Magic Beans
ACKNOWLEDGMENT

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We believe that this book is a powerful tool that will help to address the double burden of malnutrition.

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FOREWORD

Magic beans is a fictional story of two siblings who are determined to save their baby sister from malnutrition. Faced with the possibility of a weak and ill sister, these siblings embark on an adventure to visit Nairobi and meet a professor who improves bean varieties with nutrients that are beneficial for health.

Good nutrition for everyone is important and for children, good nutrition ensures proper growth and development of their bodies and prevention of many childhood illnesses. Good nutrition for children will also ensure proper brain development.

Biofortified beans by the ZIRON project in Kenya ensures that Zinc and Iron which are very important micronutrients are made available to everyone.

Eat healthy by choosing food that will give you all the necessary nutrients, make sure your food is safe to eat and hygienic.
THE ROOTS

At the foot of the Nyali hills, in the peaceful village of Nyache, lived a farmer family of Mr and Mrs Nyaga. They had three children called Mkacharo, Mkadeu and Akichi. Mkacharo was 10 years old, Mkadeu was 8 while Akichi was only 9 months old. Mr Nyaga and his wife worked hard on their farm, but at times the yields could not sustain the family.
One day Akichi fell ill and her mother took her to the nearest health centre. “Akichi suffers from a nutritional deficiency disease,” the doctor said after asking Mrs Nyaga a few questions. “What does that mean?” Mrs Nyaga asked. “She lacks proper nutrition. The food she eats is not giving her all the necessary nutrients she requires for her growth and development”, the doctor explained. “Give her this medicine every time before meals. It contains some of the nutrients she needs.

Mrs Nyaga did not believe the doctor. She knew that her children ate well. They ate ugali, vegetables and sometimes beans. The children even ate chicken and meat during holidays and important celebrations. Every day, Akichi ate a lot of porridge made of maize flour. Her mother thought that was enough food for her growth. She did not see the need to take the doctor’s advice. How can a child eat meat and beans? They could also not afford to buy the foodstuffs recommended by the doctor.
Many people believed Akichi was cursed. This made Mr Nyaga and his family sad.

She took Akichi home and hoped that she would get better. Several days went by but Akichi’s health did not improve. Their neighbours began talking in whispers about what could be happening with the Nyaga family.
One day, Mkacharo and Mkadeu realised that other learners were avoiding them at school. No one wanted to play with them, talk to them or walk with them home. “Why do you not want to walk with me home?” Mkadeu asked one of his friends as they left school. “Your family is cursed. The curse will be passed on to me if I come close to you or Mkacharo,” his friend answered and walked away hurriedly.

This made Mkadeu upset and he ran away crying. Mkacharo ran after him. “Mkadeu, please stop running and crying,” Mkacharo pleaded with him. “Do not listen to those children. They are mean.” “Did you not hear them? Akichi is cursed. She is sick and sad,” Mkadeu said as he wept.
“Akichi is not cursed. The doctor said that she lacks certain nutrients in her body. I believe the doctor,” Mkacharo assured her brother. “She eats the food we all eat. Why are we not all sick like her? Huh? Why is she sick and we are not? Answer me, Mkacharo.”

“I read something from a book I found at the library. Akichi is not cursed. I can even show you. I have the book in the bag,” Mkacharo said as she took out a book from her bag.

She opened the book and showed Mkadeu, “You see, Akichi is not given the right food for her to grow well. Do you understand?” Mkadeu was confused. He still did not understand why Akichi would fall sick because of the type of food she ate. Sensing her brother’s confusion, Mkacharo continued, “Babies are like seedlings. They must get tender care and good food to be safe from diseases. Do you see how Father and Mother take care of the maize at the farm? They weed, water and apply manure on them.”
“They also take good care of Akichi. They feed her at least three times every day. Is that not enough?” Mkadeu asked. “Mother and Father take good care of Akichi, but I think there are things they do not understand about the food they give her. That is what makes Akichi sick.”

For all of us to be healthy, we require a diet that provides us with the right nutrients from the food we eat. This diet is from foodstuffs like legumes, vegetables, fruits, cereals and other staples, milk, meat, fish and eggs.

“What are those things that they do not understand?” asked Mkadeu. “Giving Akichi maize porridge alone every day is not healthy. The porridge does not have all the nutrients recommended in this book. She needs different types of food to get different nutrients, as the book recommends. Again, Mother says we cannot give Akichi fruits and vegetables because she can choke.

However, the book says that fruits and vegetables contain vitamins and minerals which protect us from diseases. And remember mum started feeding Akichi porridge when she was just four months old. That was too early. A baby should feed only on breastmilk for at least the first six months.” “Not even water?” wondered Mkadeu. “Nope. Not even water.” “We have to do something to save our baby sister,” Mkadeu said. “What can we do? We do not grow many crops neither do we own many livestock. We are not rich?” Mkacharo responded.
“Look here,” Mkadeu said, pointing at a page in the book Mkacharo gave him. “We do not need a lot of money. See, there are certain foods that have more nutrients. If we get that food, Akichi can have more than one nutrient from it.” “Let me read,” Mkacharo grabbed the book from her brother and read aloud: A professor from the University of Nairobi and his team of plant breeders are adding minerals such as zinc and iron into the bean seed.

“You also do not know, huh?” Mkadeu said laughing. “We can find out what it means from the Agricultural Officer when she next visits our farm,” Mkacharo said. “If we get these beans, we shall have several nutrients from just one crop. That will be wonderful. These must be the magic beans.”

“But having beans with many nutrients is not enough, we still need to eat different foods to get all the nutrients we need.”

“I wish we could talk to the professor and get these magic beans,” said Mkadeu.

The beans, which mainly contain protein and other micronutrients, will now also have zinc and iron. Zinc helps in growth and development of the body and improves one’s immune system. Iron helps in the formation of red blood cells. “Mkacharo, stop reading. I have not understood anything,” complained Mkadeu. “What does this word even mean?” Plant breeders are scientists who improve crops, but I do not know how they do it,” answered Mkacharo.
“Yes, I agree. Dad’s mobile phone does not have airtime most of the time. How are we going to call the professor?” Mkacharo wondered.

“Maybe we can send him a ‘please-call-me’ message,” laughed Mkadeu. Mkacharo joined the laughter. She was happy that she was able to convince his brother that Akichi was not cursed. As they walked home that hot afternoon, they had hope that they would be able to get the magic beans and save their sister.

For supper that day, Mrs Nyaga prepared porridge for Akichi and rice and beans for the rest of the family. “Mama, you can also give beans to Akichi. She needs the nutrients found in beans for her to be healthy,” said Mkadeu when they sat to eat.
“Your sister is just a baby; she cannot swallow beans. Also, beans are not good for her. They will cause her stomach to swell,” she answered. “That is not true, mum,” Mkacharo protested. “We can mash the beans before giving it to Akichi. Beans will make her healthier.”

“Can you two listen to your mother? She knows better,” their father retorted. “Akichi is not sick because of food. She is bewitched.” “Dad, she is not bewitched. She just needs to eat different types of food to improve her health. There are certain magic beans that can make her body stronger against diseases,” Mkacharo explained. “Mum, why did you stop breastfeeding Akichi? The book we read said that babies should be breastfed for the first six months, without being given any other food and should start eating different healthy foods at seven months. However, they should continue breastfeeding until they are at least 2 years old,” added Mkadeu.

The parents were upset with Mkacharo and Mkadeu. They felt that the children were being disrespectful. “We do not practise magic in this household. I will not have magic beans to heal Akichi. It is against our religion,” Mr Nyaga said.

“I will not have you lecture your mother on breastfeeding. That is a taboo. Finish your food and go to bed.”

“We are sorry, daddy. We did not mean to disrespect you and mum,” Mkacharo apologised. “The magic beans are not evil. They are improved beans made by scientists to help people become healthier,” Mkadeu added.
“If these wonder beans existed, the Agricultural Officer would have told us about them. She has not. That means that they are not available in this village or even in the county,” their father dismissed them.

The children finished their meal quietly and retired to their room. Sleep did not come easy to the two siblings that night. They needed to help their sister. After listening to their parents that evening, they knew Akichi would not get the help she needed.

“Mkadeu, Mkadeu, are you sleeping?” whispered Mkacharo.

“No, I have not slept. I am thinking of how we can get the magic beans.”

“Me too. We need the seeds as well,” Mkacharo said.

“Only if Nairobi were near or we had transport money, we could go look for the professor at the University of Nairobi,” “We are only children. Even if we went to Nairobi, how would we find the university? Nairobi is a big city and we have never travelled beyond our village.”

HATCHING THE NAIROBI PLAN
“I know, Mkacharo, but I am desperate. I do not want Akichi to die,” said Mkadeu whimpering. “Shh, stop crying. Dad will hear you and reprimand us both. Akichi will not die. She was given some medicine at the health centre. We just need to find a way to feed her well and she will be fine.”

“Then let us go to Nairobi and bring the magic beans,” pleaded Mkadeu. “Do not call them magic. Call them magical. Father thinks it is real magic,” Mkacharo laughed softly.

“Okay then. Let us go to Nairobi for the magical beans. The journey will also be an adventure.” “You must be joking. How will it be an adventure? Is getting lost in the city an adventure?” “What if we don’t get lost? You shouldn’t always be afraid of the unknown. We have to go for the magical beans.” “When do we leave? What should we pack?” “So you agree that we should go?” Mkadeu said as he jumped off his bed and moved closer to his sister’s bed. “I suggest we leave at dawn.”
There is a trader’s truck that leaves early every Tuesday and Saturday morning. It delivers goats to abattoirs in Nairobi. We can get on it tomorrow.”

“Mkadeu, how do you know all that? There is no way I am getting onto a goat truck. That is gross.”

“Mr Okech, one of daddy’s friends, uses that truck every time he wants a free ride to Nairobi. He hides at the back. I overheard him telling daddy. Do we have any other option?”

“I think we should carry some fruits, some uncooked rice, a lot of drinking water and extra clothes. I have some money dad gave me to buy new school uniform.”

“Mkacharo, you can’t use that money. Dad worked hard for it. He will be very upset with us if we used the money on other things.”

“Do you have any other money?”

“No, I don’t,” Mkadeu said, sadness written all over his face.

“Exactly. So we will use this money” Mkacharo said. The children barely fell asleep that night.

At 3am, they were out of bed.
They sneaked around the house collecting the items they needed for the journey. They quietly left the house. They placed a note on the table for their parents and quietly left the house. The note read:

Dear Mother and Father,
We are off to Nairobi. Please do not look for us. We will explain everything when we get back. We love you and Akichi.
Your loving children,
Mkadeu and Mkacharo.
JOURNEY TO NAIROBI
Mkacharo carried a bag with food while Mkadeu carried drinking water and their bedding and clothes. They walked fast towards the shopping centre where lorries and buses leaving for various towns were lined up. The touts were loading luggage onto the buses.

“Mkadeu, are you sure the truck leaves for Nairobi on Saturday?” “Yes, I am. Mr Okech uses it.”
“What should we do if we do not find it?”
“We could get on the other trucks carrying farm produce.”
“Mkadeu, those trucks are too full. Where will we sit?” Mkacharo protested. “If we sit at the top, we may slide off when the trucks start moving.”
“You’re right, Mkacharo. I am sorry my plan has failed. Can we use your money to get on a bus?”

Mkacharo closed her eyes and let out a heavy sigh. “Let us just go back home, Mkadeu. If we use this money now, we will not have any money for transport back.”
As the siblings contemplated what to do next, a lorry slowly drove by. They saw several goats on the truck. They looked at each other and ran after the truck and jumped on its back. The children found a spot at one corner of the truck and sat comfortably. The smell from the goats was not pleasing, but they did not mind. It was a free ride after all. They were desperate to find a cure for their sister.

As soon as the truck was out of the crowded shopping centre, it sped on the bumpy dusty road towards the highway. The children laughed at the way the goats swayed and bleated with each bump. After a while, they drifted off into sleep.
By the time Mkacharo and Mkadeu woke up, the sun was high in the sky. The lorry stopped at a gas station and the children worried that they would be found. They did not know where they were but they were sure they were far from home. They saw a road sign indicating Nairobi was 102 kilometres away. “Mkacharo, how far is 102 kilometres?” Mkadeu asked. “I feel tired and hungry.”

“I think it is not that far. We should be in Nairobi after about two hours. Here, have a banana.” Mkacharo handed him a banana. “Thank you, Mkacharo.” The children ate bananas and drank some water.

After fuelling the truck, the driver asked his conductor to check on the goats while he went to get some snacks and water. The children panicked. They were going to be caught. There was a big blue canvas, like the one that covered the truck, which the children were sitting on. They quickly pulled it over their heads and covered themselves. When the conductor went to the back of the truck to check on the goats, he saw two fresh banana peelings near the blue plastic. He did not see anything else apart from the goats. He tried to pull the blue canvas, but the goats were standing on the other side of the plastic, bleating loudly and jumping up and down. He did not think much about it and gave up. He immediately joined the driver at the shop.

“Are you okay, Mkadeu?” Mkacharo asked her brother who was panting and sweating. “I am fine.” “I want to go to the restroom. Do you want to come with me?” “I have already helped myself. I was so scared that I peed on myself,” Mkadeu responded. They both laughed softly. “Okay, I will be quick. Stay put. If they come back, cover yourself with the canvas,” Mkacharo instructed her brother as she left the truck. Before long, she was back.
The lorry started off again and this time the children did not sleep. They enjoyed the beautiful landscapes. After about two hours, they started seeing tall buildings. “Wow! We must be approaching Nairobi now,” said Mkadeu smiling. “Look at that tall building. How did they even build that?” “There are people who design buildings by drawing pictures and giving measurements. They are called architects,” said Mkacharo. “How do you know so many things, Mkacharo?” “We learn a lot of things in Standard 6,” she responded. “I also like reading about different things.” “One day I will design the best building in the country,” said Mkadeu while admiring a beautiful building whose view was slowly fading as they moved farther away.
They passed through the beautiful city and then came to the most crowded market they had ever seen. The lorry moved slowly through crowded streets. The market was filled with the sound of cars, minibuses, vendors and animals. Women cooked in makeshift kiosks, hawkers sold all kinds of merchandise along the streets, touts shouted at the top of their voices. The children did not know what to do or where to go.

The lorry had come to a stop due to the heavy traffic jam. Mkacharo and Mkadeu decided to get off. They did not know what to do or where to go. They started asking people where the university was but no one paid attention to them. They walked about for close to an hour but with no success.
They saw an M-Pesa shop nearby. There was a woman making some transaction. “Maybe we should ask the shop owner where the University of Nairobi is,” Mkadeu suggested. The shop owner did not pay attention to the children’s questions.

He angrily told them to get lost if they had no business at his shop. “Your smelly clothes will scare my customers away,” he said.
The woman who was depositing money at the shop asked, “Why do you want to know where the University of Nairobi is?”
“We have travelled all the way from Nyache village. We are looking for Professor Kibiwott. We have a sister who is suffering from a nutrient-deficiency disease. We read that this professor has magical beans that would cure our sister.”
“Where did you read about the magical beans that made you travel this far alone?”

“We read in a book that the professor adds other nutrients to beans to make them healthier and more nutritious.”
“Oh, I see. I am Dr Odongo and I teach Nutrition and Dietetics at the University of Nairobi. I know Professor Kibiwott. He is the head of the Agriculture department at the University. He has been doing some research on beans. I am part of the team, but those beans are not magical beans. They are not a cure to any disease,” the lady explained.

“The book says that your health will improve when you eat those beans. The doctor said that our small sister lacks nutrients that are found in foods like beans and meat,” Mkacharo said confidently.
“The doctor was right. However, these beans are not medicine. They contain minerals and proteins good for growth and health,” Dr Odongo said smiling.
“Will you take us to see the professor?” Mkadeu asked.
“I will take you to his office right away.”
Dr Odongo took the children to the university.

They went into the professor’s office and Dr Odongo explained everything to him. He looked at the children and smiled. “I have never met any children as brave and determined as the two of you. Yes, we have improved bean varieties here.”
The professor took the children and Dr Odongo to a big room where many different beans were kept. He gave the children three packets of bean seeds, 10 kilogrammes of beans and 5 kilogrammes of bean flour. The professor explained that his research team had a scheduled visit to the children’s county beginning the following day. He offered to give them a ride back home. “You can spend the night at my house,” Dr Odongo said.

She took the children to her house. “Thank you, Dr Odongo, for your kindness. We did not expect to be this lucky. We thought we would get lost in the big city,” Mkacharo said gratefully. “You are welcome,” Dr Odongo said. Feel at home.” “We are grateful for your help,” said Mkadeu.
Dr Odongo showed the children their bedroom and bathroom. After they freshened up, she led them to the kitchen. “Now come with me to the kitchen. I will show you how you can use the bean flour to prepare different meals,” she said. Dr Odongo showed the children how to make flitters, cakes, biscuits, bean purees and blended maize and bean flour porridge. The children could not believe that beans could be used to make so many meals.

“We can easily give Akichi the bean puree and the porridge. Our mother refuses to feed her beans and meat because she thinks she will choke, or her stomach will swell,” Mkacharo said excitedly.

“But how will we know how to prepare all these meals using beans and bean flour?” Mkadeu asked.

Dr Odongo showed them a cook book with various recipes. The food pictures in the book looked delicious. “Wow! When I grow up, I want to be a nutritionist” said Mkadeu.

Mkacharo laughed. “I thought you wanted to be an architect?” “I have changed my mind. I want to understand food and how it makes us healthy. I want to make and enjoy delicious and healthy food.”

They all laughed. They sat in the kitchen and enjoyed the meals they had made. It was delicious.
FAMILY REUNION

The next day, the children travelled with Prof Kibiwott, Dr Odongo and his research team. They arrived at their house late in the afternoon.

The worried parents and concerned villagers, who had gathered in Mr Nyaga’s compound, were relieved to see the children alighting from the vehicle. Their father had filed a report with the police and their mother had made phone calls to their relatives who lived in Nairobi to ask if they had seen her two children.

Prof Kibiwott explained the benefits of the magical beans. The gathered villagers were curious and asked several questions. They also wanted to know where they could get its seeds. Mr and Mrs Nyaga were no longer angry.

They thanked the professor for taking care of their children and for the gifts.
After two weeks of feeding Akichi different types of food such as mashed fruits, vegetables, potatoes and blended porridge made from beans and other foods, her health started to improve. She became more playful, happier and chubbier. The doctor visited and confirmed that Akichi was once again healthy. Mkacharo and Mkadeu also helped their parents to keep their house, food and water clean. This prevented them all from getting diseases like diarrhoea.

Later that evening, the children shared the bean treats they got from Dr Odongo with their family. They told their parents about their journey to Nairobi. Their father was proud of them but warned them not to travel to the city on their own again. He promised that he would start listening to them more. They warmed the bean puree and gave it to Akichi. Akichi seemed to enjoy the meal. She ate it all.
The family lived happily and the children were now heroes of their school and village.

Their friends at school no longer talked ill of their family. All learners in their classes wanted to be friends with them.

The county governor heard about the story of the two brave children. He gave them a prize of two goats. He encouraged everyone in the county to grow the improved beans. Dr Odongo and other nutritionists visited many villages in the county, teaching families how they could prepare different meals of beans.
With the help of their teachers, Mkacharo and Mkadeu later wrote a book about their Nairobi journey and adventure and called it 'The Hunt for Magical Beans'.

THE END