

FLEYDO ENGLISH SCHOOL

Story Material

The Cloud Collector

An original story set in Chile's Atacama Desert about a teenager who harvests water from fog using indigenous knowledge and modern science.

Level: B1

Skill: Reading

Duration: ~50 min

Age: Teens (11-16)

Topic: Environment & Innovation

Pages: 20

The Story

Chapter I— The Driest Place— on Earth

There were places in the Atacama Desert where it had not rained in over five hundred years. Valentina Quispe knew this because her science teacher, Senor Fuentes, mentioned it at least once a week, as if repetition could make the fact less extraordinary. Five hundred years. That was longer than the entire history of European settlement in Chile. Longer than the age of most countries. And yet the Atacama was not empty. People had lived here — her people, the Atacameno — for over eleven thousand years, finding water where there appeared to be none, growing food in soil that looked like dust, and building a civilisation in a landscape so **arid** that NASA used it to test equipment designed for Mars.

Valentina was fourteen years old, small and quick, with sun-darkened skin and black hair that she wore in a single braid down her back. She lived in Pueblo de Niebla — the Village of **Fog** — a settlement of approximately three hundred people perched on a rocky plateau two thousand metres above sea level, between the Pacific coast to the west and the Andes mountains to the east. The village had no river, no lake, and no reliable rainfall. What it had was fog.

Every morning, before dawn, a thick blanket of cloud rolled in from the Pacific Ocean, pushed inland by the cold Humboldt Current. The fog crept up the coastal cliffs, across the desert floor, and into the hills where Pueblo de Niebla sat. By sunrise, the village was wrapped in a grey, damp silence — visibility dropping to ten metres, moisture beading on every surface. By mid-morning, the sun burned through, the fog retreated, and the desert returned to its usual state of brilliant, merciless dryness. This happened almost every day, year-round. The fog came, and the fog went, carrying millions of litres of moisture that evaporated before anyone could use it.

Almost. Because Valentina's grandmother, Abuela Celeste, had taught her something that the science textbooks did not mention. "The ancestors understood the fog," Celeste said one evening, sitting on the porch of their adobe house, watching the cloud roll in from the west. "They knew it was water — not rain, but water all the same. They built stone walls on the hillsides, and the fog would touch the stones and weep. The stones would cry, and the water would run into channels, and the channels would fill the cisterns. The ancestors drank the tears of the clouds." Celeste was seventy-six years old, and she remembered things that nobody else did. Valentina listened, and she wondered: if the ancestors could catch the fog, why couldn't they?

Chapter II— The Crisis

The village's water came from a single source: a spring in the hills three kilometres to the east, connected to a storage tank by a **pipeline** that Valentina's father, Diego, had helped build twenty years ago. The spring had never been generous — it produced perhaps two thousand litres a day, barely enough for three hundred people if they were careful. But it had been reliable. Until this year. In March, the spring's output dropped to eight hundred litres. By

June, it was four hundred. By September, the storage tank was less than a quarter full, and the village was rationing water to twenty litres per person per day — enough for drinking and cooking, but not for washing, not for animals, and definitely not for growing food.

"The water table is dropping," Diego told the family at dinner. He was a quiet man who worked as a mechanic and fixed anything mechanical within a fifty-kilometre radius. "The copper mine upstream is pumping groundwater for their operations. The spring is connected to the same aquifer. The more they pump, the less we get." He paused. "I spoke to the regional water authority. They said they could extend a **pipeline** from the coast, but the cost would be three hundred million pesos. The village does not have that money. Nobody has that money."

The alternative — **desalination**, converting seawater into freshwater at a coastal plant — was even more expensive and would take years to build. The government's response was sympathetic but slow. A regional official visited the village, took photographs, promised "urgent attention," and was never seen again. The mining company, Atacama Minerals, issued a statement saying that their operations "fully complied with water extraction regulations" and that the spring's decline was "likely due to natural climate variability." Valentina read the statement on her phone and felt something between fury and despair. Natural climate variability. The spring had been flowing for as long as anyone could remember. The mine had been pumping for six years. The arithmetic was not complicated.

That night, lying in bed, listening to the silence of the desert — a silence so complete it had texture, like velvet — Valentina thought about Abuela Celeste's story. The ancestors who caught the tears of clouds. Stone walls on hillsides. **Fog** turning into water. She reached for her phone and typed three words into the search engine: "fog water harvesting." What she found changed everything.

Chapter III— Catching Clouds

Fog harvesting was not a new idea. Valentina discovered that researchers had been studying it since the 1960s, and that working fog-collection systems existed in Peru, Morocco, Eritrea, and — she felt a jolt of recognition — in northern Chile, less than two hundred kilometres from Pueblo de Niebla. The technology was beautifully simple. Large panels of fine **mesh** — similar to the fabric used for insect screens — were mounted on poles on hillsides where fog was frequent. When the fog blew through the mesh, tiny water droplets were caught by the threads. The droplets merged, grew heavy, and dripped down into collection troughs at the base. The troughs fed into pipes, and the pipes fed into tanks. **Condensation** — the same principle that made water appear on a cold glass on a hot day — turned fog into drinking water.

The numbers were astonishing. A single square metre of properly designed mesh could collect between five and fifteen litres of water per day during peak **fog** season. A large installation — say, a hundred square metres of mesh on a well-positioned hillside — could produce a thousand litres a day. Not enough for a city, but more than enough for a village of three hundred people. And the cost? A fraction of a pipeline or a **desalination** plant. The materials were simple: mesh, poles, wire, troughs, pipes. No electricity required. No fuel. No

moving parts. Just wind, fog, and gravity.

Valentina showed her research to Senor Fuentes, who listened with the focused attention of a man who had been waiting for one of his students to say something interesting for fifteen years. "This is excellent work, Valentina. But research is not the same as implementation. You need to prove that it works here — at this **altitude**, with this fog pattern, in this wind." He paused. "You need a **prototype**."

She built one that weekend. Diego helped her weld a metal frame from scrap iron at his workshop. Her mother, Lucia, donated mosquito netting from the bedroom windows. Valentina's best friend, Camila, helped her carry the frame up the hill behind the village — the hill where the fog was thickest at dawn — and secure it with wire and rocks. They attached a plastic trough at the base and a bucket underneath. Then they went home and waited. The next morning, Valentina climbed the hill at first light. The fog was dense, cold, and wet against her face. She could hear water before she saw it: a steady drip-drip-drip, like a leaking tap. The bucket held three and a half litres of clean, clear water. From fog. From air. From the tears of clouds. She stood on the hillside, holding the bucket, and cried.

Chapter IV— The Professor

Senor Fuentes connected Valentina with Professor Sofia Reyes, an atmospheric scientist at the University of Chile in Santiago who had spent her career studying fog patterns along the Chilean coast. Professor Reyes drove nine hours to Pueblo de Niebla, examined Valentina's prototype, measured the fog density with instruments that looked like science-fiction props, and declared the site "exceptional." "The **altitude**, the **terrain**, the proximity to the coast — you have nearly ideal conditions for fog collection," she told Valentina. "Your ancestors chose this location for a reason. They understood the microclimate before the word existed."

Professor Reyes showed Valentina satellite images of fog patterns along the coast — vast rivers of cloud flowing inland from the Pacific, channelled by the mountains into specific valleys and hillsides. Pueblo de Niebla sat directly in one of the densest fog corridors in the Atacama. The fog season lasted approximately eight months, from April to November. During peak months, the village received fog on over twenty-five days per month. "This is water," the professor said, pointing at the satellite image. "Millions of litres of water, passing through your village every morning. You just need to catch it."

Together, Valentina and Professor Reyes designed a proper fog-harvesting system. They combined the professor's data — satellite imagery, wind patterns, humidity measurements — with something equally valuable: Abuela Celeste's knowledge. Celeste could not read satellite images, but she knew the fog. She knew which hillsides caught it first, which direction the wind blew at different times of year, and where the ancestors had built their stone walls. When the professor overlaid Celeste's information onto the satellite data, the match was almost perfect. "Your grandmother's knowledge is empirical science," Professor Reyes said, with genuine respect. "Eleven thousand years of observation, passed down through oral tradition. It is as valid as anything in my laboratory."

The design called for twenty large **mesh** panels, each four metres by eight metres, positioned along the ridge of the hill behind the village. The mesh was a specialised material — a three-dimensional woven polymer that was more efficient at capturing tiny droplets than the simple mosquito netting Valentina had used for her prototype. The collection system fed into a central **reservoir** that could hold twenty thousand litres. From there, gravity-fed pipes would deliver water to the village. Total estimated cost: twelve million pesos — about fifteen thousand US dollars. A tiny fraction of the alternatives.

Chapter V— The Desert

While the plans took shape, Valentina continued to live in the desert — and to love it, despite everything. The Atacama was not beautiful in the way that green places were beautiful. It was beautiful in its own way: vast, silent, and honest. The colours changed with the light — rust red at dawn, bleached gold at noon, deep violet at sunset. The sky at night was the clearest on Earth — the reason that international observatories had been built in the Atacama, their telescopes peering into the universe from the driest, clearest air on the planet. Valentina had grown up with the Milky Way as a visible river of light across the sky, so dense with stars that it cast faint shadows on the ground.

The **ecosystem** was sparse but remarkable. Cacti that stored water for years. Lichens that survived on fog moisture alone. Foxes that hunted in the cool hours before dawn. Viscachas — rabbit-like rodents — that sat on rocks and watched Valentina with the calm judgement of creatures who had lived in the desert far longer than humans. And the fog itself — the camanchaca, as the **indigenous** people called it — which rolled in every morning like a living thing, soft and cold, transforming the harsh landscape into a dreamworld of grey and silver.

Abuela Celeste told Valentina stories about the desert at night, sitting outside under the stars. Stories about the ancestors who had read the desert like a book — knowing where to find water by the behaviour of birds, knowing when the fog would be thickest by the colour of the sunset, knowing which plants could heal and which could harm. "The desert is not empty," Celeste said. "It is full. Full of information, full of life, full of lessons. But you have to be quiet enough to hear them."

Valentina understood. The desert had taught her patience — you could not rush anything here. It had taught her observation — in a landscape with so few features, every detail mattered. And it had taught her **resilience** — the ability to survive not by fighting the environment but by understanding it. The fog nets were not a fight against the desert. They were a conversation with it. A way of saying: we see what you offer, and we accept it with gratitude.

Chapter VI— The Opposition

The funding came from a combination of sources: a grant from an international water charity, a donation from the University of Chile's engineering faculty, and a crowdfunding campaign that Valentina and Camila ran online, raising four million pesos from supporters in Chile and abroad. The campaign video — showing the empty storage tank, the cracked earth,

and Valentina's prototype dripping water from fog — was shared over a hundred thousand times.

But when the village applied for an official water-harvesting permit from the regional government, they hit an unexpected obstacle. Atacama Minerals, the copper mining company that was draining the aquifer, filed a formal objection. Their lawyers argued that the fog — the fog that had been rolling across this land for millions of years — was a "water resource" subject to existing extraction rights. Since Atacama Minerals held the water extraction licence for the region, they claimed, any collection of atmospheric moisture required their approval. It was, Professor Reyes said with barely contained fury, "the most absurd legal argument I have ever encountered. They are trying to patent the clouds."

The case attracted national attention. Chilean newspapers and television covered the dispute under headlines that ranged from outraged ("Mining Giant Claims Ownership of Fog") to analytical ("Water Rights in the Atacama: Who Owns the Clouds?"). Environmental lawyers from Santiago offered pro bono representation. The **indigenous** rights organisation representing the Atacameno people submitted a formal declaration arguing that fog harvesting was a traditional practice with roots stretching back millennia and could not be subject to modern commercial licensing.

Valentina spoke at a press conference in Antofagasta, the nearest large city. She stood in front of cameras, microphones, and a room full of journalists, and she said: "The fog does not belong to anyone. It belongs to the air. It has been passing through our village every morning for eleven thousand years. Our ancestors caught it. We are catching it again. No company has the right to tell us we cannot drink the water that falls from the sky." She paused. "The mine is taking our groundwater. Now they want to take our fog. At what point do we say enough?" The clip was broadcast on every major Chilean news channel. Three senators called for an investigation into Atacama Minerals' water extraction practices.

Chapter VII— Building

While the legal battle continued, the village decided to build anyway. The permit question was unresolved, but no court had issued an injunction, and Valentina's legal team argued that fog collection — like rainwater collection — was a basic right that did not require government permission. On a Saturday morning in May, the entire village gathered on the hillside. One hundred and forty people — farmers, teachers, mechanics, children, grandparents — carried mesh panels, metal poles, wire, tools, and troughs up the rocky slope in a human chain that stretched from the village to the ridge.

Diego supervised the construction with the quiet competence of a man who could fix anything. The metal frames were assembled and anchored with cables to resist the wind. The **mesh** panels — each one a precise rectangle of polymer fabric — were stretched and secured. The collection troughs were levelled, the pipes were laid, and the **reservoir** — a concrete tank that volunteers from the next village had helped build over the previous two weeks — was connected. By sunset, twenty fog nets stood along the ridge like enormous grey sails, facing the ocean, waiting for the clouds.

The first full day of operation produced 1,200 litres. The second produced 1,450. By the end of the first week, the reservoir held over eight thousand litres of clean, fog-harvested water. The village erupted with joy. Abuela Celeste stood at the reservoir's edge, dipped her hand in the water, and said: "The ancestors are smiling." Valentina stood beside her, covered in dust and exhaustion and something she could only describe as fierce, burning happiness. They had done it. Not with millions of dollars, not with government programmes, not with corporate charity. With mesh, with knowledge, with community, and with fog.

Professor Reyes tested the water: clean, mineral-rich, and safe for drinking without treatment. "This water is actually better quality than most municipal supplies," she reported. "The fog acts as a natural filter. The mesh adds nothing. What you are drinking is, essentially, distilled ocean moisture that has been filtered through the atmosphere." She smiled at Valentina. "Your ancestors were right. The clouds really do cry. And now, finally, someone is listening."

Chapter VIII— The Hearing

The regional water authority hearing took place in November, in the government building in Antofagasta. Atacama Minerals sent a team of lawyers. The village sent Valentina, Professor Reyes, and a delegation of twenty community members, including Abuela Celeste. The hearing lasted six hours. The mining company argued property rights and regulatory frameworks. Professor Reyes presented atmospheric data, efficiency measurements, and a cost-benefit analysis showing that fog harvesting could provide **sustainable** water to dozens of Atacama communities at a fraction of the cost of conventional alternatives.

Celeste gave testimony in Kunza — the ancient Atacameno language, now spoken by fewer than a hundred people — translated by Valentina. She described the stone walls the ancestors had built, the channels they had carved, the **indigenous** knowledge system that had sustained communities in the driest desert on Earth for thousands of years. "We are not asking for new rights," she said. "We are asking for the recognition of rights that existed before this government, before this country, before the Spanish ever set foot on this continent."

The committee deliberated for two weeks. Their decision was comprehensive: fog harvesting was classified as a basic water right for **indigenous** communities, not subject to commercial licensing. Atacama Minerals' objection was dismissed. The village was granted official recognition of its fog-harvesting system and funding from the regional development budget to expand the installation. Additionally, the committee recommended a review of the mining company's groundwater extraction practices and their impact on local water sources.

It was not everything the village needed. The mine would continue operating. The spring would continue to decline. But the fog nets had given Pueblo de Niebla something it had not had in years: a future. A source of water that did not depend on groundwater, on government pipelines, or on the goodwill of corporations. A source that came from the sky every morning, free and abundant, carried by the same Pacific winds that had shaped this landscape since long before humans arrived. The village had learned to drink the clouds. And nobody could take that away.

Chapter IX— The Garden— in the Desert

Six months after the fog nets were installed, Valentina planted a garden. Not a large one — a small plot beside the house, barely three metres square. She used fog water for **irrigation**, compost from kitchen waste for fertiliser, and seeds from Abuela Celeste's collection — **indigenous** varieties of maize, quinoa, and beans that the Atacameno had grown for centuries before the spring began to fail. The seeds were old — Celeste had kept them wrapped in cloth in a wooden box, as her mother had done, and her mother's mother before that. "These seeds remember this soil," Celeste said, pressing them into the earth with her thumb. "They know how to grow here. You just have to give them water and time."

The garden grew. Slowly, cautiously, the way everything grew in the desert — but it grew. Green shoots appeared within a week. By the second month, the maize was knee-high. The quinoa flowered in pale pink clusters. The beans wound up bamboo poles that Diego had driven into the ground. It was not much. It would not feed the village. But it was proof — proof that water from fog could sustain life, that the desert was not dead, that the ancestors' knowledge still worked. Other families began planting. Within a year, there were fourteen gardens in Pueblo de Niebla, all fed by fog water.

Professor Reyes published a paper in an international journal documenting the project. Three other communities in the Atacama contacted Valentina asking for help building their own systems. A delegation from Peru visited to study the design. The Chilean government announced a national programme to explore fog harvesting as a **sustainable** water source for arid communities. Pueblo de Niebla, population three hundred, had become a model for the world.

On the evening the paper was published, Valentina sat with Celeste on the porch, watching the fog roll in. The mesh panels on the ridge were just visible in the fading light — twenty grey rectangles, like pages of an enormous book, reading the wind. "You know what the ancestors would say?" Celeste asked. Valentina shook her head. "They would say: what took you so long?" She laughed — a deep, warm, desert laugh. Valentina laughed too, and the fog wrapped around them like a blanket, and somewhere on the hillside, water was dripping into a trough, drop by drop, building a future one teardrop of cloud at a time.

Key Vocabulary

Term	Definition
Arid	Extremely dry, with very little rainfall
Condensation	The process of water vapour turning into liquid droplets
Fog	A thick cloud of tiny water droplets hanging close to the ground
Mesh	A material made of threads or wires woven together with small gaps
Harvest	To collect or gather a resource, such as water or crops
Altitude	The height of a place above sea level
Indigenous	Originating naturally in a particular place; native
Ecosystem	All living things in an area and how they interact with each other
Evaporation	The process of liquid turning into vapour and disappearing into the air
Pipeline	A long pipe used to transport water, oil, or gas over a distance
Reservoir	A large natural or artificial lake used for storing water
Precipitation	Water that falls from the sky as rain, snow, or hail
Prototype	An early version of something built to test whether it works
Sustainable	Able to continue long-term without damaging the environment
Desalination	The process of removing salt from seawater to make it drinkable
Terrain	The physical features of an area of land, such as hills or valleys
Petition	A formal request signed by many people asking for change
Innovation	A new method, idea, or product that improves on existing solutions
Resilience	The ability to recover from difficulties and adapt to challenges
Legacy	Something meaningful left behind for future generations

Comprehension Quiz

1. Where did Valentina's family live?

- A) In Santiago, the capital of Chile
- B) In a small village called Pueblo de Niebla in the Atacama Desert
- C) On the coast near the Pacific Ocean
- D) In the mountains near Argentina

2. What was the village's main problem?

- A) Too much rainfall causing floods
- B) The ancient water source was drying up and the government offered no affordable solution
- C) The village was too far from any city
- D) There were no schools for the children

3. What did Abuela Celeste teach Valentina about the ancestors?

- A) That they had magic powers to create rain
- B) That they had understood how to read the fog and collect moisture from the air
- C) That they had moved to the coast to find water
- D) That they had dug wells hundreds of metres deep

4. How did fog nets work?

- A) They pumped water from underground
- B) Large mesh panels caught moisture from fog, which condensed into droplets and dripped into collection troughs
- C) They filtered salt water from the ocean
- D) They melted ice from the mountains

5. What was special about the design Valentina and Professor Reyes developed?

- A) It used expensive imported materials
- B) It combined traditional Atacameno knowledge of fog patterns with modern mesh technology and strategic placement
- C) It was powered by solar panels
- D) It used chemical processes to extract water

6. Why was the mining company opposed to the fog-harvesting project?

- A) They wanted the fog for themselves
- B) They feared that water rights claims from the village could affect their mining operations
- C) They did not believe the technology worked
- D) They wanted to hire the villagers

7. How much water could the fog nets produce?

- A) Barely enough for one person
- B) Up to fifteen litres per square metre of mesh per day during peak fog season
- C) Thousands of litres per minute
- D) Only a few drops per week

8. What happened at the regional water authority hearing?

- A) The village's claim was rejected entirely
- B) The committee recognised the village's right to harvest fog water and granted funding for expansion
- C) The mining company bought the village
- D) Nothing changed

9. How did the project change the village?

- A) Everyone moved to the city
- B) It provided reliable water, enabled food growing, attracted young families, and became a model for other communities
- C) The village became a tourist resort
- D) The government took over the water system

10. What is the main message of the story?

- A) That deserts are uninhabitable and people should leave
- B) That combining indigenous wisdom with modern science can solve problems that neither could solve alone
- C) That technology always has all the answers
- D) That water is not important in dry climates

Answer Key

#	Ans	Question
1	B	Where did Valentina's family live?
2	B	What was the village's main problem?
3	B	What did Abuela Celeste teach Valentina about the ancestors?
4	B	How did fog nets work?
5	B	What was special about the design Valentina and Professor Reyes developed?
6	B	Why was the mining company opposed to the fog-harvesting project?
7	B	How much water could the fog nets produce?
8	B	What happened at the regional water authority hearing?
9	B	How did the project change the village?
10	B	What is the main message of the story?

Thank you for reading! Visit www.fleydo.com for more.