African countries."

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A MESSAGE FROM COORDINATOR OF THE ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA (AFSA)

– Million Belay –

Like most mothers, mine is a magician as far as food is concerned. I marvel at the speed of her cooking as well as the taste of her dishes. One thing that fascinates me is the power of the porridge that she brought to each of my children when they reached six months of age. It included a variety of beans, leaves and a mix of grains. At first, they found it difficult to eat but slowly they got used to it and even craved it.

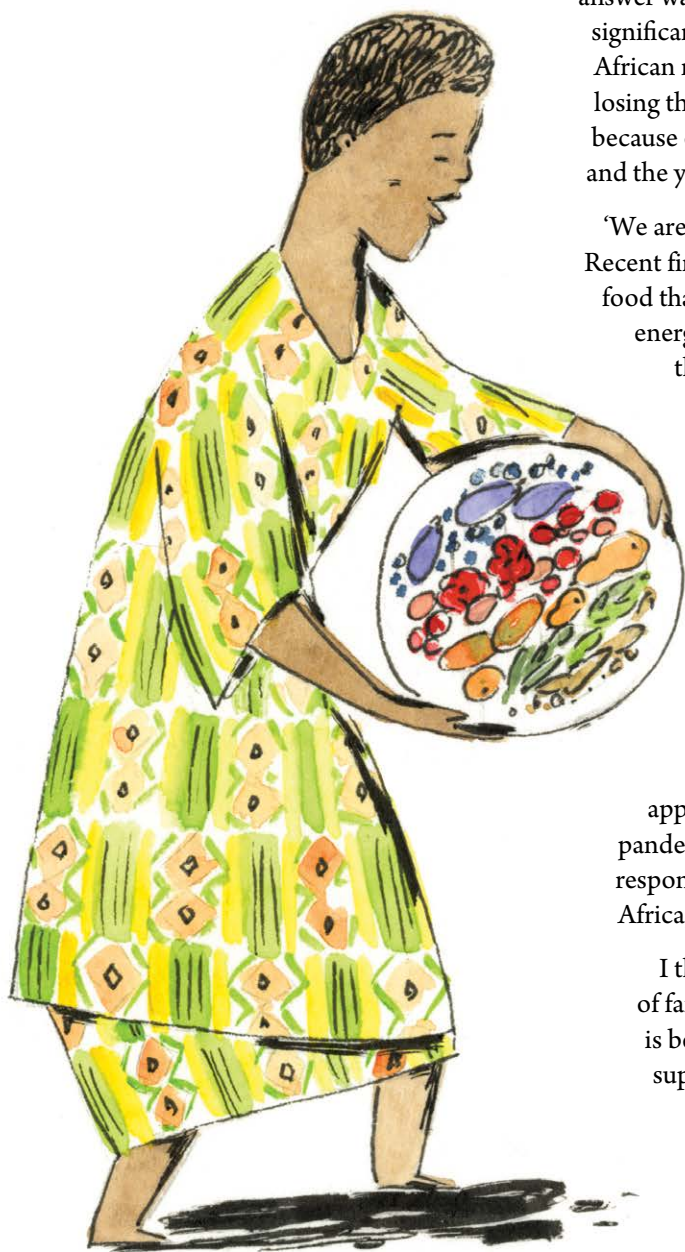
Why I mention this is that I had a chance to be a keynote speaker at the 2015 EAT Stockholm Food Forum, a yearly event focusing on food system change. There was someone representing the Bill and Melinda Gates Foundation who came to launch the Foundation's new program on nutrition for Africa and one of the countries chosen was Ethiopia. We had a panel debate and remembering my mother's porridge I asked if the Foundation talked to African mothers

when they prepared their nutrition recommendations for Africa? The answer was 'probably not.' I think this is where this guide will make a significant contribution – highlighting the significant contribution of African mothers to nutrition. This is a much-forgotten issue. We are losing the knowledge of African elders not only as they pass on but also because of the growing disconnect between elderly knowledge holders and the younger generation.

'We are what we eat.' Is this true? The answer is an emphatic 'Yes!'. Recent findings in science, both behavioural and biological, show that the food that we eat affects our mood, our health, our mental capacity, our energy level and, in general, our health. Therefore, it is appropriate that this publication connects nutrition and COVID-19. The data across nations has proved that the disease compromises those with poor health.

The emphasis in this Guide is on the use of natural fertilisers and biopesticides instead of nutrient-limiting agrochemicals, the value of a diverse diet, as we find in our traditional African meals, and the connection between microbial diversity in the soil with the microbial diversity in our stomach. In this way, this Guide is groundbreaking. AFSA feels that agroecology, with its emphasis on diversity, natural ways of farming, traditional ecological knowledge and a farmer-centered approach is the best way of countering COVID-19 and future pandemics, as well as other diseases. This Guide is a much-awaited response to the call for the best diet in these times of COVID-19 in Africa, and a further testimony that agroecology works for Africa.

I think if my mother was living today and if I asked her what kind of farming she prefers, she would definitely say agroecology. This is because she would know that it works and that it would keep supplying her great grandchildren with the best porridge.



INTRODUCTION

How best can people across Africa deal with COVID-19? How can those in densely populated urban areas or in remote rural villages best survive COVID-19 if they get infected?

There are several answers to these questions. But there is one that we must never forget: eat a variety of nutritious, wholesome food that is produced without heavy use of toxic sprays and has no added chemicals. Eat how most grandmothers taught their children to eat. Learn about and celebrate your traditional diet, while improving it wherever you can, using modern scientific knowledge. Eat a variety of food. Eat a balanced diet. Eat natural foods. It's not complicated.

Of course, you must also do all the protective actions such as washing hands regularly, keeping a distance from people and wearing a cloth face mask. That is understood. But over and above all this is the critical importance of being healthy, of strengthening your body's immune system to reduce the severity or serious effects of the virus and help it to heal should you catch it. Food is essential to our immune system and good health in general and not just any food, but naturally grown, safe, diverse and nutritious food. This has been largely neglected in all the information shared about COVID-19. In short, a variety of nutritious, natural food is medicine!

We cannot predict what will happen with this virus but whatever happens, we will be better off if we eat healthy food. A drive across Africa to eat natural, diverse, wholesome food, using our traditional diets as a basis for what we eat, will bring many benefits. Apart from helping to cope and recover better from COVID-19, it will also lower the number of new cases of many modern diseases such as diabetes, high blood pressure and cancers.

Let us not forget that growing our own food and buying from local growers supports food and income security, strengthening the local economy. It also reduces plastic packaging waste, greenhouse gas emissions, and higher transport costs that usually come with imported food and the damage the plastic packing does to the environment.

COVID-19 is a wakeup call to us all. Let's turn the tide away from over-processed foods that are often grown using chemicals and instead build a healthy norm, by eating a great variety of nutritious, locally produced natural foods, including indigenous crops and vegetables that we have often dropped from our diets.

We (the writers) have created this Barefoot Guide to help us all better survive COVID-19. It includes topics on what COVID-19 is, why food is the best medicine, and how to obtain and prepare the food to maintain its medicinal value and what you can do to promote this marvelous gift from nature. Enjoy and share with your families, neighbours, students, friends and colleagues. Good health!



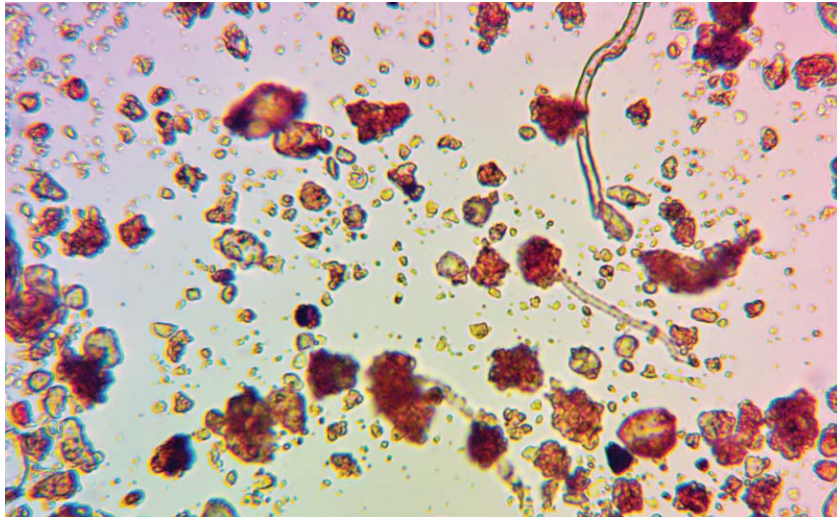


Photo © Juanfran López, www.juanfranlopez.com

SOIL MICROBE BIODIVERSITY

What you can see in the photo is what we can't normally see with our naked eye. The photo has been magnified many times to enable us to see some of the microbes that make soil alive. Our health starts with growing food on living, healthy soil, full of a great number and diversity of these microbes. These include various bacteria, fungi and many others too. They keep the plant healthy by providing it with nutrients while the plant feeds the microbes through its roots.

Chemical poisons kill many of these microbes that are essential for plant growth.



Photo © John Wilson

SEED DIVERSITY

Being healthy means eating a diversity of foods. Growing a diversity of foods starts with having a diversity of seed, as seen here in this picture taken at a rural seed fair in Zimbabwe. Traditionally, in rural communities across Africa, farmers have saved their own seed. This is seed that suits their own particular environment. This is even more important with climate change. We have to work hard to strengthen farmer seed systems. All across Africa, farmers are losing their local seeds, developed over generations, because they are being pushed out by commercial hybrid seeds that have to be purchased every year.

THE BEST MEDICINE TO FIGHT THE CORONAVIRUS

STORY

LOOKING FOR MEDICINE AGAINST COVID-19 IN THE FOOD MARKET!

Martha walked slowly towards the marketplace. The colours of her West African Kente cloth shone brightly in the morning sun, but her face was clouded with worry. Her cousin Sylvie had phoned that morning to say that her father had died from COVID-19. He was a diabetic, Sylvie said. Martha was worrying about her Aunt Esther, who was diabetic too. What if Esther caught COVID-19?

"Martha, wait for me!"

Martha's spirits lifted as she saw her friend Sarah hurrying towards her. The two friends greeted each other, and Martha told Sarah about her worries.

"I'm just going to the clinic now to see if I can get medicine in case my aunt gets COVID-19," she said.

"But Martha, dear, there is no medicine that can stop you getting COVID-19, and no vaccine. It's a new disease."

"No medicine?" Martha wailed. "Oh, my goodness, what can we do? On the radio, they say we must stay home and do this 'social distancing' and wear masks. What 'social distancing', in our small house with six people? And how must we wash our hands all the time when there's only one tap outside? And if I stay home, how will I earn money? Who will buy the food?"

Sarah clucked sympathetically. She wanted to embrace her friend, but knew that she shouldn't. "I know. It's so hard. I'm worried about my grandfather. He's over seventy. But I also have to buy food... and go out to my kiosk to sell my wares to get money for food. But you know Martha, there's something like a special kind of medicine you can get to help you stay healthy, and resist COVID-19 and many other sicknesses."

Martha's face brightened. "Where can you get it? From the traditional healers?"

Sarah laughed. "No, you can get it right here, at the market. It's called food."

Martha flapped her hand at her and clicked her tongue. "Eish, Sarah, how can you joke about these things?"

"I'm not joking, my dear. Food is the best medicine, and it's especially good for COVID-19, because this virus affects people with bodies weakened by other illnesses much worse than healthy people."



Why do you think Sarah didn't embrace her friend when she wanted to?



Do you think Food can be medicine? Why or why not?

WHAT BODIES ARE MOST VULNERABLE TO COVID-19\

To understand how food can be medicine for COVID-19, let's find out more about the disease.

COVID-19 first appeared in Wuhan, China in December 2019. It spread quickly between people and has now spread to almost every country in the world. 'CO' stands for corona, 'VI' for virus, and 'D' for disease, and 19 for the year 2019.

SYMPTOMS OF COVID-19

Some people may be infected with COVID-19, and not show symptoms at all. Others may get seriously ill or die from the illness. Here are signs to look out for:

Mild: Loss of taste/smell; sore throat

Moderate: Weakness; headache; fever; diarrhea; cough

Severe: Shortness of breath and fever; loss of oxygen

HOW DOES COVID-19 SPREAD?

- When a person is infected with COVID-19, the virus is in their respiratory droplets when they breathe out, talk, sing, shout or laugh. These droplets fall to the ground up to one meter away. This is the case even if the person has no symptoms.
- A cough or sneeze contains many droplets and spreads them further.
- The droplets may land on surfaces. Or they may be spread from the infected person's hand onto surfaces they touch, such as door handles and stair rails.
- The virus can live on a surface for several hours, but you need a large dose to get infected. You are more likely to get infected by standing close to an infected person who is talking or coughing. Infection is more likely to spread inside, in enclosed spaces, particularly if ventilation from a fan or an air conditioner spreads the virus through the air across the entire room.

SO, YOU CAN GET INFECTED BY

- Breathing in the droplets of someone standing near you.
- Shaking hands, hugging or kissing an infected person.
- Touching a contaminated surface, then touching your mouth, nose or eyes.

There is a risk of COVID-19 spreading at shops and markets. But you are more likely to get infected in a closed environment, so outdoor markets are safer. And they also provide fresh, healthy food to make your body strong. There is no evidence that COVID-19 is spread through food, if you rinse the food before eating it.



YOU CAN HELP TO KEEP YOURSELF AND OTHERS SAFE FROM COVID-19 BY\

- Staying at least two metres away from people outside your own home.
- Keeping doors and windows open to blow the virus out, or preferably meeting outside.
- Wearing a face mask when away from home, which should be washed each time you return.
- Washing your hands often, especially when you get home or entering and leaving a shop or market, and before you touch your nose, mouth and eyes.
- Sneezing and coughing into your elbow, not into your hand, so that if you have the virus it does not spread upwards and outwards.
- Encouraging or insisting that people at markets and shops wear masks and keep safe distances when interacting or waiting in a queue.
- Advocate for the provision of hand-sanitisers or hand-washing when entering shops and markets.
- Wash your hands before you enter your home to avoid bringing the virus in on your hands.
- **Don't stigmatise people who have COVID-19.** If that happens then many people will hide their condition and continue to go out in public, infecting more people. They may even avoid being seen at the clinic, becoming even sicker. It is easy for anyone to get the disease and we must treat them with compassion and kindness when they do.

WHO IS MOST VULNERABLE TO COVID-19?

Some young people and children do get sick from COVID-19, but those most likely to die from COVID-19 are:

- older people, over 65
- those with other illnesses, especially hypertension and diabetes, or both
- people who are overweight or obese because they often eat unhealthy food

Look at the picture, and discuss:

- Which people are behaving in a way that is risky?
- Which people are behaving in a way that will protect themselves and others?
- What other precautions do you think you could take to help keep yourself and others safe in an outdoor market?



WHAT FOOD WILL PROTECT US FROM COVID-19?

Martha stood in the morning sunshine frowning at her friend. Was it really true that food could be medicine for COVID-19?

"Well, if true, then I have some good medicine which I just bought from the supermarket."

She showed Sarah her basket of perfumed polished rice, spaghetti, and noodles, stock cubes, tomato paste and a small packet of sweet biscuits for the children. But Sarah shook her head.

"That kind of food fills you up, but it's not good medicine, especially for your aunt, my sister. Believe me, those foods can make you fat and unhealthy. They only give you energy to fill the stomach, but not many of the ingredients you need to protect yourself against disease."

Martha felt annoyed. She'd just spent good money on this food. It was cheap, easy to cook, and her family liked it.

Sarah had upset her friend.

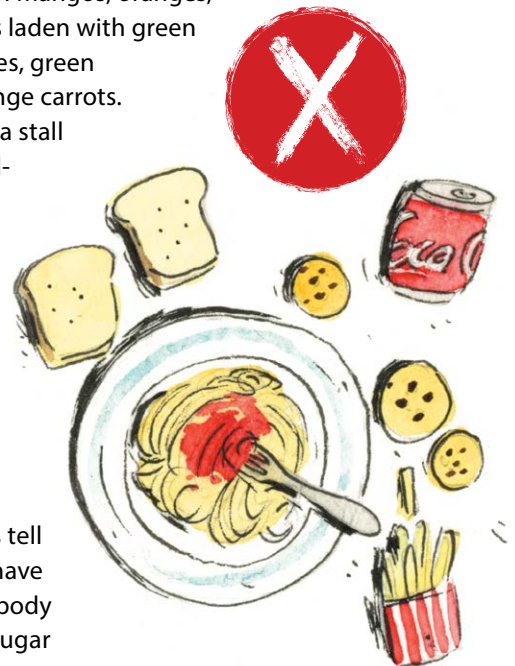
"I'm sorry Martha," she said gently. "I didn't mean to say bad things about your food. Come to the market, and I'll show you what food is healthy and good medicine. Perhaps you can buy some to cook with the rice."

They wandered among the stalls. The market echoed with the cries of people selling their wares, shoppers laughing and chatting. The bright colours of the women's dresses were reflected in the piles of golden mangos, oranges, plantains. They passed tables laden with green cabbages, deep red tomatoes, green garden eggs, and crisp orange carrots.

Further down, they passed a stall with sacks of spices, ground-nuts, dried beans and lentils, and another with towering piles of sweet potatoes, yam and cassava. Martha wrinkled her nose as she caught the scent of small dried fish – she used to love those fish as a child.

Sarah gathered a selection of fruits, green, red and orange vegetables, dried beans, and sweet potatoes.

"Look how colourful my basket is. The different colours tell you that these foods give you different nutrients. These have almost all the vitamins, minerals, fibre, and protein your body needs to fight disease and stay healthy, with no refined sugar that contributes to diabetes."



WHAT IS THE LINK BETWEEN GETTING COVID-19 AND WHAT YOU EAT?



Data from research in China, the first place to have COVID-19, shows much higher death rates amongst those with cardiovascular diseases, diabetes, respiratory diseases, high blood pressure and cancer.

People who eat a well-balanced diet of natural food and who avoid unhealthy, processed food have stronger immune systems that help them to cope and heal from infectious diseases such as COVID-19.

A poor diet either causes or contributes to these diseases. And having these diseases makes it more likely that you will get very sick or even die from COVID-19.

WITH A NUTRITIOUS DIET:

- If you get infected, you are less likely to get very sick.
- You are less likely to develop conditions such as diabetes that can make COVID-19 life-threatening.
- If you do have these diseases or COVID-19, a healthy diet can help your body to recover from them.

HOW CAN A HEALTHY DIET LOWER YOUR RISK OF THESE ILLNESS?

- Although many factors might increase your risk of heart disease, diabetes, and lung disease, research shows that diet plays a big role in lowering this risk.
- Too much sugar, refined starch and unhealthy fats can cause these conditions or make them worse.
- A high plant-based diet has been shown by countless studies to help in reducing heart disease.
- Fruits, vegetables, grains, beans, nuts and oilseeds are loaded with nutrients—like beta-carotene, vitamin C, vitamin E, protein and zinc—supplemented from time to time, when you can afford them even in small amounts, by eggs, milk, meat or fish, that can boost your immune system, helping your body to fight COVID-19.

TRADITIONAL FOOD CAN BE THE BEST MEDICINE



Martha felt sad again. Had she bought food that would put her aunt in more in danger from COVID-19? She saw the delicious looking vegetables, but she had no money. Then she spotted something on a table.

“Look! *Dawadawa*! My grandmother used to make these from locust bean pods, that tree with yellow inside the pods.”

Sarah laughed, “I certainly know that tree. I used to help my mother collect the pods, ferment the seeds, and make *dawadawa* for soup. And a sweet drink from the yellow powder. Let me buy some cakes for later.”

“My grandmother used to make such delicious foods,” Martha said, “using wild greens and herbs for flavour. But are these foods good medicine? Our teacher always told us that these new vegetables are what we should eat. And the books didn’t mention local foods.”

“Well, the old people were healthy. Very few got obesity and diabetes eating traditional diets. Those illnesses increased with modern foods made in factories, where processing often remove good nutrients, and they add lots of sugar and salt.”

Martha sighed again, remembering the food in her basket. “Well even if these foods are bad for my aunt, she won’t change easily. She loves noodles and stock cubes.”

Sarah smiled. “My grandfather hates new foods. But luckily, he likes traditional foods though it’s hard to get the right ingredients, and he complains that I can’t cook like his wife. But it makes him strong, even if he is 74.”

“Why not buy something from the market, Martha?” Sarah added.

Martha looked embarrassed. “My food is fine,” she said, abruptly. “I can’t afford these fresh and traditional foods. I haven’t been able to run my hair salon since lockdown.”

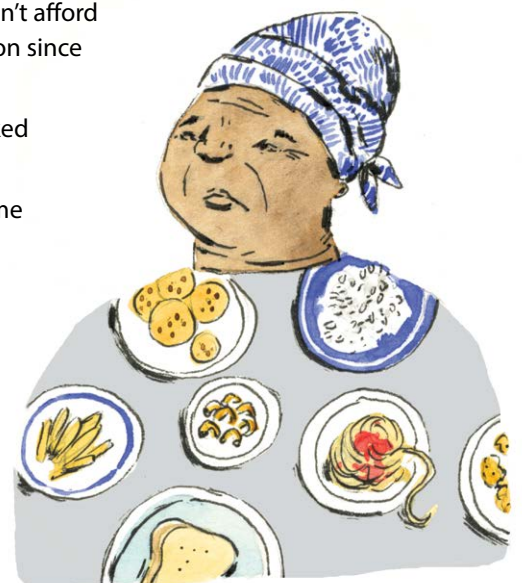
Sarah felt bad. She’d been so excited about the market; she’d just talked without thinking.

“I’m sorry. Martha. Take some of my tomatoes and spinach and give me a haircut when lockdown is over. Add these to your aunt’s noodles. You know, you can also grow your own vegetables. My cousin grows her own food and her yard is smaller than yours.”

“But what about all the expensive fertiliser and chemicals you need to grow food?” demanded Martha.

“My cousin doesn’t use fertilisers and chemicals because they make food unhealthy. Come visit her with me on Saturday –she can show you how she does it.”

“OK, thanks, my sister. And thanks for the vegetables. I’ll look forward to visiting your cousin.”



NATURE'S FOOD GARDEN

STORY

THE MIGHTY MICROBES

Sarah has taken Martha to see her cousin's vegetable garden ...

Sarah's cousin, Ruth, was a tall woman with a big smile, whose face was as cheery and full of life as her garden. Martha had imagined neat rows of cauliflowers and cabbage, but the small yard was bursting with plants – in raised beds, climbing on frames and fences, hanging off the wall of the house in a great variety of containers – cut off plastic bottles, flower pots, paint tins. There was even some spinach sprouting from an old boot. Chickens were clucking busily in a run beyond the vegetables. It looked more like a wild forest than a vegetable garden, Martha thought, but she didn't say that.

"This is the most important part of my garden," Ruth said. Martha looked around for an impressive vegetable, but Ruth was pointing to a large heap of what looked like dirt.

"This is our compost heap, where we grow the mighty microbes!"

"Microbes?" said Martha. "Do you mean germs? But aren't those bad?"

Ruth laughed. "Microbes are tiny life forms – some are bacteria, some are viruses, and a very small number can make you sick – we call those germs. But most are really important for life to continue."

She bent down and scooped up a handful of the compost and gave it to Martha. "In your hand, you're holding more microbes than there are people in the world!"

Martha stared at the crumbly dark substance in her hand. It was rich and moist, with a fresh, earthy smell. But she wasn't sure if she wanted to hold all those microbes.

"But microbes aren't just in the soil you know," Ruth said. "We also have millions inside our own bodies."

Martha dropped the compost in alarm.

"Inside our bodies? But don't they make us sick?"

"No, not at all. In fact, if you didn't have them, you would die. These microbes help us digest food, process toxins, and most importantly, to fight diseases like COVID-19. Most of them live in your gut."

Martha clutched her belly. Really? All those microbes in there? She didn't much like that idea, but Ruth sounded so happy about it that she supposed they must be a good thing.





ALL YOU NEED ...

"I feed my compost with old vegetable scraps, garden clippings, ash, the chicken manure, even newspapers," Ruth said. "My mother taught me long ago that it was important to feed the soil. Then agro-chemical companies came and told farmers that fertilisers were better. But new science is showing us that chemical fertilisers kill many good living organisms in the soil that helps crops grow, which reduce many nutrients in the plants. Chemical fertilisers also get into the water, and pollute rivers. It shows that we need to work *with* nature to create organic fertiliser instead of using harmful factory manufactured fertilisers."

She scraped away some compost from the top of the heap and told Martha to put her hand on it. It was warm, as if there was a fire burning underneath.

"Do you feel that heat?" Ruth asked. "That's the mighty microbes at work, breaking down the old vegetable scraps. I gather all the right materials to make compost and then once a month we have a compost making day. Our heap gets hot and kills any pathogens (the bad microbes) and feeds all the good microbes, producing high quality organic fertiliser. The microbes in the soil feed the plants and the healthy plants, when eaten, feed the microbes in your gut. This good relationship between the soil microbes and the gut does not happen if the chemical fertilisers, bought from the agricultural supply stores, are used to grow food. This is an important difference between food grown naturally (as our grandmothers did) and foods grown using factory made fertilisers."

Mighty microbes... Ruth seemed to like creepy things, Martha thought. But she liked Ruth and was willing to try to like her creepy friends.

Microbes are very small living organisms, too small to see without a microscope, such as bacteria, fungi, algae, and viruses. They live in the soil and in plants, animals and humans. Some cause disease, but most are essential for life, and enable the plant or animal to function and be healthy.

Our bodies have trillions of microbes, most of them living in our gut.

We need these gut microbes to help us:

- Digest food
- Eliminate toxins
- Fight diseases
- Balance moods
- Boost our immune system

Many modern diets with little variety and a lot of processed food are bad for these microbes.

Plants fed by good soil microbes can feed the healthy microbes in our bodies.

"So, the first thing you need to be able to grow 'food medicine' is good, living soil." Martha said, as they moved away from the compost heap towards the garden. "The second thing you need are these guys." She put her hand in her pocket and held it out to Martha. A few dark grains rested in her palms.



"Seeds?" Martha asked. "But aren't those expensive?"

"If you buy them in the shop. But there are other ways to get seeds. And the shop-bought ones are not the best. Many have been treated with pesticides, which is bad for the good microbes in the soil. And some of the plants that grow from these seeds don't make good seeds for the next season."

"So where can you get good seeds?"

"I get them from my Ma, she's a farmer and knows how to keep seeds safe from insects in ash. Lots of farmers share seeds from season to season. The food grown from these is best."

Martha looked worried. This was beginning to sound complicated.

"What else do you need?" she asked.

"Just sunshine and water, my dear. The sun is plentiful, the water we collect from the rain and the household – we wash our bodies and clothes with soap that won't hurt the plants."

"Really?" Martha asked. "That's all you need – healthy soil full of microbes, seeds, sun and rain?"

"Yes... and some love too, but I can see you have plenty of that in your heart."



NATURE KNOWS BEST

Ruth smiled so warmly that Martha found the courage to ask her why she had so many plants all growing in what seemed a higgledy-piggledy way, and not in neat rows.

Ruth laughed again (she did laugh a lot!).

“Nature doesn’t come in rows, my dear. Look at how the fields and the forests grow. Plants like to grow all different ones together, like friends at a party, not like soldiers in line. We follow nature’s ways, for nature knows best. It may seem higgledy-piggledy to you, but the plants are arranged carefully to use natural processes to make them stronger.

“These herbs growing here help to repel pests from these ones, the wide leaves of these cowpeas are keeping the soil cool for the others, these beans are making nitrogen for the other plants, and so on.”

Martha followed Ruth around the garden, as she eagerly pointed out her honey-coloured butternuts, dark leafy spinach, spider weed plants, okra and glowing red tomatoes. The vegetables looked so good. She couldn’t believe that you could get this food with just seeds, healthy living soil, sunshine and rain, and good careful attention. There must be more to it.

WHY DOES A MIXTURE OF PLANTS GROW GOOD MEDICINE?

There are many reasons why growing a mixture of plants creates nutritious food. These are a few of them:

- It produces more variety of healthy microbes in the soil, which will help turn organic matter in the soil into food for worms, good insects, and for the plants; and will make the plants more nutritious.
- Growing a mixture makes the plants less vulnerable to pests and diseases.
- Plants use different nutrients in the soil, so they balance each other.
- Mixing ground creepers with tall plants helps to protect the soil from the sun.



Look at this garden. Talk about how the garden is working with nature to create strong, healthy nutritious plants. What other ways do you know?



DON'T POISON OUR FRIENDS

"But Ruth," Martha said, "Don't you need fertilisers to make the vegetables grow? My brother is an agricultural extension officer, and he says you can't grow food crops without fertiliser, pesticides and weed killers from the agricultural supply company."

"Look, Martha, do you see how dark and moist it is? The soil which has chemical fertiliser from the agricultural supply stores becomes dry, dusty and dead! It's not a living bed for the plants to grow in because the good microbes have died... because the chemical fertilisers destroys much of the organic matter in the soil they need to live. These fertilisers give the plants the minimum nutrients to grow quickly, but not all the nutrients and minerals that your body needs for good health."

Ruth bent down and took a scoop of soil again.

"As for the pesticides and weed killers, they don't just kill pests and weeds, they kill our insect friends, like the ladybird and butterflies, and all our lovely soil friends. Often the chemicals stay on the leaves and get in your body when you eat them. Over the years, they poison your gut microbes that are so essential for good health, weakening your immune system. So, you won't be protected against getting a serious or fatal case of COVID-19 and other diseases."

Ruth bent to pick up a ladybird from the leaf of a tomato plant.

"This is one of our best friends. It helps to keep the aphids down, and other nuisances. We wouldn't want to poison you, my dear..." The ladybird opened and closed its wings, as if agreeing, then flew away.

Martha laughed.

"It's a balance, Martha. The caterpillars eat some leaves, but the butterflies help to pollinate and grow strong seeds. The birds help to keep the caterpillars down, and because we have so many different plants, even if one is eaten another one will be fine. It is growing food using living microbes and in harmony with natural methods instead of using chemicals from the agricultural supply stores which poison both the soil microbes and the plants, which in turn poison the good gut microbes in our bodies."

Chemical sprays, powders and fertilisers:

- Kill the healthy microbes in the soil
- Kill insect friends
- Pollute ground water and rivers
- Poison your body slowly over time
- Are not needed if you use natural methods to grow crops

OUR WAYS WERE GOOD WAYS

While Ruth was showing Martha the garden, Sarah had been talking to her aunt, Ma Abigail, inside the house. Now they came out with a tray of sliced mangos from the trees on Ma Abigail's farm. They sat under the tree, enjoying the sweet, cool mango, while Ma Abigail told them about her ways of farming. She had a small farm twenty miles out of town and was here to sell her vegetables and visit Ruth.

"Yes, Ruth learnt from a great teacher," she said, laughing and patting her own chest. "All these methods, I use on my farm. I plant seeds saved from the previous season. My goats and chickens make manure for my plants, my ducks eat the snails. I grow a nice mixture of crops, not just one, and especially the traditional crops like sorghum and spider weed plants. They are the children of African soil, these old grains and vegetables, and they grow strong and proud here. And look how strong I am, from eating my own food all these years!"

Ma Abigail did look strong. Her greying hair could be seen peeking out of her headscarf, and her face was as lined and weathered as an old boot. But she was sturdy on her feet, and her eyes were as bright as a bird's.

"Those young men from the government come and tell us our ways are backward," she said. "They keep trying to give me these hybrid seeds, and all these chemicals, tell me I can't save my own seed... Imagine I must spend money every year on that rubbish!"

Martha wondered if her brother was one of these young men. She felt sorry for him if he was ... Ma Abigail would have sent him packing!

Ruth laughed. "Yes Ma, I learnt much from you. But you can learn from me too, you know. We have some new ways that build on the wisdom of old knowledge, adding new scientific research to help understand how best to work with nature and grow things naturally. Like the way I make my compost. The science of the agrochemical companies is about maximising profits for themselves not our health.

But the new science I am talking about is interested in health, and if we marry it with traditional knowledge like yours we get the best of both worlds!"

"Well maybe you can teach me a few things," Ma Abigail said drily. "But my ways seem to work, too."

Traditional farming uses natural methods to farm, and traditional food makes people strong and able to resist disease.





"I CAN GROW MY OWN GOOD FOOD MEDICINE"

Martha and Sarah shared a taxi home, wearing masks to protect themselves and other passengers. In Martha's bag was a small collection of different seeds in twists of paper, which Ruth had given her to start her new garden. They chatted excitedly about the day.

"I know which farmers use natural methods to grow their vegetables," Sarah said. "I can show them to you in the marketplace."

"Thanks, Sarah. And thanks for taking me there. Ruth really made me believe I can grow my own good food medicine."

"I know you can, my friend. And if your brother tries to interfere, send him to Ma Abigail! She'll sort him out."

The two friends laughed.



Food grown with chemicals

- Works by trying to control and restrict nature through chemicals, synthetic fertiliser and hybrid or genetically modified seeds (GMOs).

- Plants grow by drawing nutrients directly from synthetic fertilisers that destroy much of the organic matter that is essential to the life in the soil (soil microbes).

- The often-unbalanced addition of nitrogen, phosphorous and potassium (NPK) fertilisers can increase yields for a time but degrades soil health, the level of organic matter, and the availability of essential micronutrients such as zinc, iron, boron, molybdenum, and copper.

- Produce chemical residues that enter the gut of humans. These harm gut microbes, leading to allergies and a weakened immune system.

- Uses a limited variety of commercially bred crops which are not adapted to local conditions and have fewer nutrients.

Natural food

- **Natural food production** works in harmony with nature. A central focus is on maintaining healthy soil through increasing soil organic matter that is the habitat of many living microorganisms, that process the much-needed minerals, and vitamins for good plant nutrition. It is toxin and chemical free plant farming also called agroecological farming.

- **Plants grown by drawing nutrients from soil enriched by organic fertilisers of compost and animal manure.**

- Promotes microorganisms in the soil through compost or organic fertilisers to release nutrients to the root system of plants. This includes micronutrients like iron, zinc, magnesium and others which strengthen the immune system, and help resist against a serious or fatal case of COVID-19.

- The micronutrients promote diversity and health in the microbiome, leading to stronger bodies and stronger immune systems, better able to fight against all diseases, including if one gets infected with COVID-19.

- Uses a great variety and diversity of crops, including wild greens and traditional crops, mimicking or following the ways of Nature.



Photo © John Wilson

Grow Biointensive Agriculture Centre Kenya (GBIACK)

FOOD GARDEN DIVERSITY

Having a diversity of plants is how Nature works. Diverse plants above ground means diverse microbes underground because each plant has a different set of microbes that it feeds through its roots. This diversity of microbes underground means healthier soil and so healthier plants. Also, a diversity of plants above ground will mean less chance of pest attacks on those plants. Using chemicals in growing food kills many of these microbes and we end up with dead soil.

The above photo shows the diverse garden where GBIACK trains hundreds of farmers and students every year at their centre on the edge of Thika in Kenya.



AFRICAN FOOD MARKETS

Most African food markets sell a large variety of foods. A diverse network of suppliers and transporters keeps them going. In African food markets, buyers and sellers can know each other. Agroecology supports the strengthening of these African food markets, as part of a food system that is nutritious, fair and sustainable. Agroecological farming and local markets can also withstand pandemics like COVID-19 much better than national or international food chains. This is because farmers do not depend on imported external inputs, and can sell their produce to local consumers in their area.

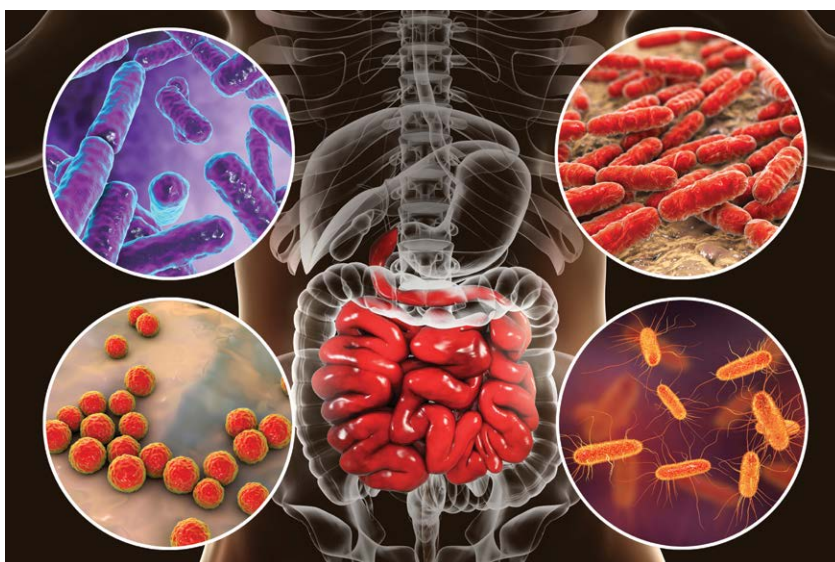


Photo © John Wilson

CELEBRATE DIVERSE TRADITIONAL FOODS AND MEALS

Traditional diets across Africa have always been highly nutritious. People learnt over hundreds of years what to eat that made them healthy. When there was little or no transportation, and limited availability of imported food, people had to rely only on what could be produced locally. To reduce risk, they made use of a wide variety of local crops and vegetables. This is true of most traditional diets all over the world. Even in the wealthy industrialised countries, there is a growing movement of people eating and celebrating diverse, traditional foods and meals made with naturally grown healthy ingredients. It is time for us in Africa to celebrate our own traditional diets.

This can be the basis of healthy eating in future. We can, of course, also include healthy foods from other traditional cultures. Culture and traditions move on with time. The above photo shows a traditional meal in Uganda with matoke (cooked bananas), a variety of vegetables, goat meat, one of many varieties of beans, avocado and groundnut sauce.



DIVERSITY OF MICROBES IN OUR STOMACH

Our good health, which starts with the diversity of microbes in the soil, also depends on the diversity of microbes in our stomachs. Modern research is increasingly revealing the truth about this. And we get that diversity of microbes in our stomachs by eating a diversity of safe foods without poisons on them; also foods without all those added chemicals that you often find in processed foods being sold in supermarkets and other such shops. This diversity of microbes in our stomachs will keep our bodies and brains functioning very well! This will help you to survive if, despite all your efforts, you get infected with COVID-19!

FINDING FOOD FOR STRONG BODIES

The issue of eating healthy food to fight against COVID-19 affects Africans all across the continent. Our story now shifts to people in East Africa ...

STORY

TRADITIONAL OR MODERN IDEAS? WHAT IS BEST?

Joyce stood looking down the dusty road, shading her eyes against the bright sun. Her granddaughter, Nelima, was coming today. Joyce was proud of Nelima whom she had raised after Nelima's mother died of cancer. Nelima had gone to college in Nairobi to study and be trained as a change agent in using agriculture for nutrition. Now she was coming back to visit. She said she wanted to help everyone in her community to eat healthily, so that they could stay strong in this time of COVID-19.

Joyce remembered when Mercella's son came back to the village from university. He had come with this hybrid maize. You buy hybrid seeds from the company, and fertiliser and pesticides. He told Mercella to plant out her fields with this maize. Most other members of the community were interested too but the seeds and chemicals cost too much. Mercella's maize yield was really good in the first year and she saved seed from the crop and even shared with her neighbours. But when they planted seed saved from the crop, the yields were very low, worse than the yields they used to get from their traditional maize.

The taxi came at last and the two were joyfully reunited. After settling Nelima in, they sat down for a cup of tea.

"Are you coming with strange modern ideas, and to tell your grandmother that everything she knows is wrong, like Mercella's son?" Joyce asked. She had been worried about this.

Nelima laughed. "My ideas are modern, Grandma, but not strange. Some modern things are OK, others not. And guess what! There is new science proving that there is much wisdom in your traditional ways, respecting it but adding things to improve it. In fact, I need your help in my work with the community members."

"Oh, Nelima, what can I tell them? You're the one with all the education."

"You know a lot, Grandma, that's what I'm telling you. All the time I was learning new research about good diets, I was thinking, this is like the food my grandmother gave me when I was growing up! And I'm so glad you've been eating this food all your life, because I know this will help you survive COVID-19 if you get infected and other illnesses.

"Look, Grandma, if I show you these charts, you will see what I mean."



GOOD FOOD FOR HEALTHY BODIES

Often people who die from COVID-19 are quite old, or obese, or have illnesses like diabetes, heart disease, hypertension, asthma, or anaemia. These conditions tend to make our immune systems weak. And the best medicine to help you avoid or recover from these illnesses is the right food.



NELIMA

WHAT HEALTHY BODIES NEED

Healthy bodies need a variety of naturally grown foods from these different food groups.

Carbohydrates/starch:

These give your body energy.

- Examples are sorghum, millet, maize, rice, sweet potatoes, yams, cassava.

Too many refined carbohydrates (from white flour, maize flour, corn flour, corn syrup and sugar) often found in highly processed foods, can lead to diabetes and obesity.



Proteins

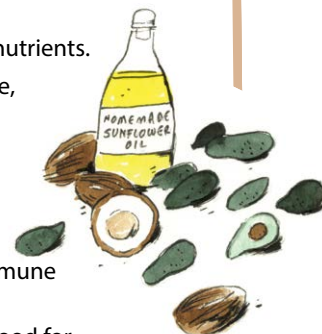
These help your body grow and repair and help build strong muscles.

- Examples are: Legumes, such as beans and groundnuts, also meat, fish, tree nuts, eggs, certain insects and milk.

Fats

These protect your organs, nerves and brain; they help your body absorb nutrients.

- Too many trans fats such as margarine, and saturated animal fats (cheese, butter, meat fat), can lead to being overweight and heart problems.
- Fats from fish oils, avocado, olives and seed oils are healthier than those obtained from processed sources (like cooking fats) and animal fats.



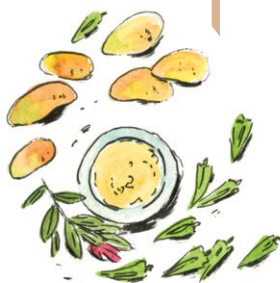
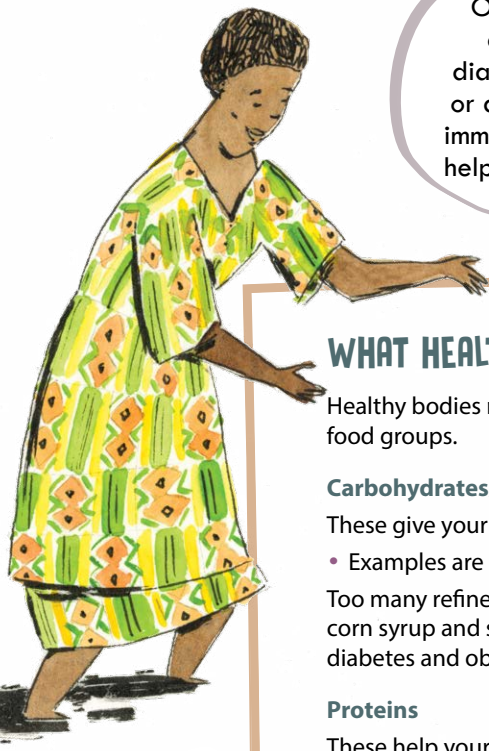
Vitamins and minerals

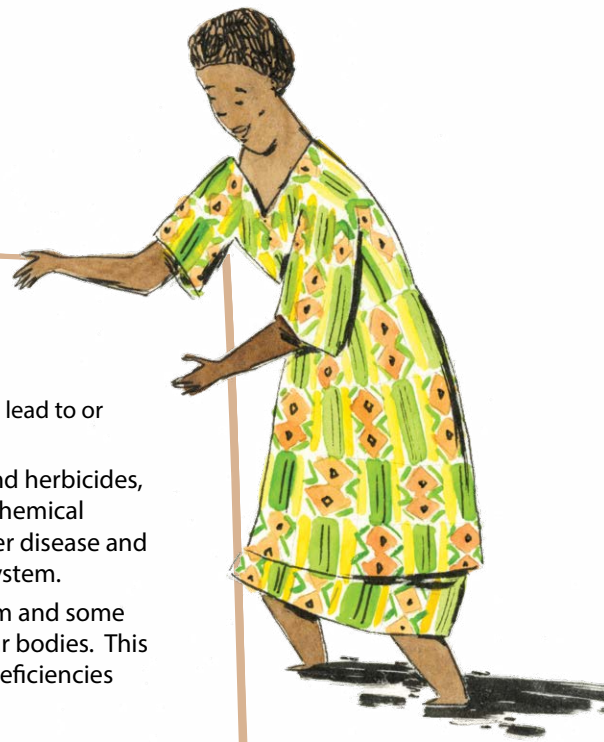
Are essential for healthy organ functioning, strong bodies and a strong immune system to help us fight disease.

- These are found in all vegetables and fruits; leafy greens are especially good for iron, Vitamin A and calcium.
- The greater the variety of vegetables you eat, the more chance you will get all the vitamins and minerals you need – our bodies need a great many different minerals and vitamins to function well.
- Healthy living soil gives plants many of the minerals we need – plants grown with chemical fertiliser will have fewer minerals such as calcium, zinc and others.
- Deficiencies of vitamins and minerals can lead to stunting in children and contribute to chronic illness such as anemia, and increased risk in pregnancy.

THE MIGHTY MICROBE:

- Don't forget the mighty microbes we spoke about in Chapter 2. Microbes live in our guts, and play a critical role in our digestion, immune system and general functioning. To keep our microbes strong, we need a rich **variety of food** grown in **healthy living soil without chemicals**.





WHAT WEAKENS OUR BODIES?

- Too many **refined carbohydrates, sugar, fat, salt and alcohol** can lead to or worsen diabetes, obesity, hypertension and other illnesses.
- **Toxins** such as alcohol, nicotine and other drugs; pesticides and herbicides, sprayed on crops or used around the home; excessive use of chemical fertilisers; food additives, polluted water. These can lead to liver disease and cancers. They kill our gut microbes, weakening our immune system.
- Some **agrochemicals** bind important nutrients such as calcium and some micronutrients in the plants and make them unavailable to our bodies. This leads to deficiencies even if you eat a variety of foods. These deficiencies weaken your body and immune system.
- You need salt **but too much salt** can strain your kidneys and cause hypertension.
- **Cigarettes** and air pollution can cause cancer and lung disease.
- **Highly processed foods**, like shop-baked biscuits and snacks, processed meats, some tinned foods, contain a lot of harmful additives such as preservatives, artificial colouring and flavouring which can weaken your immune system and cause cancer. They are also heavy in salt and sugar, which can cause hypertension and diabetes.

When I look at Nelima's food diagram, I can see that the food I gave her when she was growing up helped her build a strong body. I've always grown many different foods and cooked with wild greens as well. But lately, I've been lazy about cooking for myself. Like many of our villagers, I've started eating too much maize porridge and sugar. I'm so happy that Nelima has come to help us to eat well.



JOYCE



GROWING FOOD FOR STRONG BODIES

The next day, the women gathered outside the community centre. Joyce knew that Nelima was nervous – many of these women had known her as a child, and she was worried they wouldn't want to listen to her now. Some of them did look as if they'd already decided that she had nothing to teach them – especially Mercella.

But Nelima surprised them all when she said that before she talked, she wanted to listen to them. She invited each woman to talk about what food they were growing for their families to eat. Most were growing maize, beans and at least one type of vegetable. The beans were mainly for sale, not for eating.

Nelima complimented the women on the food they were growing. Then she took out her charts and showed them the different food groups that the body needs to be strong and healthy, and especially during this time of COVID-19 pandemic. She asked, "Can you see any gaps between what you are growing, and what our bodies need?"

Some said that they were growing enough to feed their families, mainly a combination of maize and vegetables. Others felt they needed to grow more.

The Rainbow Bowl

Nelima showed the group the 'rainbow bowl' of different foods that Joyce had helped her to make. They'd risen early that morning to gather food from Joyce's garden, and added it to the food Nelima had brought from her own garden. Together, they created this beautiful platter.

Different colours of food grown and cooked for a meal will give you a diversity of nutrients:

- Foods with purple/blue colour reduce the risks of cancer, stroke and heart disease.
- Red-coloured foods reduce the risk of cancer and improve heart health.
- Orange/yellow-coloured foods help in maintaining healthy eyes, and boost immune system to fight viruses.
- Brown/white-coloured foods help to fight viruses such as COVID-19, as well as throat and stomach infections.
- Green-coloured fruits and vegetables reduce the risk of cancer and improve your immune system, making you less vulnerable to diseases such as COVID-19.

"It's wonderful that you are growing food, but to be strong we need more than just a few food crops," Nelima explained. "Strong bodies need to eat from a rainbow bowl. The colours show what nutrients each plant has. If we eat all the colours, we'll get all the nutrients we need. It's important to have a variety of foods – not only different colours, but many different plants."



LET'S GROW INDIGENOUS

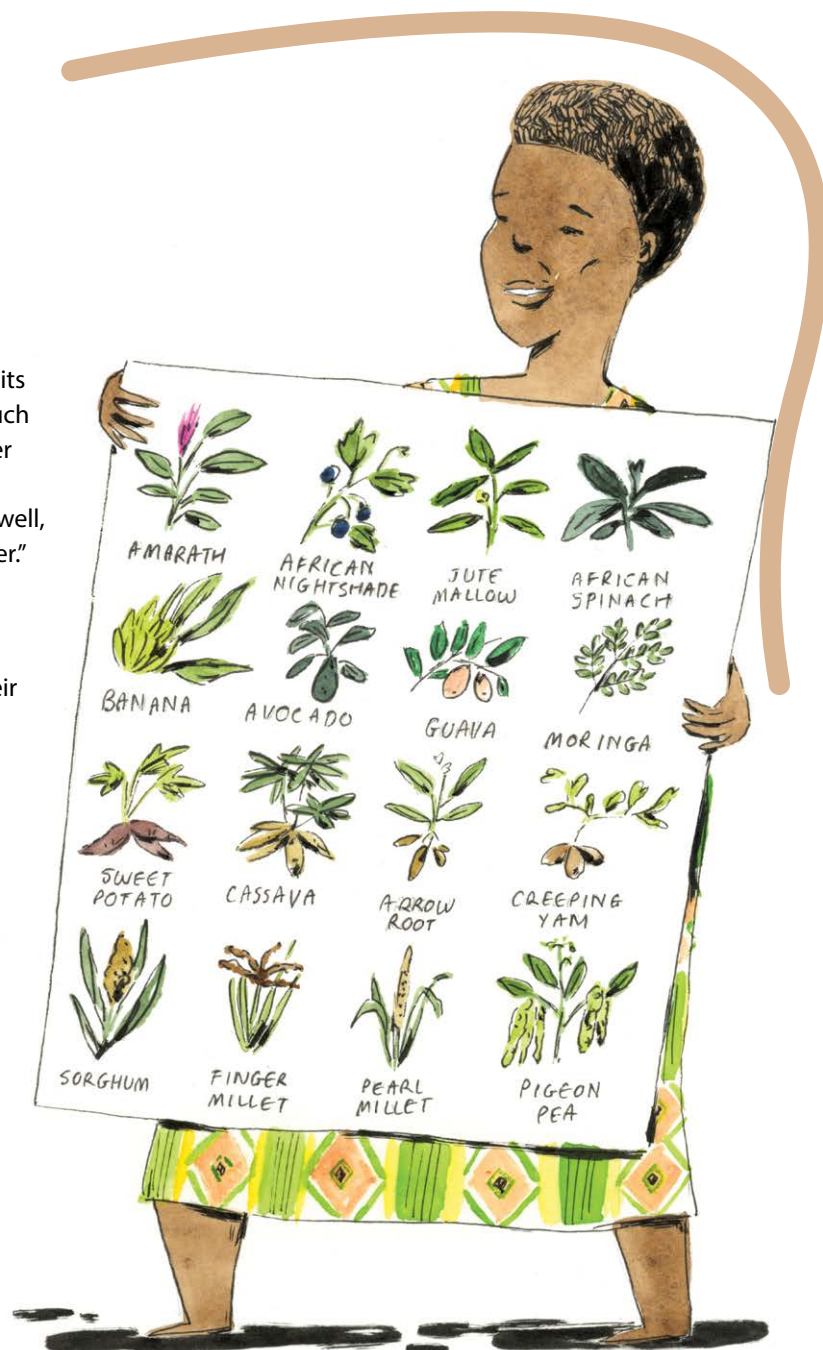
"Some foods in this rainbow bowl are indigenous," Nelima added. "Indigenous vegetables, herbs and spices, and wild fruits grow very fast, and have high nutrients such as vitamins A, C, and E, selenium and other minerals. These foods help us fight many diseases, including COVID-19. They grow well, as they're adapted to our soils and weather."

Nelima showed the women a poster showing a variety of crops.

The older women remembered that their grandmothers and mothers had grown many of these crops.

"But few people grow these crops nowadays," Yohanna said. "Even Joyce doesn't grow all these. Where could we get the seeds?"

"Many of these are 'weeds' and will self-seed, like amaranth, blackjack, spider plant ... If you look around, you'll find them in many places," Nelima replied. "And many of the other crops are being grown in other districts. Communities are building seed exchange systems to share these seeds. We can invite a community leader to come to our village to tell us how they started, what they're growing and why."



Good crops to grow in your food garden

Amaranths, African nightshades, jute mallow, African spinach (*Basella alba*), moringa, kales, onions, tomatoes, cucumbers, cassava, sweet potatoes, ginger, garlic, arrow roots, yams, carrots, goose berries, strawberries, pawpaw, guava, ground nuts.

These grow quickly and are rich sources of nutrients. An avocado and loquats are slower to grow, but they are a good investment, bringing fruits with excellent nutrition.



NO SPACE IS TOO SMALL

"I would love to grow more food for my children", Adelina sighed. "But I don't have land."

Nelima smiled.

"You'll be surprised at what you can do with little land. I live with my aunt in town – her yard is tiny, but we use every bit of space, even the wall of the house. We grow lots of greens in hanging bottles, and the tubers and bigger vegetables in small beds along the edge of the wall. We also have strong frames for our butternuts to grow up rather than out."

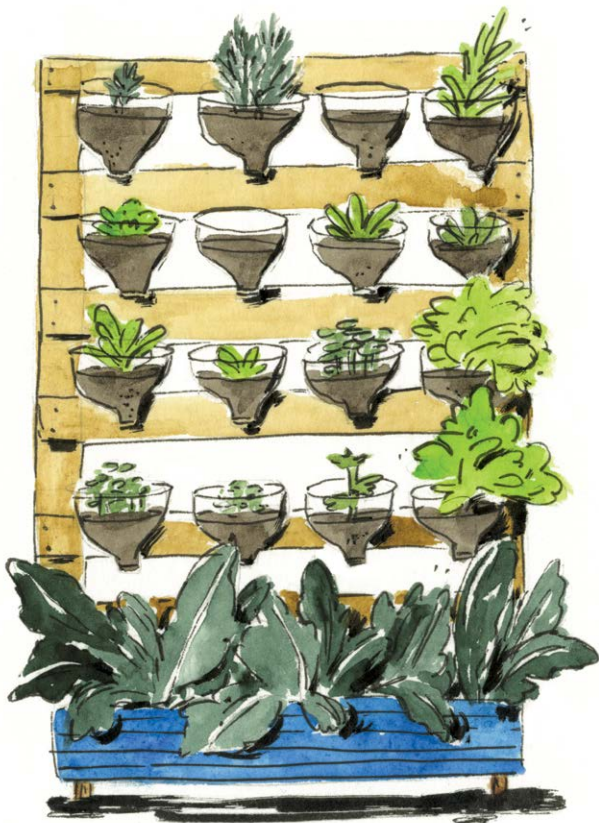
"All our land is used for the maize crop", Yohanna said. "But perhaps I can use containers and small beds near the homestead."

"You know," Joyce remarked, "We used to grow our pigeon peas, ground nuts and cowpeas right between the rows of maize. It actually makes the maize grow better."

"That's true," Nelima agreed. "The legumes fix nitrogen in the soil, and they provide soil cover that conserves soil water during hot days all of which helps the maize to grow better. Many farmers find that intercropping is a much better way to use the land than just growing one crop. That is how nature grows, and new scientific research shows that if we study natural processes, and copy nature in how we grow crops, we will get stronger plants, rich in nutrients and healthy soil that does not wear out in a few years."

Rehema laughed. "Sometimes nature grows too much. Last year, I grew tomatoes. But they all ripened at once and I couldn't use them all. I tried to sell them, but the prices were so low because everyone was trying to sell tomatoes."

Everyone had ideas of what they could do about this. These were some ideas:



What to do with surplus crops

- dry or preserve your fruits and vegetables
- grow crops that come to harvest at different times
- grow crops like cassava, moringa and fruit trees that last more than a year
- co-ordinate with your neighbours – you can grow different crops and exchange them with each other.



GROWING FOOD WITHOUT POISONS OR CHEMICALS

As the women chatted excitedly about ideas, Mercella had been watching from the side. But now even she joined in.

"I can get insecticide sprays or powders and fertilisers cheaply from my son ... that will help us grow strong vegetables."

"Those sprays make you sick," Yohanna said. "That's what Nelima's chart said."

"Well I'm not sick," Mercella said sharply, "and I use them all the time".


Nelima did not want to make Mercella feel awkward.

"Chemical sprays and fertilisers can build up slowly in our bodies and eventually cause illnesses, or weaken our immune system leading to other diseases. So, you might not be sick now but in a few years, it is quite possible," she said gently. "And they are also expensive. But you can grow healthier crops without them. New science is teaching us how unhealthy these chemicals are, but it is also helping us find new ways to manage pests and grow crops without chemicals."

How to grow without agrochemicals

Our ancestors fed themselves without chemicals for thousands of years. We can use the traditional ways, and new ways people are discovering, to grow food without these toxic chemicals:

1. Enrich your soil with compost, including animal manure such as the droppings of chickens, cows, sheep and goat manure. Mix these with vegetable peelings, crop residues and crop/tree prunings.
2. Many plants repel insects and prevent plant disease, such as chillies, garlic, spider plant and nightshades. These can be planted between the rows of other crops and can be crushed and sprayed on the leaves. Ash can also be used.



What methods do you know of to make the soil fertile and control pests without agrochemicals?



Growing your own vegetables means

- You eat more fresh fruits and vegetables.
- You can eat it soon after picking it – food from the shop might have spent many hours being transported from the farm to the store. Food starts losing nutrients the moment it is picked.
- Vegetables that ripen naturally have more nutrients than some store-bought vegetables that are picked early and ripened artificially.
- You know exactly how the vegetables have been grown, and whether chemicals have been used.
- You know the quality of soil and water used.
- You avoid using plastic packaging and the damage it does to the environment.

"Remember, you can start small, even just with one new crop," Nelima said. "Start with your favourites, or with food you can't get from the market. Every extra crop you grow will make your family stronger."

BUYING AND COOKING FOOD FOR HEALTHY BODIES

The next morning, all the women came back, even Mercella, and some new ones joined. They talked about what they had learnt the day before. Then Nelima said, "Growing your own food is the best way to get all the nutrients you need. But sometimes it is not possible to grow all the foods and you need to buy some from the market to add to your food plate – you can still eat healthily if you are careful. Let's talk about how to choose the foods from the market to buy."

Buying good food as medicine

- Choose fruits and vegetables with a mixture of colours.
- Choose foods from all the food groups.
- Choose indigenous foods.
- Buy vegetables and fruits in season – they are less likely to have been kept in store for long periods e.g. in cold storage.
- Wilting, bruises and change of colour are signs that nutrients have been lost from the fruits and vegetables.
- Food sold by street vendors may be exposed to toxic fumes from traffic. These contain heavy metals, which are linked to many diseases.
- Try to source vegetables and fruit that have been grown organically, without chemicals.

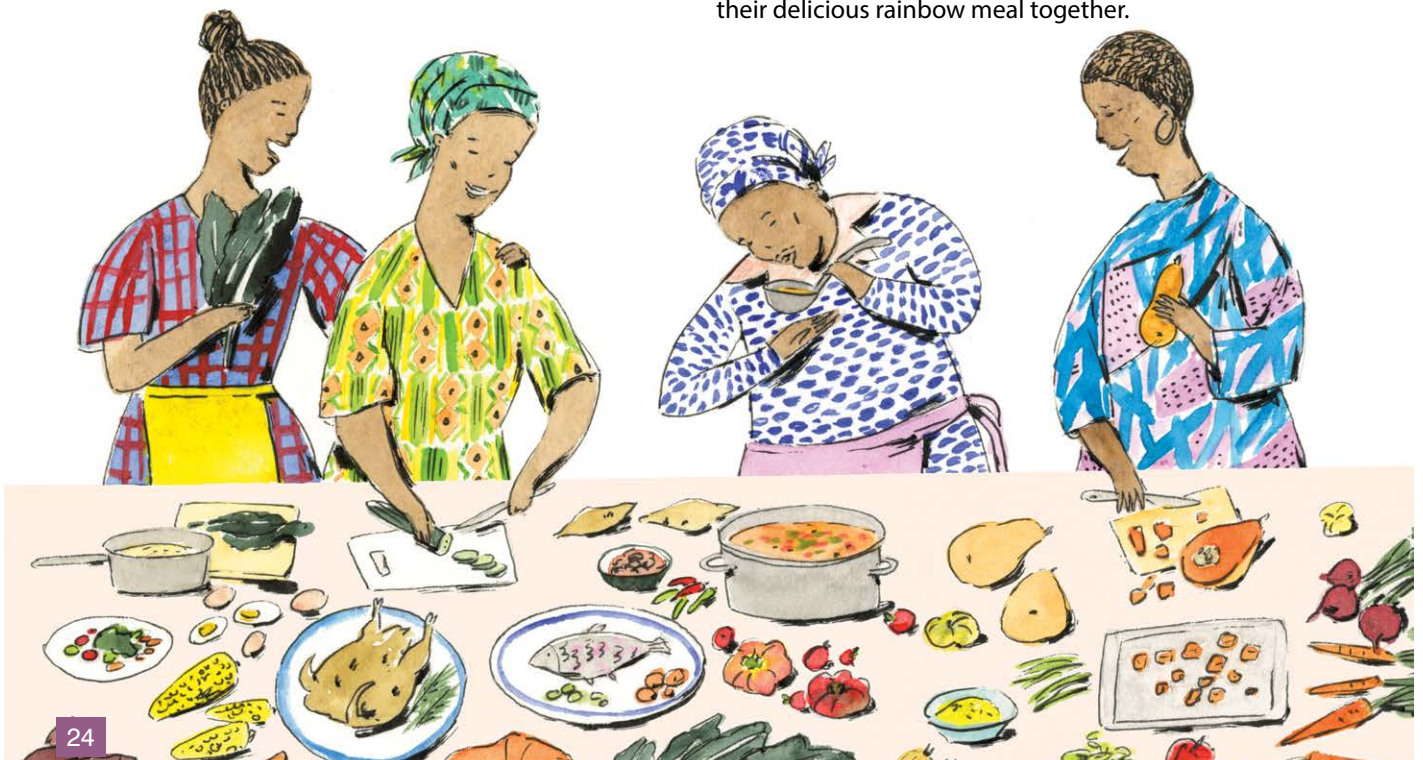
Each woman had brought something from their garden. They were going to cook a delicious meal to celebrate.

While they cooked, Nelima and the others shared ideas on how to cook for strong, healthy bodies. Joyce wrote their ideas down. This is what she wrote:

Cooking a healthy meal

- Try to cook with at least three colours from the rainbow bowl for each meal, and with all the colours over a week.
- If possible, harvest just before cooking.
- Avoid using too much salt.
- Avoid artificial flavourings as these contain harmful additives.
- For flavour, use herbs and spices like garlic, ginger, coriander, rosemary, cinnamon, nutmeg, pepper, turmeric, vanilla, and onions – these also have many health protective substances and nutrients.
- Avoid over boiling or deep-frying – too much heat can destroy up to 20% of some of the vitamins in vegetables.
- Some foods such as carrots and tomatoes, become more nutritious after cooking as heat releases important nutrients.

When they had finished cooking, the women all enjoyed their delicious rainbow meal together.



AN AFRICAN CELEBRATION OF GOOD FOOD MEDICINE

Once again, our story of how Africans are learning how to cope with COVID-19 shifts to another set of characters, this time in Southern Africa ...



FOOD TO MAKE YOU HEALTHY AND STRONG

Garikai stood moodily throwing stones into the river, watching the ripples spread out over the surface. He hadn't wanted to come to the village for lockdown, he wanted to stay in town. But he had no choice.

He missed his school, he missed his friends, and he really missed the food they ate in town. There was to be a big feast at Mbuya's today, but he didn't feel like it. The feast of his dreams would have been fried chicken and chips, that bright orange fizzy Fanta, white bread, pink Vienna sausages... But he knew his grandmother's feast would be quite different. When his mother said they'd be eating traditional food, he thought it'd be maize meal sadza and beans. But he hadn't even recognised the food on his plate last night. He hadn't touched it and had gone to bed hungry.

"Garikai!" his cousin, Tendai, was calling him.

Garikai walked slowly towards the kitchen hut.

"I feel sorry for you living with Mbuya, Tendai" he said. "How can you bear to eat her food?"

Tendai laughed. "Her food is delicious when you get used to it. And so healthy. Look how strong I am. Whereas you, little cousin, are getting a bit fat and soft."

Tendai playfully poked him in the stomach. Garikai pushed his hand away, but he felt embarrassed. His stomach was soft, while Tendai was strong and muscular. Maybe, if Mbuya's food could do that, it was worth a try.

The family was crowded in the kitchen hut – including his grandmother, Mbuya, and his great grandmother who was a hundred and six, and the oldest person Garikai had ever seen. She walked with a stick, but her eyes and mind were sharp – she noticed everything! There was his mother, Amai Garikai, his uncle Sekuru James, and Nyasha, a young woman who came to the village every month to give advice on growing food.

"Ah, there they are," Mbuya said, when the boys came in. "Tendai would you tell everyone what food we are eating today? Tendai is my best helper," she explained to Nyasha "in the garden and in the kitchen. I'm teaching him to cook like a true African."



A RICH VARIETY OF DISHES

Tendai smiled shyly, knowing that it was unusual for a man to cook, and began pointing out the dishes.

"This is *Nyevhe* with *Dovi*. *Nyevhe* is a 'weed' that grows everywhere in the rainy season, also called spider plant. *Dovi* is peanut butter, which we make ourselves. This is *Boora*, made from pumpkin leaves. You can use any pumpkin leaves, but this is the best *Boora*, made from black-seeded pumpkin. This is *Nhopi*, made from pumpkin flesh and fresh maize. That one is *Mutakura*, which mixes bambara nuts, groundnuts, cowpeas and fresh maize. There's sour milk in that bowl – *Mbuya* makes it with a certain ash; Those are beans, and this is *sadza* made from *Zviyo*, or finger millet."

Garikai stared at the lump of thick brown porridge on his plate. This was nothing like the white maize porridge he was used to.

"What's in this dish near me?" Sekuru James asked. "It looks like the whole garden."

Mbuya laughed. "I call it half-the-garden in a dish. It's the leaves of whatever's growing, including some so-called weeds. Today it's the leaves of amaranth, black jacks, moringa, mustard seed, sweet potatoes and cassava."

"And these are roasted *Ishwa*, the flying ants we all caught this morning," Amai Garikai said. "Except my lazy son who was still in bed."

Garikai looked embarrassed, but Mbuya smiled at him kindly.

"Let him sleep," she said. "He is still growing and perhaps he's tired from all this fresh air!"

"It's the junk food he eats in town," his mother said. "I've also been feeling tired and listless for a long time. Being here has reminded me of what good food should be. Better get used to it, Garikai – there'll be some changes when we get home."



After they had dished up food for themselves, they sat down to eat. Garikai was so hungry and tentatively tasted the food. He didn't much like the garden leaves, but the *Mutakura* was quite delicious.

"This is what you need to eat, my boy, if you want to grow old and strong like me." Great grandmother chuckled. "Sekuru James, tell him about that book you read by the dentist..."

Sekuru James looked up and spoke.

"In the 1930s, when many people still ate traditional diets, a dentist wanted to find out how what people ate affected the health of their teeth. He spent ten years of travelling to many parts of the world - the mountains of Switzerland, the Amazon forests, the islands north of Scotland, the plains of East Africa, the Polynesian islands, and the forests of West Africa. You know what? Everywhere he went he found the same thing. Garikai, what do you think he discovered?" Garikai looked puzzled and looked down at his food, hoping to find the answer there.

"He found that those who were eating their traditional diet never got rotten teeth! Their teeth and mouths were a perfect shape. They were also in excellent health, with high resistance to diseases like tuberculosis. But he also discovered that some people in these areas had changed their diets and were eating modern food brought into their areas from outside. Foods like white flour, sugar, refined vegetable oils and tinned goods. Many of these people had severe cases of tooth decay and were not in good shape." Garikai looked around with his mouth and eyes wide open.

They all laughed when Great Grandmother bared her own teeth. They were white and strong.

"You see," she said, grinning. "Look how strong these teeth are."



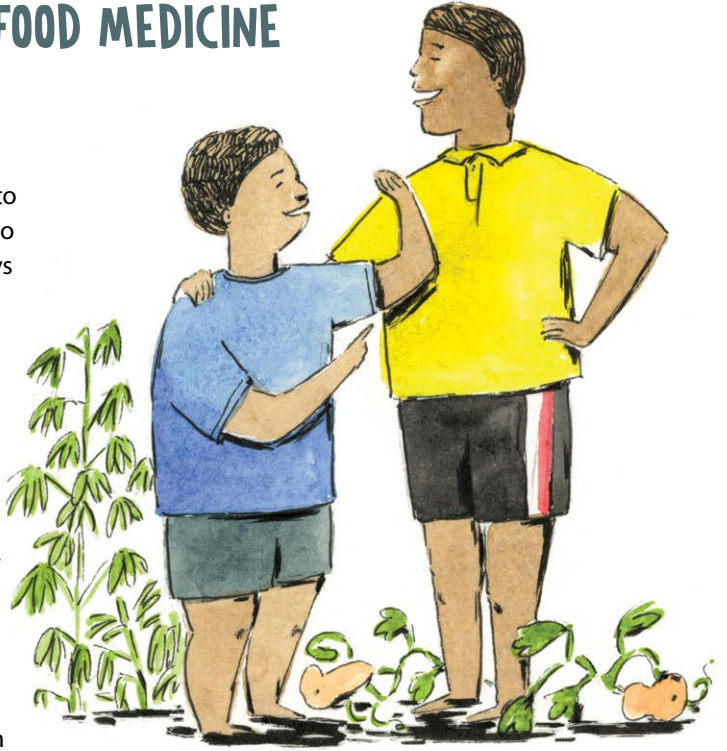
TRADITIONAL FOOD IS THE BEST FOOD MEDICINE

“We need to learn from the old people, and reintroduce our traditional diets, as well as new healthy foods,” Nyasha said. “That will really help us to resist diseases like COVID-19. But Mbuya’s food is also healthy because she doesn’t use fertilisers and sprays – everything is grown naturally. I came to teach the villagers to do this, but Mbuya is the best teacher.”

Mbuya smiled. “Yes, I learnt from my mother. But Nyasha is too modest – she has told us all about those microbes we must feed in the soil and shown me ways to do that. Did you know, Garikai, you have more microbes in your body than human cells? And all those microbes help you to be clever, to be strong, and to fight diseases. So, you look after them, my boy.”

“It’s true,” Sekuru James said. “In our rush for western education we forgot our own knowledge, knowledge grown over centuries. It’s time that we in Africa started celebrating our traditional diets. There’s so much wisdom in them. And science is showing us now how healthy these diets are.”

Garikai wiped up the last scrap of Mutakura with his finger millet sadza. He had even sampled some flying ants and found them surprisingly tasty. And he was looking forward to eating those mango and pawpaw slices. He would still miss his Fanta and crisps, but maybe this food wasn’t so bad. Imagine if he could come back to town as strong as Tendai? That would make the girls notice him!



What traditional dishes do you know of in your area? Discuss what nutrients these traditional dishes provide.



Don't forget

- Traditional diets are based on local fruit and vegetables. They grow naturally and easily and can be grown without pesticides and fertilisers if the soil is fed with compost and manure.
- Traditional diets are highly varied, depending on what’s available and in season. This makes them very nutritious.
- The traditional African diet is not what people have become used to eating in the last fifty years – it’s the food our grandmothers and great grandmothers ate.

FOOD MEDICINE FROM AFRICA FOR AFRICANS

My name is Dr. Harriet Karibu. I am passionate about helping people to get well and stay healthy. And although I often have to give my patients pills, I'm one of those rare doctors who **recognise that the best medicine is nearly always healthy, safe and nutritious food, not pills**. Food is what helps our bodies to grow strong, to build our immune systems, and to fight against illnesses like COVID-19.

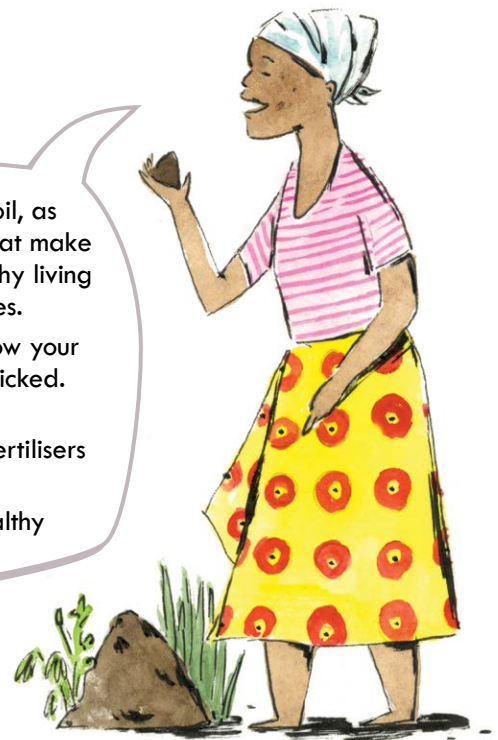
I also recognise that while science can teach us much about what food is good for us, there is also much knowledge in our communities, amongst our mothers, grandmothers and other elders. I have interviewed some of the people you met in this story to ask them what messages they have about good food medicine. This is what they said.



MBUYA

- Traditional diets are the best foundation for what we eat. Our forefathers and mothers spent many hundreds of years learning what food keeps us strong and healthy. Let us revive and celebrate our traditional diets for their wisdom and to remind us of who we are and where we come from.

- Eat food that is grown in healthy, living soil, as this food is full of a variety of nutrients that make you healthy. The mighty microbes in healthy living soil feed the mighty microbes in our bodies.
- The fresher the food the better. If you grow your own food, you can eat it as soon as it is picked.
- Try to avoid food that's been grown with chemicals such as poisonous sprays and fertilisers – these can make you sick over time.
- Healthy soil equals healthy food, and healthy food equals healthy people.



RUTH



NELIMA

- Eat from the rainbow bowl – a variety of foods that are different colours.
- Avoid processed food that has lost nutrients from being too refined; or has additives such as colouring, preservatives, flavouring, extra sugar and salt. These additives weaken your gut microbes and your immune system.

- Use clean water to wash and prepare all your food. Fresh food is best, so grow it yourself if you can. If you buy your food, try to know the source of it.
- Don't cook food for too long and avoid using too much salt and too much oil.



SARAH

- Avoid sugar! Sweetened products such as sodas have far too much sugar for our bodies, and many processed foods contain a lot of sugar. Processed or added sugar has no nutritional benefit, and can cause health problems such as obesity, diabetes and many other chronic diseases. You can get all your energy needs from the natural sugars in fruits, vegetables and grains.



JAMES SEKURU

- If you follow these guidelines, you will make your body much stronger. Martha summarised it well for us. Martha?



MARTHA

- Eat a wide variety of fresh, local foods, produced naturally. Emphasise traditional foods and dishes, as Mbuya says. Then you'll be taking the best medicine to fight against a serious infection of COVID-19!



**DR HARRIET
KARIBU**



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