



folia Water

The world's first water filter that
costs pennies, not dollars:
The next \$1B staple



Paper for pennies, water for billions

FOLIA WATER FILTERS



Antimicrobial paper water purifier

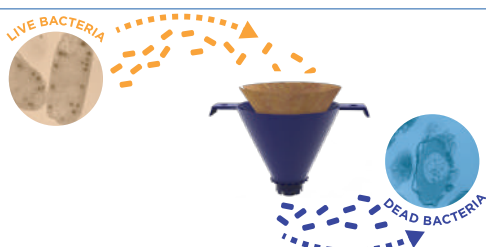


Safe germ-free water



20 Taka (20¢) for 20 Liters

Folia Water enables parents to gain control over their family's health. With Folia Water Filters, mothers have agency over their access to safe germ-free water, thriving in their role as health officers of the family for a better future.



Kills 99.9999% of germs

Applicable to varying water sources:

Tap water, tubewells, and rivers, lakes, and ponds

Not applicable to sea water

Passes WHO criteria for antimicrobial effectiveness, with filter performance based on professional lab testing:

- **Removal %**
99.9999% for bacteria
99.9% for viruses
99.99% for protozoans
99.8% for iron
- **Flow rate:** 3-5 L/H
- **Removes dirt:**
consumers will see clear water
- **Contaminants removed:**
Bacteria, Viruses, Protozoa, Dirt, Worms, etc.
- **Contaminants not removed:** Lead, Chlorine, Arsenic, Radioactive
- **Technology:** PCT/WIPO and US Patent Pending

Wholesale to Consumer Good Master Distributors

ABOUT FOLIA WATER

'Folia' is Latin for leaves or paper leaves. Paper is a simple, renewable, and affordable material. However it is also a complex manufactured polymer composed of cellulose that can be manufactured into a physical filter with controlled pore size at industrial scale. 'Folia Water' simply means Leaves Water, or Paper Water.

Folia will create, define, and dominate **a new \$1B+ category: FMCG water filters.**

MISSION

Universal access to safe drinking water by bridging **materials innovation to mass market consumer goods.**

Universal access to safe drinking water can only be achieved by enabling working class consumers to have **agency over their own access to safe water.** Folia Water will show how materials innovation connected to the existing tools of mass market consumer good businesses can achieve this Sustainable Development Goal.

VISION

Paper for pennies, water for billions.

To **ensure and enrich the quality of life of working class consumers** in emerging markets by offering the first high quality and affordable water filter.

Through materials innovation, smart marketing, and strategic partnerships at the local and international level, we aspire to become **the next \$1 billion health staple in mass market retail** stores around the world, alongside soaps, snacks, and SIM cards.

BUSINESS CASE

As a materials firm **we leverage an existing retail distribution, marketing, and sales network** to reach millions of households per country targeted.

Distribution through consumer good corporates



Brand: RTB
FMCG reach

100K
stores

10M
households

THE PROBLEM



Low-income populations pay anywhere from **30% to 10 times more in absolute terms** than the wealthy for water

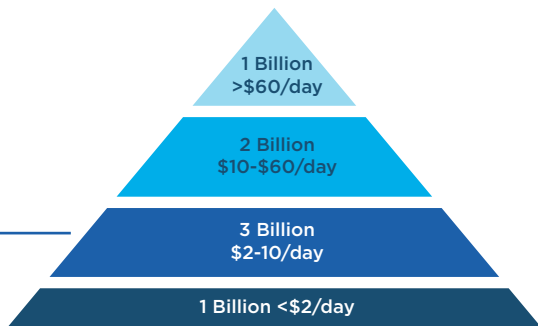


2.1 billion people

drink **fecally-contaminated** water, with 50% of hospitalization in developing countries due to waterborne diseases

OPPORTUNITY

These 3 billion working consumers present a huge market opportunity, spending \$5T on groceries collectively every year



MARKET SIZE & COMPETITION



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The working poor spend

\$20B

annually on household water

Spend on bottled water for middle and upper classes:

\$58B in 2015 in emerging markets, growing to **\$203B in 2030**

While too expensive for working poor consumers, Danone and Nestle's marketing dollars have raised awareness of the importance of safe drinking water

WATER PRODUCT LADDER

Durable good appliances target mid/high socioeconomic status. We are complimentary as the lowest rung on a water purification product ladder.

Wealthy



Middle class

3B working class



Humanitarian

PRODUCT COMPARISON

Consumer segment	Water products by category		Price			Antimicrobial Performance (Log Removal)			Performance		
	Type	Brands	Price	Capacity	\$ per liter	Bacteria	Virus	Protozoa	Flow (L/hr)	Electricity	Lifespan
Wealthy	Reverse Osmosis (countertop)	Eureka Forbes Aquaguard, Kent, Unilever Pureit	\$200	10,000L	\$0.02	6	4	4	15	Yes	2 yrs
	Reverse Osmosis (undersink)	Unbranded, various	\$100	10,000L	\$0.01	6	4	4	15	Yes	2 yrs
	Ultrafiltration, UV	Waterlogic Hybrid, Edge Purifier	\$200	5,400L	\$0.03	6	4	3	N/A	Yes	2 yrs
Middle Class	Gravity appliances (chemical disinfection)	Eureka Forbes Aquaguard, Unilever Pureit	\$15-40	1,500L	\$0.01-\$0.02	6	4	4	5-6	Yes	6 months
	Branded 20L bottled water	Nestle, Danone, Coke, Pepsi	\$1-2	20L	\$0.05-\$0.1	Clean			N/A	No	2-3 days
Working Class	Nano-silver paper	Folia Water Filters	\$0.20	20L	\$0.01	6	3	4	3-5	No	2-3 days
	Refilled bottle water (unbranded)	Local purification stores or delivery	\$0.40-0.60	20L	\$0.02-\$0.03	Contaminated			N/A	No	2-3 days
	Water kiosks	WaterHealth, Dio, various	Subsidized	20L	Subsidized	Clean			N/A	No	2-3 days
	Ceramic	EcoFiltro, Hydrologic, Navaza	\$15-\$25	2,200L	\$0.007-\$0.01	3-4	1	4	1-3	No	1-2 yrs
Humanitarian	Chlorine	Aquatabs, bleach	\$9.95	60L	\$0.17	6	3	0	N/A	No	1 time
	Flocculation + chlorine	P&G Purifier of Water	\$1.67	10L	\$0.17	6	4	3	N/A	No	1 time
	Ultrafiltration	Lifestraw Community, various	\$100-200	30,000L	\$0.01	5	4	5	2.5	No	5 yrs

FOLIA WATER FUNNEL DESIGN



20 TAKA FOR 20 LITERS

FLOW RATE: 3-5 L/H

MARKET: BANGLADESH

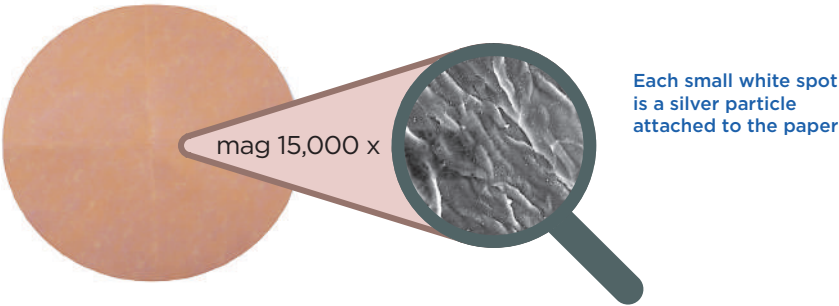
Durable filter housing: Razor-razor blade pricing model, funnel retails for 20 Taka (20¢) included with the first purchase

User guide

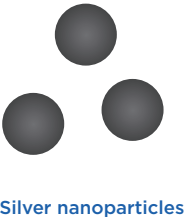


APPLICATIONS & PERFORMANCE

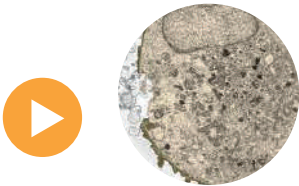
Silver nanoparticle infused paper water filter



- After filtration, the silver level in the drinking water is under 100 ppb, which meets WHO guidelines



Releases antimicrobial silver ions



Folia Water Filters kill germs in water that cause illness

Contaminants Removed by Folia Water Filters

Biological Contaminants

- Target market: Base of the pyramid consumers in emerging countries
- Common disease: Diarrhea
- Source of water: Tubewells and tap water contaminated with (dilute) sewage



The largest cause of waterborne diseases worldwide

Contaminants NOT Removed by Folia Water Filters

Chemical Contaminants

- Target: Population in heavily industrialized countries/regions
- Common disease: Cancer, Cardiovascular, Iron.



Mostly associated with heavily industrialized regions

Necessary Precautions

	Precautionary Disclaimer	Reason
Storage	Do not store the paper outdoors. Papers should be stored in a bag, cabinet or other indoor location like any other grocery store item	Exposure to sunlight over long periods of time may reduce the antimicrobial effectiveness of the silver in the paper
Product Lifetime	Each Folia Water Filter paper filters 20 liters of water. For an unopened bag, the product lifetime (i.e. shelf life) is 12-months	Customers may not remember how many liters or bottles of water they have used. Also, some customers may overuse the paper. The same problem is true for any water filter.
Unusable Paper	Do not use the paper when paper turns in color or is torn/ripped	Turning white indicates that silver nanoparticles (i.e. antimicrobial agents) are being released

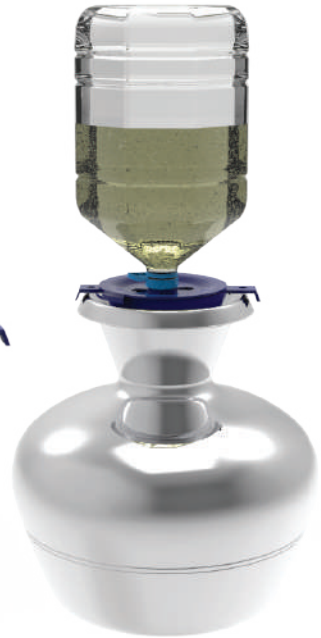
DESIGN FEATURES

The Folia Water Filter is an antimicrobial filter paper that contains silver nanoparticles that kill bacteria and viruses, while the paper's pore size physically filters out dirt and larger parasites

A single filter provides 20L of safe, germ-free water



- Designed to fit existing consumer kitchen habits
- Folia Water's funnel design works with any common household water container, such as soda and water bottles



- Paper is a natural, renewable, biodegradable material
- Folia sources paper from certified sustainable forests



- No heat required
- No pump required
- No electricity required



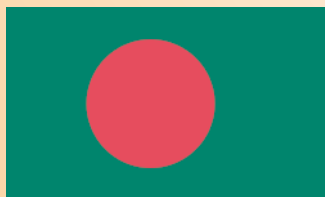
- Paper is lightweight and easy to carry



- Minimizes consumer behavior change
- Minimizes cost to consumer
- Competitive advantage over all other water purifiers



Unilever



BANGLADESH

Dhaka

Country population:
180m

Dhaka's population: 19m

- Folia Water is testing activation and sales channels, including to general retail stores and pharmacies
- Through this lean sales test, we are gathering information to create a systematized retail recipe prior to a city-scale product launch in 2020 and a national scale launch in 2021
- Unilever is sponsoring our sales pilot. We intend to fill in as the bottom rung in a water purification product ladder

NEXT MARKETS: INDIA and INDONESIA



INDIA

Country population: 1339m



INDONESIA

Country population: 264m

LOOKING FOR PARTNERS

- In 2020 Folia Water will expand to Indonesia and India
- Folia Water is working at a strategic level to set up the basis for sales testing and a nation-wide launch

CONSUMER PERSONA PROFILE



Age: 32

Work: Works as a Tailor in a village of Jessore

Family: husband, 2 children

Location: Jessore

Character: Aspirational and positive

- Friendly
- Intelligent
- Optimistic
- Persistent

Rokeya is a positive and cheerful person. Growing up in a poor household with 6 other siblings has taught her to appreciate the things she likes about her life and strive to change the things she doesn't. She has two kids. She wants to give them the best education, care and nurture that she can. She wants them to have the childhood that her parents couldn't give her.

WATER HABITS:

Drinks: Tubewell Water

Laundry: Pond Water

Clean the house: Tubewell Water

FRUSTRATIONS:

- She receives mixed messages about the safety of Tubewell water. She wishes she had a way to know for sure.
- All available alternatives to Tubewell water seem expensive and inaccessible.

PERSONALITY:

Introvert - Extrovert ★ ★ ★ ★ ★

Analytical - Creative ★ ★ ★

Loyal - Fickle ★ ★ ★ ★

Passive - Active ★ ★ ★ ★ ★

MOTIVATIONS:

Social/Community Causes ★ ★ ★

Family ★ ★ ★ ★ ★

Fear ★ ★ ★ ★

Health ★ ★ ★

USER TESTIMONIALS

"If my husband does not buy this, I will write poetry to raise money so I can buy this myself "

- Consumer feedback,
Bangladesh 2019

"I especially love this filter because my kids love the taste of water filtered through this.

- Consumer feedback,
Bangladesh 2019

HONORS AND AWARDS



BUSINESS NETWORKS



MEDIA COVERAGE



Favorite selection
from 500 Startups



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