

Teddy's energy



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Recommended for children aged 10-14

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“It is in your hands to create a better world for all who live in it”

~ Nelson Mandela ~



Teddy has a dream

A little while ago, in a country not that far away, a dreamy girl stretched her arms. "Ahh...", she yawned. "What a good day for an adventure!"

"Good morning, Teddy!" her parents said cheerfully. "We are off to work on our farms."

"I am going to the woods," Teddy replied. She put her hair up in two buns that bounced high on her head. Off she walked to the edge of the forest. There, she climbed on the highest tree trunk she could find, took a deep breath and shouted with all her might,

"GOOD MORNING TEMBO!"

A loud noise arose of leaves cracking and branches breaking. From underneath the bushes Tembo appeared, enthusiastically running towards Teddy with his enormous elephant feet.

"TOOTOOTOOT!"

Teddy smiled. Tembo waved his trunk in the air.

"Let's go!"

Together, Tembo and Teddy ran through the forest on the lookout for butterflies, peacocks and juicy forest fruits. Teddy jumped smoothly over tree roots as high as Tembo's knees. Next to her, Tembo stomped right through all the bushes, shrubs and branches blocking his way. When they got tired they rolled on their backs and stared at the ocean of leaves above them. Teddy's blue and yellow dress was full of mud stains, leaves and grasses.

"I had a wonderful dream, Tembo," Teddy said.

"I dreamt that I went to school and learned how to read and write. I read a million books about birds and trees and the earth on which we live. At the end of it, I knew everything about nature."

Teddy rolled on her side.

"I even knew everything about you and your friends Tembo," Teddy added with a twinkle in her eyes.

Tembo snorted. As if you would ever be able to find out everything about a majestic elephant like me crazy girl, he seemed to think.

Teddy smiled. She picked up a leaf and examined it closely, her fingers following its delicate veins. Suddenly she plunged back into reality. The two buns on her head dropped.

"I would love to go to school in real life too," Teddy said softly. "Unfortunately, my parents can't afford to pay for it."

Tembo looked at her with eyes that shined like raisins underneath thick layers of grey skin. Suddenly he picked Teddy up and swung her in his trunk until her buns bounced back onto the top her head again.

"You're right, Tembo, one day I will go!"

"TOOT!"



A mysterious visitor

One day, when Teddy skipped home, the smell of burned wood reached her nose. Curiously, she turned around and made a jump in surprise. A brown bag was striding toward her.

"Greetings, dear girl," the bag said.

Teddy startled. She did not know whether to stay, run or laugh. The buns on her head trembled.

"What on Earth!" she thought. "I know people say this forest is magical, but talking bags? That's new!"

Then a head peaked from underneath the bag. On top of it balanced a gigantic chestnut-colored hat.

"My name is Jamie, dear girl," said the man to which the head and hat belonged. "Do you know the way to a village called Mtakuja?"

Teddy smiled. Quickly, she brushed her dress in an attempt to remove some of the many leaves and stains that she had collected on it in the forest.

"I am Teddy," she replied. "And yes Sir, Mtakuja is my village. Follow me!"

With quick strides Teddy guided the man to Mtakuja, chatting enthusiastically about her friend Tembo and their crazy forest adventures.

When Teddy and Jamie arrived in Mtakuja, the roofs of the houses shimmered in orange evening light. A dog barked. Jamie fixed his top hat and grinned widely at every villager they passed.

"What a charming town Teddy," Jamie said. "Would it be possible to speak with the village leader by any chance? I have something important to tell him."

Teddy nodded. "No problem, our leader is right there!" she said and pointed at a wise man, whose eyes carried the worries of all villagers. Sunken in thoughts, the village leader sat on his stool, continuously tapping his pencil on the notebook in which he was writing.

"This is Jamie, village leader," Teddy said proudly. "He came all the way from the big city to visit us!"

The village leader of Mtakuja looked up and examined Jamie from the tip of his hat to the tips of his toes. It seemed like he wished to discover whether the sudden arrival of a visitor would add to or relieve his worries.

"Welcome to our village, Jamie," the village leader said eventually with a generous smile. "What can I do for you?"

"Village leader, I have an offer you cannot refuse!" Jamie cheered.

Jamie swung his bag high into the air, which spread the smell of burned wood all around.

"Let me tell you about the black gold I carry!"



Black gold

Curious about the gossip of black gold, Mtakuja's villagers gathered one by one on the main square, which was covered with the inviting softness of sand and grasses. Jamie stood in the middle and kindly greeted each person that arrived with a tip of his big blue hat. When everyone was there, he slowly reached into his gigantic bag and took out what looked like a black rock.

"Behold, the black gold!" Jamie cheered.

The villagers looked at each other and raised their eyebrows.

"That is no gold," shouted one of the villagers, called Mohammed.

"That is charcoal!"

"Charcoal?" Teddy whispered.

"Charcoal is an energy source made of wood," Teddy's father Andrew replied, stroking his giant walrus mustache. "People in the big city light it on fire and cook their dinner on it."

Jamie waited unfazed until the villagers stopped mumbling.

"Dear people of Mtakuja," he said with a theatrical wave of his hand.

"I don't think you realize how valuable this little piece of black wood is! Thousands, no, millions of people in the big city use charcoal every day. The need for charcoal is sky high and ... so are the prices!"

Jamie took a dramatic pause. The villagers held their breath.

"Produce charcoal for me and you will be rich!"

Jamie stared at the crowd. He was perfectly aware of the big impact his speech had made on the villagers. The villagers looked at each other, their eyes sending a million unspoken words.

"Gosh," Teddy's parents mumbled in concert. "What an amazing opportunity. With the money we could send Teddy to school!"

"It must have been faith that you met Jamie in the forest Teddy," her mother Leah said. She petted her daughter's buns.

"Indeed it must have been," Teddy replied.

"I can't wait to tell Tembo!"

Off she ran into the forest.

"TEMBO!"

"TOOTOOTOOT!"



Jamie gives a masterclass

“Anyone that promises gold that is not actual gold cannot to be trusted!” said Mohammed. He crossed his arms. Many villagers nodded.

“I agree that calling charcoal black gold is suspicious. I don’t expect it will make us rich. But it’s worth a try!” replied one of Mohammed’s friends sharply. “We have almost no income. Any extra money would be welcome to buy food and send our kids to school.”

“Yes,” agreed the remaining villagers. “Let’s just give it a try!”

When it became clear that the majority of villagers were interested in producing charcoal, the village leader of Mtakuja stood up and shook Jamie’s hand.

“We trust you Jamie,” he said. “We accept your offer. We have just one question. How do we make charcoal?”

All villagers turned to Jamie, who smiled as if he had just turned charcoal into actual gold.

“Thank you for trusting me village leader. You will not regret it, I promise. Follow me into the forest and I will show you how charcoal is made!”

With great enthusiasm Jamie guided the villagers to the edge of the forest to give them a masterclass on charcoal production. The villagers followed, some with great anticipation others hesitantly.

“First we cut trees,” Jamie explained. “Just a couple of them.”

He pulled two axes from his bag, one for himself and one for Teddy’s father, Andrew. Without hesitation, Jamie began to fell the first big tree on his path. Andrew followed suit.

The air filled with smells of resin and sweat. When the trees fell, Jamie told the villagers to remove grasses and branches from the area to prevent wildfires. Hereafter, the villagers cut the trees into smaller blocks and stacked the blocks on top of each other. Gaps between the logs were filled with smaller branches. Steadily, a copper-colored pile of wood arose.

“Now we cover the wood with soil,” Jamie instructed.

All villagers picked up shovels and piled a thick layer of soil onto the wood until it looked like a little copper-colored mountain.

“Perfect!” Jamie cheered. He proudly looked upon his hard-working students.

“Now we light the mountain on fire!”

Swiftly, Jamie climbed onto the mountain to light the wood on fire.

“The wood will not burn entirely,” Jamie explained. “It will turn into charcoal because the soil and grasses on top of the wood make sure little oxygen can reach the fire.”

“What is the mountain called?” asked Teddy shily. She had hid herself behind her mother’s elegant blue dress.

“It is called a kiln, dear girl”, Jamie said.

“Don’t worry”, he added, as if he could read her mind. “There are plenty of trees in the forest to make charcoal from for years and years to come!”



The charcoal age

Charcoal production filled Mtakuja's air with the smell of burned wood, resin and freshly cut leaves. Each charcoal producer cut their own trees, built their own kilns and made their own charcoal. This produced a random pattern of spots with and spots without trees in the forest. In the spots without trees many tree stumps were present from which, in some cases, new shoots and branches grew. Over time, these shoots and branches would grow so big that they formed whole new trees. In other cases, the stumps remained stumps and the trees were lost. The remains of the kilns remained present as a scar on the land, consisting of bare soil and left-over charcoal pieces.

"Watch out Teddy! Before you know it, a giant mouse will think our forest is a cheese full of holes!" Andrew shouted.

Laughter rumbled from the bottom of his balloon belly to the tips of his walrus moustache.

"I cannot wait, dad!" Teddy replied. "I love mice. But I am sure they would rather eat your enormous morning porridge."

Jamie bought charcoal from the villagers and transported it to the big city on his treasured red motorbike. Along his way, he left behind a trail of dust and charcoal pieces. He sold the charcoal on a market filled with spices and fruits and people dressed in brightly-colored clothes. Every time Jamie arrived, customers gathered around him like a swarm of bees on the look-out for flowers.

"Come and see folks, come and feel, come and smell!" Jamie shouted louder than any market seller who ever lived.

"Behold the best quality charcoal in the entire world. It is made from the finest trees in the country."

"We know that Jamie!" the customers cheered. "It is the best charcoal we ever used. Please bring us some more!"

"Aye, aye, your wish is my command!" replied Jamie and he rushed back to Mtakuja as fast as he could.

"The city folks love your charcoal, dear villagers!" Jamie cheered.

"Please make some more!"

The villagers picked up their axes and shovels and made their way to the forest. They were happy that they no longer had trouble to provide food on their tables.

Slowly but surely, more and more holes appeared in the forest.



Good times in Mtakuja

Teddy, Andrew, Leah and Jamie sat together underneath the orange evening sky. They nibbled on fruits and nuts. As always Jamie entertained them with his stories about the big city.

“Yesterday folks,” he said, “one million people gathered around me at the market place. I swear. I am the most popular man in town!”

Andrew laughed loudly and patted Jamie on his back.

“We believe you, Jamie,” he said. “Thanks to you, we now have enough money to pay Teddy’s school fees. Tomorrow is her first day.”

Teddy could not stop smiling. She was over the moon.

“Thank you mom, dad and Jamie,” Teddy said. She hugged them all tightly.

“You have made my dream come true!”

The next day, Teddy was welcomed at school. The teacher, Miss Rashida, was a kind but strict lady, who wore green head scarfs that were just as shiny as her books. First, Miss Rashida taught them letters, then words, then numbers. When everyone got tired, she jumped up.

“Let me tell you a story!”

“Teddy,” Miss Rashida said, “could you please get the book about small animals that live in the soil?”

Quickly Teddy walked over to a ginormous bookshelf that stood in the middle of the classroom. The books smelled like a thousand secrets waiting to be uncovered. All students gathered on colorful cushions in a cozy corner of the classroom, where Miss Rashida told them stories about the many teeny-tiny animals that live in the soil.

Everyone stared fascinated at the floor below them.

“Crazy, don’t you think?” whispered a boy called Theo, who sat next to Teddy.

“The idea that millions of tiny animals live underneath our feet.”

“Not only underneath your feet Theo,” said a girl called Rose.

“I can see one in your hair!”

“Pff you have got one behind your ear crazy girl!” Theo replied.

“Yours is creepier crazy boy!” the girl shouted. She proceeded to tickle Theo’s tummy until the two rolled over the floor of laughter.

“SILENCE!” Miss Rashida yelled.

“Rose and Theo, what on EARTH are you doing?”

“Pretending to be soil animals Miss!” Rose said with a straight face. She fixed her bright pink headscarf.

“Well, students, as you can see, we have found two new animals that are not yet described in our book!” Miss Rashida said. “We should tell the writers.”

The students burst into laughter. Miss Rashida chuckled.

Teddy looked at the two crazy soil animals besides her and smiled.

“I hope we will become best of friends!” she thought.



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$$2+2=4$$

Teddy goes to university

Teddy, Theo and Rose did so well at school that they received an award from the government. This meant they could study at Sokoine University of Agriculture, one of the best universities in the country. When Teddy received the news, she ran to the forest and danced around with Tembo until they dropped on the forest floor. Suddenly Teddy's big smile disappeared and tears filled her eyes. The university was located far away from Mtakuja. This meant she would not see her parents and Tembo for a very long time.

"See you in five years, Tembo," Teddy said, tightly hugging his wrinkly trunk. "Take care of my parents for me."

Tembo blinked his raisin eyes.

"Tootoot!"

"I know that 'Tootoot' Tembo!" Teddy said. "It means, I hear you. Now let go of me, you are suffocating me crazy girl, doesn't it?"

Tembo blinked. Teddy laughed through her tears.

"I will miss you, Tembo!" Teddy cried.

"TOOT!"

Teddy, Rose and Theo traveled a long way to university, through giant mountains, across stormy rivers, and through stinky swamps. When they finally arrived, they were welcomed by the Dean of the university. The Dean's task was to help students choose the courses they were most interested in.

"Welcome!" the Dean said. "What would you like to study?"

"I love people," Rose said. "We are so strange and funny and kind. I want to learn all about people and why we behave the way we do."

"Amazing! 'Sociology' is the study for you!" the Dean replied.

"What about you, Teddy," the Dean said.

"I love the forest and all the animals living in it," Teddy said. "I would like to learn how we can protect them." Her dreamy eyes were full of love for all living things on Earth.

"Wonderful! 'Forestry' is the study for you!" the Dean replied.

"That is beautiful, Teddy!" Theo said. He gave her a broad smile and gently touched her shoulder. Teddy blushed and looked down at her feet. Rose grinned.

"Stop flirting and tell us what it is you want to study Theo," Rose said.

"I would like to become village leader once our own village leader retires," Theo said. His cheerful eyes suddenly turned serious. He knew that being village leader comes with great responsibilities.

"Fantastic!" said the Dean. "'Public administration' is the study for you."

And so Teddy, Rose and Theo went their own way. Each of them studied the topics that interested them most. Still they kept in touch. Each week they drank coffee together in the cozy university café that was run by a sweet lady with an obsession for pink tea cups. During the weekend they went on great adventures in the giant lilac mountains surrounding university. Along the way they talked to each other about all the things they had learned.



University
Chuo Kikuu

Teddy returns to Mtakuja

After five years of study, Teddy headed back home. Her two buns bounced high on her head. She could not wait to run through the forest with Tembo and exchange stories with her parents. She would tell them all about her university adventures and they would tell her about Mtakuja's day-to-day buzz. Teddy whistled happily at the prospect. Any moment, she expected the smell of leaves and wood to fill her nose.

But at the edge of forest her step halted and her breath stocked. Her mouth fell open. Where once grew giant trees, now only stood tree stumps. Hundreds of them covered the land, like gravestones in a graveyard. Where once grew grasses and herbs and flowers, now lay only sand that blew away at the lightest gust of wind.

Teddy's cheerful steps turned into wooden strides as she walked through the bare land that had replaced the forest. She found her parents leaning forlorn against their house. Her dad had lost his balloon belly and the tips of his moustache did not curl like they used to. Her mom looked elegant as always but her cheeks had lost their rosy color.

"Teddy!" they said. "We are so happy to see you. How you have grown! Tell us all about your university adventures."

Teddy hugged them tightly.

"What happened?" she asked.

Her parents looked at each other. They hesitated, unsure where to begin.

"We turned trees into charcoal faster than they could grow back and destroyed the forest," Leah said eventually. "We had no choice. We needed the income to survive. We are so sorry Teddy, but when the last tree was cut even Tembo disappeared."

Upon hearing the news Teddy's buns dropped and tears washed the sand below her feet.

"What do we do?" Teddy asked.

"We don't know Teddy," her mother replied sadly. "It is even difficult for us to grow food now because the wind blows away all the fertile soil. We have very little to eat."

"There seems no way forward," added her dad.

Fear filled Teddy's heart.



Teddy takes action

The day after her arrival Teddy went out to find Rose and Theo.

"I have a plan!" Teddy told them. A wildfire had replaced the usual kindness in her eyes.

"Let's bring all villagers together!"

The villagers dragged themselves to the main square. Hard rocks had replaced the soft grasses and sand that once covered it. All eyes were on Teddy, who stood in the middle of the square like a fairy in wartimes.

"All plants and animals in the forest are connected to each other," Teddy explained to the villagers. "By cutting too many trees, we removed the homes of animals. At the same time, the wind and rain blew away all the fertile soil that trees and plants need to grow. Now it is difficult for us to produce food and for the forest to recover."

All villagers bent their heads. Winds gushed all around them, turning the sky dusty grey.

"Fortunately, I have learned all about the ways in which we can bring back our forest," Teddy said.

"I also know how we can protect our forest in the future, so that we never use too many trees again," Teddy continued. "If we work together, I am sure that the forest will come back! We may even be able to produce charcoal again."

With your help, much of the forest will be restored over time. I am sure of it!"

The villagers stared at each other. How could this rocky desert ever be turned into a magical forest again?

Teddy held her head high.

"Look!" she said. "If you look closely at the tree stumps left in the landscape, you will see some branches and shoots growing on some of them. Over time, these branches and shoots will grow into new trees. This resprouting of tree stumps is called 'coppicing'. You can even see some tiny baby trees here and there. This means our forest is already recovering!"

The villagers looked around. Indeed, they thought. There are young trees and coppicing stumps all around.

"Would you like to help me restore the forest?" Teddy asked.

A murmur arose among Mtakuja's villagers. Then Teddy's parents stepped forward.

"We are in!" they said, looking at their daughter with great pride.

"We are in too!" the villagers echoed.

Finally, the village leader stood up from his wooden stool that was engraved with birds and trees and cheeky monkeys. The wrinkles in his forehead had deepened. His back was bend under the troubles his villagers faced.

"Thank you Teddy," he said. "We trust in you. I will help you restore the forest over the years to come."

"We can do it!" echoed the villagers.

Teddy looked gratefully over the crowd. She was happy to see some hope returning in people's eyes.

"Yes we can!" she cheered.



A village meeting

“Theo,” Teddy said with a gentle gesture of her hand, “tell us about leadership. Which rules do we need to make sure we never cut too many trees again?”

Theo looked over the ocean of heads pointing toward him on the village square and took a deep breath. This was his chance to practice his leadership skills.

“The most important thing is that everyone is invited to help create the rules,” Theo said. “We are more likely to follow rules we have agreed upon together. For instance, if everyone agrees that they will produce five bags of charcoal per year, everyone will be likely to do so.”

The village leader enthusiastically jumped up from his stool.

“Remember that we make many decisions together already!” he said. “Every month, we talk together about our farms and make choices about which crops to plant and when to harvest them. We just need to include forests in our conversations!”

“This is excellent Theo, truly excellent,” the village leader added.

Theo’s heart burst with pride. He smiled widely at Teddy, who stood closely beside him. When his eyes met Teddy’s, her stomach filled with the blue and yellow of butterflies.

“Don’t get distracted now!” Teddy mumbled to herself. “We are on a mission to save our village and all you can think about is a boy!”

Quickly, Teddy recollected herself. “Rose!” she said, smiling warmly at her friend. “What is the best way in which we can work together to restore our forest?”

“Great question, Teddy,” Rose said. She stood wide-legged in front of the villagers with her hands on her hips. Her bright-pink head scarf waved in the wind.

“There are many ways in which we can work together,” Rose began. “We could create groups of forest protectors, tree planters and charcoal producers that meet each other every month. During these meetings, the groups decide how to protect young and coppicing trees from grazing cows and wildfires. They also make plans on where to plant trees and how much charcoal to produce. In the meantime, they make sure everyone follows the rules. Everyone who is interested should be able to join the group, so that everyone is heard and all ideas are gathered!”

Teddy stood up.

“So, what we need to do is include everyone, meet a lot and share all ideas we have with each other,” Teddy said.

“Easy-peasy lemon squeezy!”

The villagers burst into laughter. With this laughter the villagers let out all stress of the past years. Everyone chatted and cheered. The village leader smiled. He knew there would be many challenges ahead, but he kept his worries to himself. Tenderly he put his arm around Teddy’s shoulders, greatly impressed by the great courage of the girl.

“And easy-peasy lemon squeezy it will be!” he said.



The villagers make a plan

The next day all villagers gathered in the village classroom to create a plan to restore the forest.

“My idea is to label every bag of charcoal,” Mohammed said. “Those people who follow the rules get a label. This way we can see if people follow the rules and we can track our charcoal all the way to the big city.”

“Let’s label it ‘Teddy’s Energy!’” Andrew proposed with a proud look at his daughter.

“Yes!” all villagers nodded enthusiastically. “That is perfect.”

“I love the idea, but to produce charcoal we need trees,” one of the villagers remarked. “How do we get the trees back? And most importantly, how long does it take before we can produce charcoal again?”

“Teddy!” Rose and Theo said in unison. “We need you!”

Teddy crawled from behind her butterfly notebook and walked to the front of the classroom. Her hands and dress were stained with a million ink drops.

“The trees need time to grow,” Teddy said. “After five years, we can already produce some charcoal from trees we plant on our farms. But it takes approximately twenty to thirty years before trees in the forest are old enough to be cut for charcoal production.”

“Twenty to thirty years!” the villagers cried. “That is a lot of years!”

“To get the trees back, we need to make a plan together,” Teddy said. She walked over to the old blackboard and drew a circle with another circle and a dot inside.

“Let’s say this circle is our new forest,” she said. “The circle within the circle is our farmland and this dot is Mtakuja. Where and how would you like to produce charcoal?”

The villagers remained quiet for a bit. Then five elderly friends, called Yona, Rashida, Mario, Ally and Azizi, began to talk all at once.

Let’s protect young trees and coppicing stumps from fire and grazing by cows,” Yona said. “Otherwise they will never become adult trees.”

“Let’s produce charcoal in this ‘charcoal plantation area’, which all people in Mtakuja take care of together,” Ally added. She grabbed chalk to carefully draw an area in which charcoal could be produced once the forest had recovered.

“Let’s produce in small squares that we can only cut every twenty years,” Rashida said. She took the chalk from Yona and divided the charcoal plantation area into squares.

“Let’s only cut trees larger than two meters,” Mario added. “We don’t want to burn forest babies!” The villagers laughed.

“Let’s plant many trees together,” Azizi said. “We have some seeds that our great-grandparents left us. They taught us how to plant them. Only now I realize that we already have all knowledge we needed to restore our forest! We just needed to be reminded.”

Teddy could not stop smiling at so much energy and knowledge. Theo pinched her hand.

“Look at what you have achieved, daydreamer!” he said.



The villagers regenerate the forest

Over the following years, all villagers helped out with the regeneration and protection of the forest. They built on knowledge that had been passed on from generation to generation. A special team of villagers protected young trees and coppicing stumps from wildfires and grazing cows. This gave the forest a chance to grow back naturally. Other villagers planted trees together. In the forest they planted mahogany and acacia and bloodwood trees, which provided homes to many animals. On their farms, the villagers planted mango and cashew and tamarind trees. Soon these trees would provide them with food, wood and charcoal. The villagers got most of the seeds from a local 'seed bank', a place where tree seeds are carefully saved and sold by professional tree growers.

"Planting trees in between crops on your farm makes sure that the soil does not flush away when it rains," Teddy explained to Theo. Theo was in training as village leader-to-be and tried to learn all he could about his village.

"At the same time, the trees provide fruits, shade and, after a while, even wood to build houses from! The trees make the soil more fertile, so that crops grow better and faster on it."

"So basically, we turn our farmland into a farm-forest?" Theo asked.

"Indeed!" Rose said. She swung her arms around Teddy's and Theo's shoulders. Together they gazed over the village land that was filled with many tiny baby trees and coppicing stumps.

"Such farm-forests will provide us with many types of food and income. If our tomato harvest fails, we still have mangoes and corn. If our mangoes fail, we still have wheat and peppers. And if all harvest fails we can still produce charcoal from the trees. "

"I get it," Theo said. "Very smart!"

After five years of hard work, the forest slowly started to reappear. Carefully the villagers started to produce little bits of charcoal from the trees on their farms. Two years after cutting, the coppicing trees provided new charcoal again. After ten years, Mtakuja's farmers harvested the first mangoes from their land.

"Yum!" Theo said, contently devouring some especially juicy pieces of mango. With Teddy's head resting on his shoulders, he looked over the small piece of farm-forest they cared for. Two baby boys wobbled in the cornfields, trying to catch the frightened chickens.

Theo kissed Teddy's brows.

"I think we are almost there, Ted," he said. Teddy's smile turned into a chuckle when her husband's head fell on her shoulder. His mouth opened wide and within a second he made the sound of a herd of wild pigs.

"We are almost there," Teddy whispered. "I can't believe it!"

Yet, easy-peasy lemon squeezy it had not been. Far from it. Many villagers still struggled to put food on the table. But the slow return of the forest had filled their hearts with hope. Soon they could start producing charcoal again.

"It works!" the villagers said to each other.

"Good times will rise again!"



Good times rise again

Another ten years went by, then twenty. Over time, the villagers became better and better at taking care of the forest and the trees on their farmland. They had more food to eat and more income to spare than ever before. Their good friend Jamie was delighted. Although the villagers of Mtakuja had never blamed Jamie for the devastation of the forest, he felt like it was his fault. Over the past twenty years, he had only wore grey suits and had lost much of his theatrical energy.

"I am terribly sorry for what happened to the village," he said over and over again. "I will never sell charcoal again."

But the villagers slammed his shoulders, shook his hand and patted his back.

"Don't even think about leaving us, Jamie!" the village leader said to him. "We are responsible for the loss of our forests. You brought us an opportunity. We just did not know how to handle it. Soon charcoal production will flourish again. Just wait and see!"

Jamie's eyes lightened and some of his former personality returned.

"Thank you, village leader, for your wise words and for trusting in the goodness of a savvy business man like me."

The village leader was right. The charcoal business boomed again. Even though the trees in the forest were not as big as before, it was possible to make charcoal from them. In the forest, the villagers only made charcoal in the charcoal plantation area that Ally had drawn on the blackboard. They only cut the trees that produced the highest quality of charcoal. On their farmlands, they only produced charcoal from a couple of trees at the same time. The remaining trees protected the soil and provided fruits and shade. The villagers even improved their kilns. Now they first dried the wood to increase the quality of charcoal and put a chimney in the kiln to let smoke out.

It did not take long before big city's colorful busy bees swarmed around Jamie's market stand once again.

"Come and see! Come and feel! Come and smell!" Jamie cheered. "This is the country's first sustainable charcoal! Teddy's Energy is not only of high quality, it also saves forests. The small bit of extra money you pay for these bags goes directly to the villagers of Mtakuja. The villagers use it to plant trees. Our forest manager, Teddy, has everything under control. Look, here she is before and after the forest of Mtakuja was lost."

Big city people buzzed with excitement.

"What an inspiring woman! What a cute monkey! What amazing trees! What a beautiful peacock! What great mangoes!"

With a smile on their face the customers of Teddy's Energy returned home. There they cooked the most delicious meals for their friends and family.



A setback

On Teddy's fiftieth birthday, all villagers of Mtakuja gathered on the main square, which was once again covered with soft grasses and leaves. Teddy disappeared in the tight hugs of her 'little boys', who now towered over their parents like full-grown giraffes.

"Happy birthday mom!" her sons said.

"Thank you boys," Teddy smiled.

Suddenly, worried mumbling rose among the villagers.

"My dear," Theo said. "The president has banned charcoal production."

Teddy's confused eyes met Jamie's, whose face had turned as yellow as his tie.

Trembling, he handed Teddy a newspaper article.

Teddy read out loud. "Dear citizens, charcoal production ruins our country's forests. To prevent further destruction, the production of charcoal is from now on illegal. We will buy gas from our neighbors to cook on instead. I expect everyone to stop producing charcoal at once. Kind regards, your President."

The two buns that had bounced high on Teddy's head for over twenty years, dropped once again.

Immediately, all villagers gathered in the village classroom for an emergency meeting. Rashid and John, the sons of Teddy and Theo, spoke first. Both of them had a keen interest in politics.

"The fact that charcoal production is now illegal is not only a problem for us but also for many other villages in the country," Rashid said. "Many of our neighbors' forests are almost completely destroyed. They also cannot produce any charcoal anymore from the trees on their farms. This will greatly reduce their income and may be a question of life and death for them."

"We must do something immediately!" John added. "I think our president does not realize how much harm his decision brings to tens of thousands of charcoal producers in the country."

Theo nodded. He looked proudly looking up to his boys.

"Well-said," he said. "Yet, the president has reasons to worry. Forests are the home of many animals and produce the oxygen we breath. Remember what happened to us when we lost it. Our village land turned into an unproductive desert. The same thing happens to many of our neighbors right now. The presidents needs to protect them and their forests."

"But the president says that we cannot even produce charcoal from the trees we grow on our farms anymore!" Rose shouted. Heated she threw her arms in the air. Her eyes seemed to shoot lightning bolts.

"I see no reason why all charcoal production in the country should be banned!"

The villagers started to shout all at once.

"The president is awful!"

"No, he cares about us!"

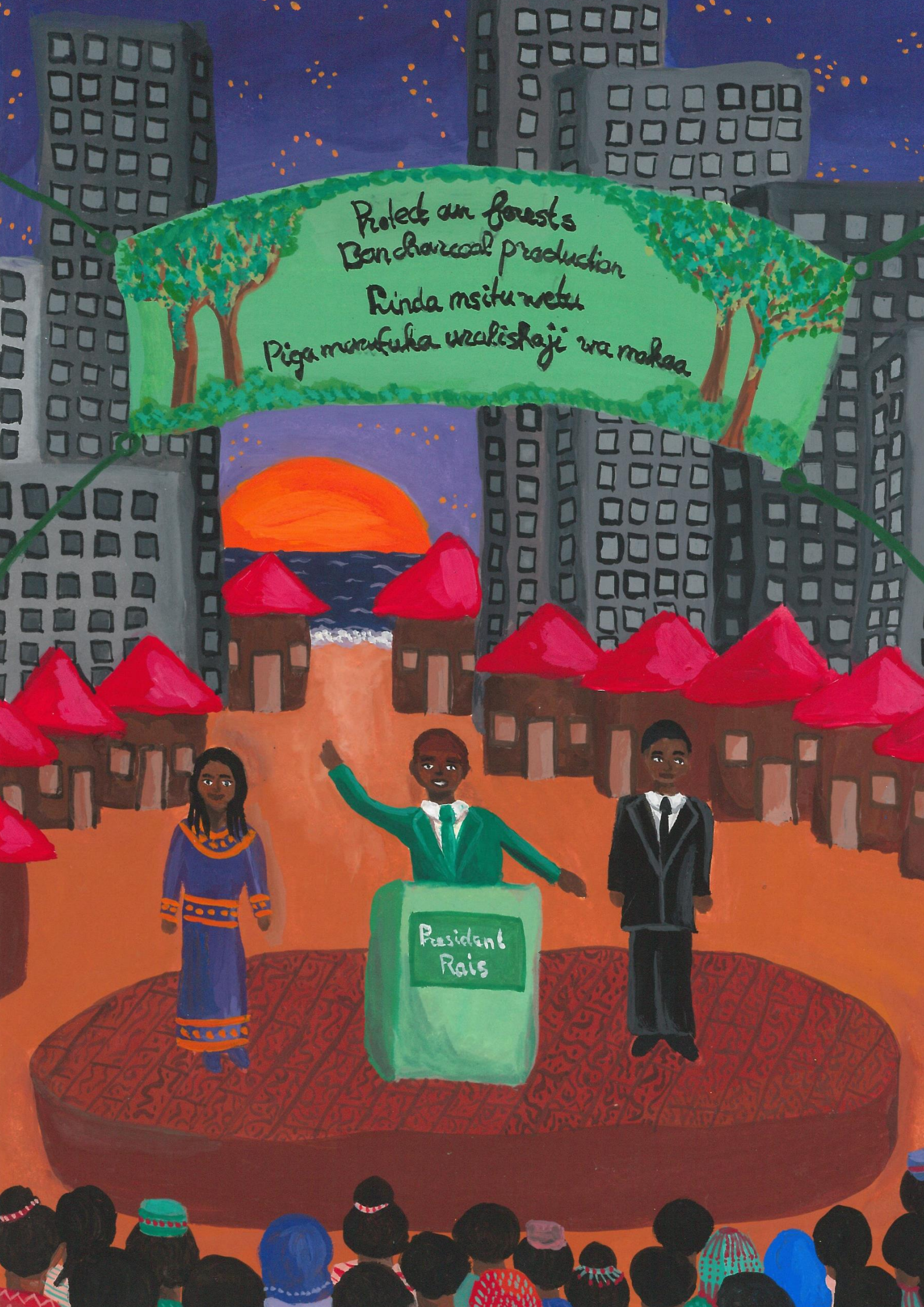
"He can't do this!"

"Yes, he can!"

"We must resist!"

"No, we must accept his decision!"

Protect our forests
Ban charcoal production
Rinda msitu wetu
Piga marufuku uzalishaji wa mkaa



A brave idea

The following day, the villagers gathered in the village classroom once again. Everyone was still yelling and screaming and talking all over each other. There seemed to be no end to it. Even Theo was unable to stop the chaos.

After about an hour, a small shadow in the back raised a hand.

“Excuse me everyone. Excuse me Sirs, Madams. Sorry for interrupting. I have an idea,” said the girl. She trembled from head to toe.

Rose, who had been observing the audience like a hawk, immediately jumped up.

“SILENCE!” she yelled. She looked over the villagers, with a gaze so strict that would have made Miss Rashida proud.

“Let May speak.”

“Thank you, Rose,” May stammered. She fixed her light blue dress and took a deep breath.

“I studied ‘public engagement,’” she started. “During this study, I learned how to best communicate difficult information to everyone in the country in a way in which everyone understands it.”

“Teddy’s Energy,” May continued a bit more confidently, “is a great idea.” “We have seen that it works well because we produce charcoal without destroying our forest. What if we tell our neighbors about Teddy’s energy? What if they also protect their forests like we do? Perhaps forests across the whole country will grow back, just like they did in our village. Don’t you think the president would be interested in this?”

“Brilliant!” Teddy said. She smiled at May, impressed by her courage to speak up. “Where do we start?”

At that moment May surprised even Rose.

“My idea is to invite the president to our village,” May said softly, her eyes fixed on the floor.

Suddenly the room seemed to be filled with a bunch of giggling four-year old children instead of adults. What a crazy bonkers idea, the villagers thought. But yet, how amazing would it be if the president actually came over!

Jamie jumped up and enthusiastically waved his hat high above his head.

“Incredible idea May! Don’t worry my dear friends!” he cheered.

“I know many people in the big city. Among these people are friends of friends of friends of our very own president. With the help of everyone in Mtakuja, the president will come over to visit in no time! We all know that Teddy’s Energy works. The president just needs to see it for himself.”

Teddy and Theo looked at each other. They knew there was nothing to lose.

“Like our village leader said all those years ago,” Theo said to Jamie. “We trust you Jamie. We just have one question. What do can we do to help you?”

Jamie smiled the smile of a man who knows exactly what is needed to make the impossible possible.

“I will tell you in the morning,” he said.

“Let’s get some sleep first. I believe we have spent enough energy today to light up the whole country!”



Teamwork

The following day, Jamie, Teddy, Theo, Rashid, John and May met in the village classroom. Jamie trusted blindly in his ability to arrange a meeting with the president. But he knew that the president would need more than fancy words to come all the way to Mtakuja.

“Rashid, John,” Jamie said. “How do we convince the president that Teddy’s Energy works?”

John scratched his chin and fixed the collar of his green suit.

“He needs data, data and more data,” John explained. “Data are numbers and words. The data should show that we regenerated our forests. The data should also show that we produce part of our charcoal on our farms and that this provide benefits to the soil. Besides this, it should indicate that we make charcoal without destroying the forest and removing all trees on our farmland. This shows that we are no longer tempted to harvest more wood than our forest and farmlands can produce. This is remarkable because people in the big city need more charcoal than ever before and pay high prices for it. Finally, the data should show that our income has increased thanks to charcoal production and that we can send our children to school.”

“We should write down the results in a report that is short and easy to understand,” John added. “At the same time, the report should contain as much information as possible.”

“It’s like pouring a thousand page literary masterpiece into ten pages of paper,” Rashid said casually.

“I believe we have the perfect combination of people for the task,” he added.

“Teddy can show that our forest has been restored. Rose can highlight that the Teddy’s Energy program provides many benefits to people. Theo can show what rules are needed to make sure people don’t destroy the forest. John and I know what the president would like to know and why.”

Rashid leaned against the book shelf with his hands nonchalant in his pockets. He looked calmly from face to face until his eyes rested on May.

He winked.

“And May here knows exactly how to write everything down so that every person in this country understands.”

May turned red. Teddy grinned at her son’s cheekiness.

“I agree,” Teddy said. “Just one thing. Let’s invite all villagers to help us out. Otherwise we will miss out on much of their knowledge and ideas. Let’s work in teams. We will meet here again in two months’ time and present our results to May. Hereafter, we help her write up a report for the president.”

For a couple of seconds, Teddy’s eyes rested upon the birds that had built a nest in a hole in the ceiling of the classroom. Then she remembered where she was.

“Agreed?” she said.

“Agreed!” everyone echoed, laughing at the daydream-nature that never seemed to leave Teddy, no matter her age.

“Alright, what are we waiting for!” cheered Rose impatiently.

“Hop hop!”



Inviting the president

Over the following months, the teams gathered data. They counted the number of trees and animals and plants they encountered. They wrote down the amount of charcoal they had produced and how much they had sold over the years. They interviewed each other to find out how happy everyone was with Teddy's Energy and what benefits it provided them. They put the data in graphs and figures and texts.

Mohammed helped out with the measurement of tree trunks and heights.

"What do we do with all these numbers?" he asked Teddy.

"This data can be used to calculate how much wood is present in this tree," Teddy replied. "The amount of wood in the tree is called 'biomass'. This biomass is what we use to produce charcoal from."

"I understand," Mohammed replied. "It is important to show our president that there is enough biomass in our forest to produce charcoal from. We can use these numbers to calculate this."

"Exactly," Teddy replied.

"But why do we count the number and types of birds living in our forest," said Azizi, who had overheard Mohammed and Teddy's conversation.

"A high number of different types of birds tells us something about how many homes the forest provides for animals. A healthy forest provides homes to many, many different animals. These animals make sure seeds are spread, so new trees grow. They also eat dead leaves and wood, which makes the soil fertile. Together all animals and plants work together and keep the whole forest in harmony."

"Alright!" Azizi said. "The president will surely be very interested in this. I better start counting some more birds!"

Everyone in the village worked very hard to gather data. They learned a lot from each other, the forest and trees on their farms along the way. After two months, everyone presented their findings to May, who wrote up a presidential report.

"Perfect!" Jamie exclaimed, after May handed him the report.

"Let me do my magic!"

Jamie went off on his treasured red motorbike, to visit friends, of friends of friends of the one and only president.

One month went by, two months went by, three whole months went by without a word from Jamie. The whole time everyone in the village held their breath. Even the birds and ants and goats and cows of Mtakuja did not dare to make a sound. Every day, Theo looked out over Mtakuja from his favorite hill.

"Calmness before the storm. Calmness before the storm," he repeated.

But he was not afraid. He had placed his full trust in Jamie and the villagers.



A presidential visit

Suddenly, there he was.

The president!

Jamie jumped in front of him, like a puppy leading his owner to his favorite ball.

“Everyone, everyone, come and see!” he yelled. “It is our president!”

The president smiled and waved at the villagers, who stormed out of their houses. His bald head shined almost as brightly as his shoes in the summer heat. His stance was powerful, but he seemed friendly and calm.

Interesting, Teddy thought. The president reminds me of a bald, better-dressed Theo.

Good sign! she grinned.

She ran over to join Theo and her sons, who were jumping up and down in enthusiasm, like a baffling bunch of kangaroos.

In no time, the village square was filled with enthusiastic villagers. The president stood in the middle of it square and waited until everyone had stopped waving and jumping around. He raised his voice so that the whole village could hear what he had to say.

“My new friend, Jamie, has told me all about Mtakuja and Teddy’s Energy,” the president said. “I have read your report and I am very impressed by your knowledge and skills. I am very honored to be here!”

The villagers burst into a rumbling applause. The president paused and looked warmly over the ocean of heads in front of him.

“Where are Teddy, Rose and Theo?” he asked.

Teddy, Rose and Theo looked at each other in disbelief. How did the president know their names?

“Here we are mister president,” Theo said finally, shaking his hand. Standing there, Teddy again noticed the resemblance between the president and Theo. She could not help but picture the modest Theo in the dashing suit the president wore. She burst into laughter at the thought.

The villagers looked alarmed at each, but Teddy’s laugh was so contagious that soon the entire village and even the president rumbled of laughter.

“I am very sorry president,” Teddy said. She shook the president’s hand. I sometimes accidentally paint funny pictures in my mind.

“No worries at all Teddy,” the president replied. “I love to laugh!”

Then the president turned serious again. He adjusted his collar, fixed his tie and grasped his throat.

“It is lovely to meet such amazing people. Together, we will create a plan to spread Teddy’s Energy to every village of our country! Those villages that produce Teddy’s Energy in line with the rules can produce charcoal again.”

“Hurray!” the villagers exclaimed.

“Tsjirp,” the birds sang.

“May-awe,” the peacocks called.

“Bzzz,” the bees buzzed, until the village was filled with a million happy sounds.



Teddy's Energy

The following morning, all villagers met the president on the main square. Together, they talked about the best ways to spread Teddy's Energy to other villages in the country. At the end of the day they had created a plan of action. "Tomorrow, we will launch project Teddy's Energy!" the president said. "I would like all of you to help me out". "We won't let you down!" the villagers cheered.

And so Teddy's Energy became a nation-wide brand for sustainable charcoal, beloved by all people and animals on Earth. On Teddy's seventieth birthday, Theo kissed his wife's head, Rashid and John petted her buns and her two granddaughters hugged her legs. Their mother, May, smiled warmly at the sight. Teddy looked over the colorful village square. The air was filled with the smell of rain after a long summer.

"Dear villagers," Teddy said.

"I am proud to say that all villages in our country can now produce charcoal under the Teddy's Energy program!"

A loud cheer arose.

"Hurray! Long live Teddy!"

Teddy smiled widely. Her whole face transformed into one happy crow's feet. Then her eyes turned serious. She stood tall and raised her hand.

"There is nothing extraordinary about me," Teddy said. "Just like there is nothing extraordinary about any person on Earth. It was a mix of hard work, persistence, love and a bit of luck that brought us this far. Teddy's Energy could have been Mohammed's Energy, Azizi's Energy, Rose's Energy!"

The villagers nodded. Teddy's words filled them with pride.

"Teddy's Energy is all of our energies combined!" Teddy said.

"Don't forget this!"

"We may have solved this problem but there will always be other problems to solve in the future. Together, every one of you can solve them as long as we work together."

Suddenly, a giant figure stomped into the main square. The villagers gasped when it moved its way through the crowd. Teddy could not believe her eyes.

"TOOT!"

A wrinkly trunk picked Teddy up and swung her high into the air.

"TEMBO!" Teddy cheered finally.

Teddy tightly hugged Tembo's trunk. Tembo blinked his raisin eyes.

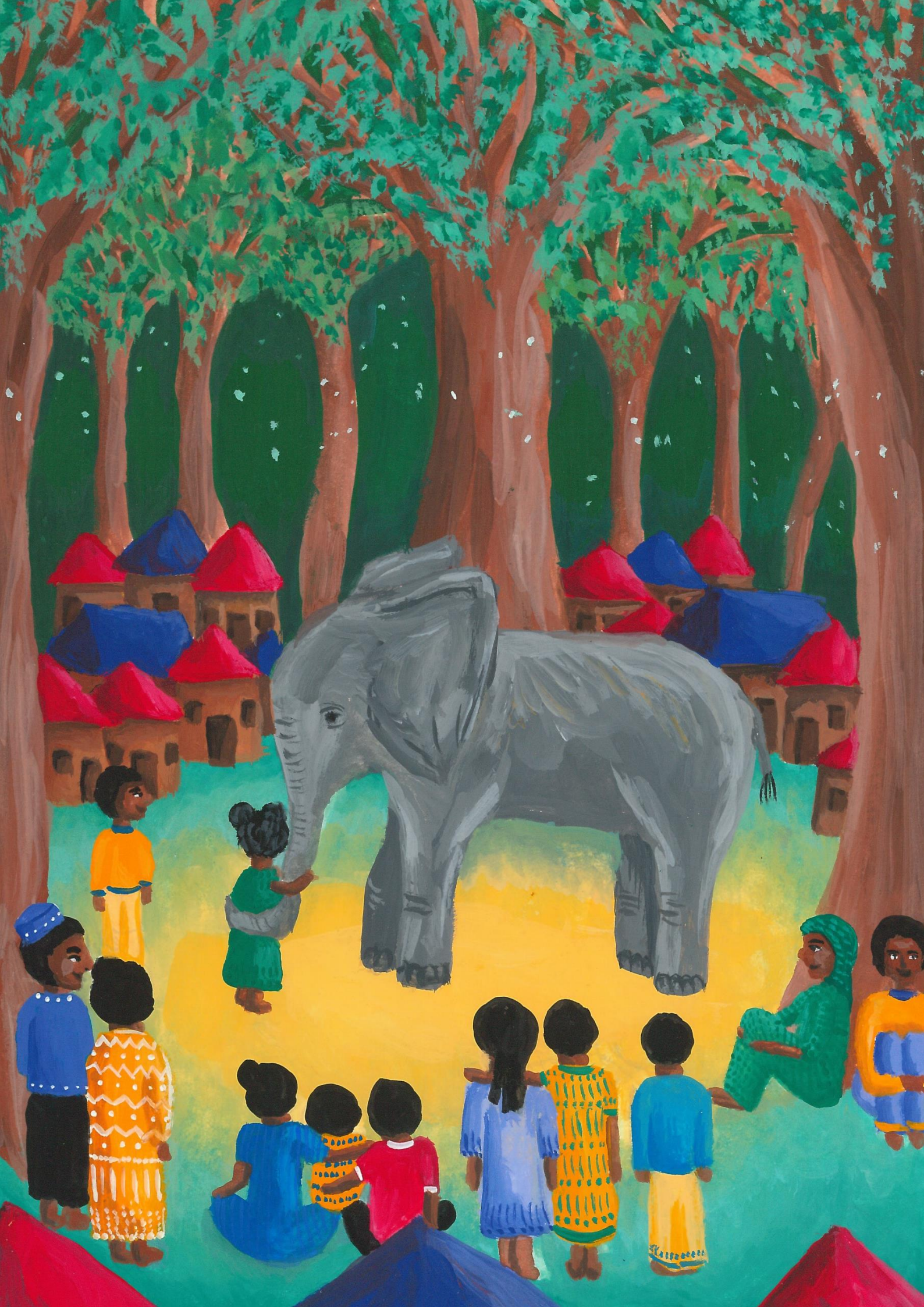
"Tootoot"

"I know that 'Tootoot' Tembo!" Teddy said. "It means, I hear you. Now let go of me, you are suffocating me crazy girl, doesn't it?"

Tembo blinked. Teddy laughed.

"I am so happy I am to see you my friend!" she said. "Let's go on a forest adventure."

Together, Tembo and Teddy walked into the forest on the lookout for butterflies, peacocks and juicy forest fruits.



About the book

Teddy's Energy is a book for children aged 10 to 14. It was written for two purposes: (i) to educate Tanzanian children and children all around the world about sustainable charcoal production, and (ii) to collect funding to communicate the findings of my PhD research to six villages in Tanzania in which fieldwork was conducted. My hope is that Teddy's Energy empowers children around the world and makes them realize that everyone has the power to protect and restore nature.

About the outreach project

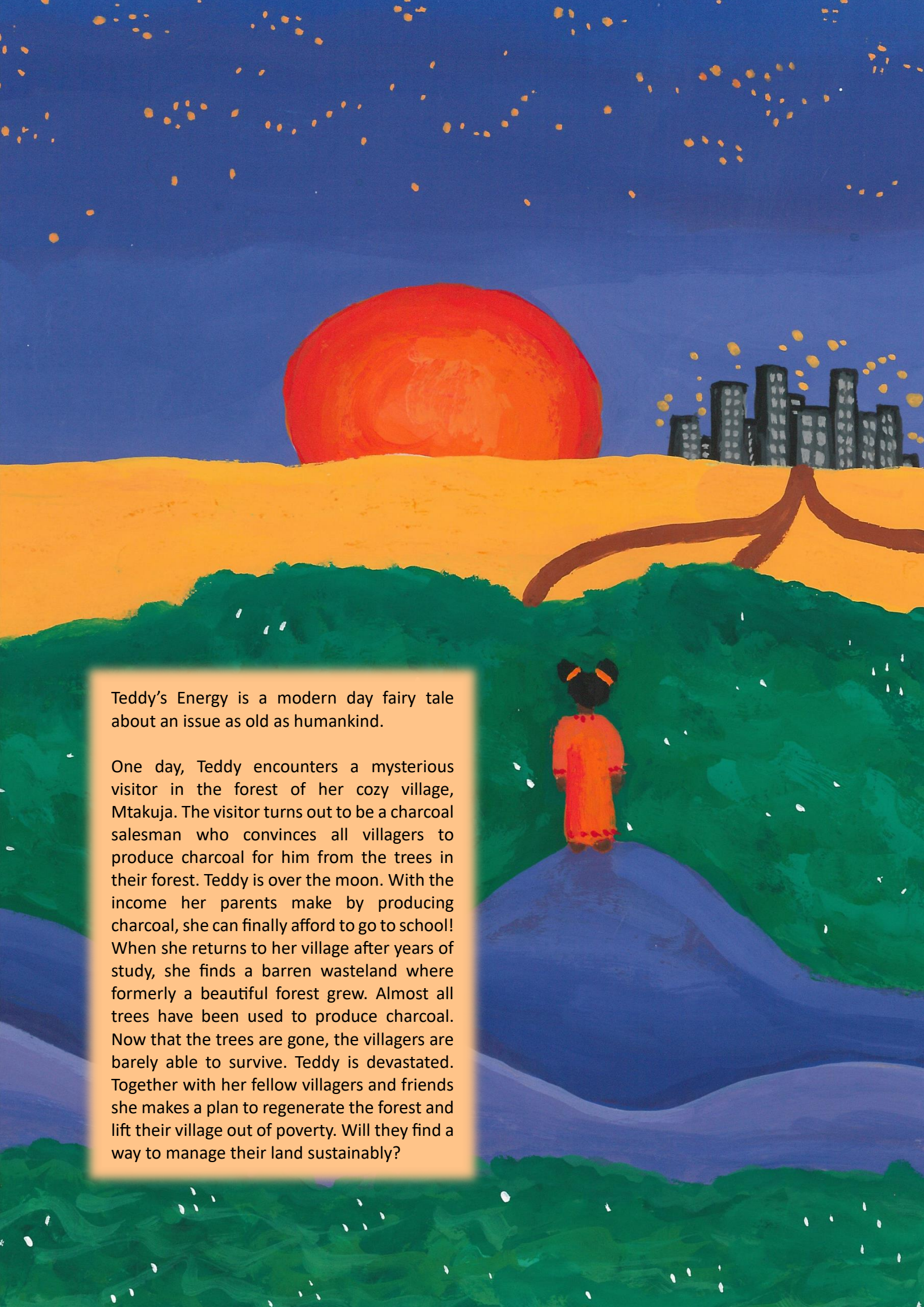
The idea for Teddy's energy arose at the end of my PhD at the Earth System Sciences group of the University of Zurich. During my PhD, I conducted research on charcoal production to provide better insights into the effects of forest management on charcoal production and livelihoods of charcoal producers. The research can be used to inform and further improve existing forest management systems for charcoal production. Much of my research was based on livelihood surveys and field studies in the forest conducted in six villages of Kilosa district, Tanzania.

Currently, it is still common for researchers from the global North to conduct research in the global South without properly engaging people and/or communicating results. This concept is called "helicopter research" and provides no to very limited benefits to the country and the communities in which the research takes place¹. For local communities to benefit from scientific findings, it is very vital to make results directly available to them. In our case, the six villages and district of Kilosa may use our results to further improve their forest management and for advocacy purposes.

To communicate the results of the PhD to the six villages and district of Kilosa, it is necessary to pay an in person visit to them. This is needed because there is no internet in the villages and because it is custom in Tanzania to orally discuss and communicate information. Together with two Tanzanian researchers, who I have collaborated closely with during my PhD, I aim to travel to the six villages and the district of Kilosa in February 2024 to communicate our findings to them. We aim to communicate the results in the form of a workshop, a report and the Teddy's Energy book. The goal is to both inform the community and to foster an active discussion among the villagers to help them to further improve their forest management. We hope this allows them to identify possible further actions they could take to protect the environment and derive more benefits from charcoal production.

References

1. Haelewaters, D., Hofmann, T.A., Romero-Olivares, A.L. 2021. "Ten simple rules for Global North researchers to stop perpetuating helicopter research in the Global South." PLoS Comput Biol 17(8): e1009277. <https://doi.org/10.1371/journal.pcbi.1009277>



Teddy's Energy is a modern day fairy tale about an issue as old as humankind.

One day, Teddy encounters a mysterious visitor in the forest of her cozy village, Mtakuja. The visitor turns out to be a charcoal salesman who convinces all villagers to produce charcoal for him from the trees in their forest. Teddy is over the moon. With the income her parents make by producing charcoal, she can finally afford to go to school! When she returns to her village after years of study, she finds a barren wasteland where formerly a beautiful forest grew. Almost all trees have been used to produce charcoal. Now that the trees are gone, the villagers are barely able to survive. Teddy is devastated. Together with her fellow villagers and friends she makes a plan to regenerate the forest and lift their village out of poverty. Will they find a way to manage their land sustainably?