



laboratorios
de aceleración



Climate Change Adaptation

Catalog of solutions mapped for **Improving materiality for rainwater harvest**



Collective Intelligence Challenge | Solutions Mapping

April - May 2023

Improving materiality for rainwater harvest

This catalog of solutions mapped has been built in stages, according to the learnings of each mini-cycle in relation to "adaptation to climate change", addressing water scarcity and alternative ways of collecting water, towards small agricultural producers in rural sectors in Guatemala.

The search for solutions has been based on grassroots solutions or mechanisms that can enhance rainwater harvest for smallholder farmers either to capture more quantity of water, but also how to improve materiality to reduce contamination.

Currently aluminum sheets have been used as "roof" to collect water. The lifecycle of these materials is short particularly when exposed to sun and rainwater, getting rusty and perhaps compromising the quality of water collected.

For further information on water management institutions, papers, or academic research mapped towards building a community of practice, please reach us!



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Materiality catalog for rainwater harvesting



PVC sheets

- **Description:** it is a resistant and durable material. Most pipes and water reservoirs are made of this material.



Description	Supplier	Price per unit in GTQ
Thermoacoustic sheet UPVC 6 feet	ACETSA GT	Q.384.00
PVC thermoacoustic sheet 8 feet	Comercializadora Vigor	Q.120.00
PVC thermoacoustic sheet 10 feet	DIMAEXSA	Q.170.00
Opal white corrugated polycarbonate sheet 12 feet	EPA	Q.169.00

Aluzinc sheets

- **Description:** Aluzinc has a high resistance to corrosion and also protects against abrasion. It also has very good thermal and light reflection properties.



Description	Supplier	Price per unit in GTQ
Die-cut sheet Aluzinc 8 feet	ACETSA GT	Q.188.00
Sheet 101 aluzinc 12 feet	EPA	Q.259.00
Aluzinc 28 Commercial Sheet 1 Foot	Lamitec GT	Q.8.00
Aluzinc die-cut sheet 12 feet	Novex	Q.312.00

Polyethylene plastic tarpaulins

- **Description:** this form could be a substitute for the use of solid structures such as sheets or coated roofs, so it means greater ease of installation and also that they can be temporary rain collectors.



Description	Supplier	Price per unit in GTQ
Plastic tarpaulin 12 x 20 feet	Novex	Q.220.00
Blue reinforced canvas, 3 x 4 m	Cemaco	Q.285.00
Blue canvas 16x20	EPA	Q.185.00

Geomembrane

- **Description:** they are geosynthetic sheets that ensure the sealing of a surface. They are typically used to remedy water losses by infiltration or to prevent the migration of contaminants into the soil.



Description	Supplier	Price per unit in GTQ
Geomembrane - PP Polypropylene	Atarfil	
Geomembrane Polymer	Maccaferri	
Geomembrane Polymer	Geosintéticos de Guatemala	

Plastic concrete tile

- **Description:** plastic tiles produced with recycled plastic resin. It is shock resistant and has a lifespan of up to 100 years.



Description	Supplier	Price per unit in GTQ
Teja P33	Polycon 33	

PVC tile

- **Description:** Plastic shingles fulfill the same harvesting function as sheets, but aesthetically they could be better. A disadvantage is that they could generate some type of water loss due to their structure.

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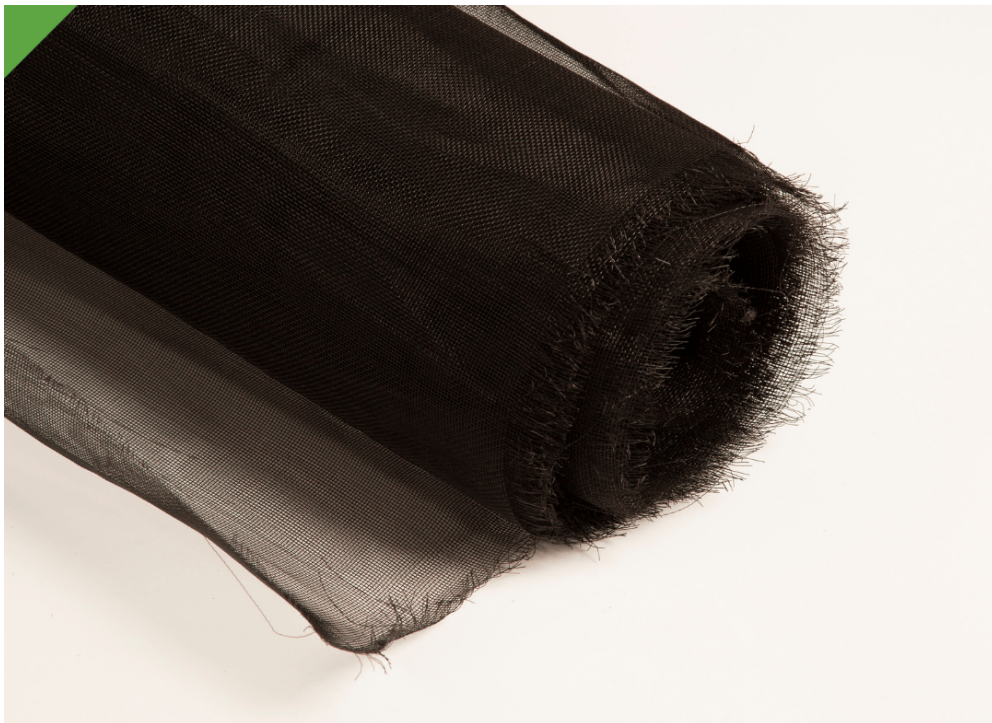
Description	Supplier	Price per unit in GTQ
Plastic tile coating x10 pieces	Novex	Q.200.00

Materiality catalog for fog water collection



Saran for shade

- **Description:** Plastic material used in different areas for its resistance and price. It is usually used for shade but can be useful for collecting fog water.



Description	Supplier	Price per unit in GTQ
Sarán 80%	Lonas Segovia	Q.95.00 yarda
Sarán 60%	Lonas Segovia	Q65.00 yarda

Raschel mesh

- **Description:** It is a type of knitted fabric that is used in a wide variety of applications, from clothing to the manufacture of industrial products. According to the literature consulted, it is the recommended mesh to collect water.



Description	Supplier	Price per unit in GTQ
Sarán 80%	Lonas Segovia	Q.95.00 yard
Sarán 60%	Lonas Segovia	Q65.00 yard
Sarán 40%	Lonas Segovia	Q.55.00 yard

Materiality catalog for water storage



Rotoplas Container

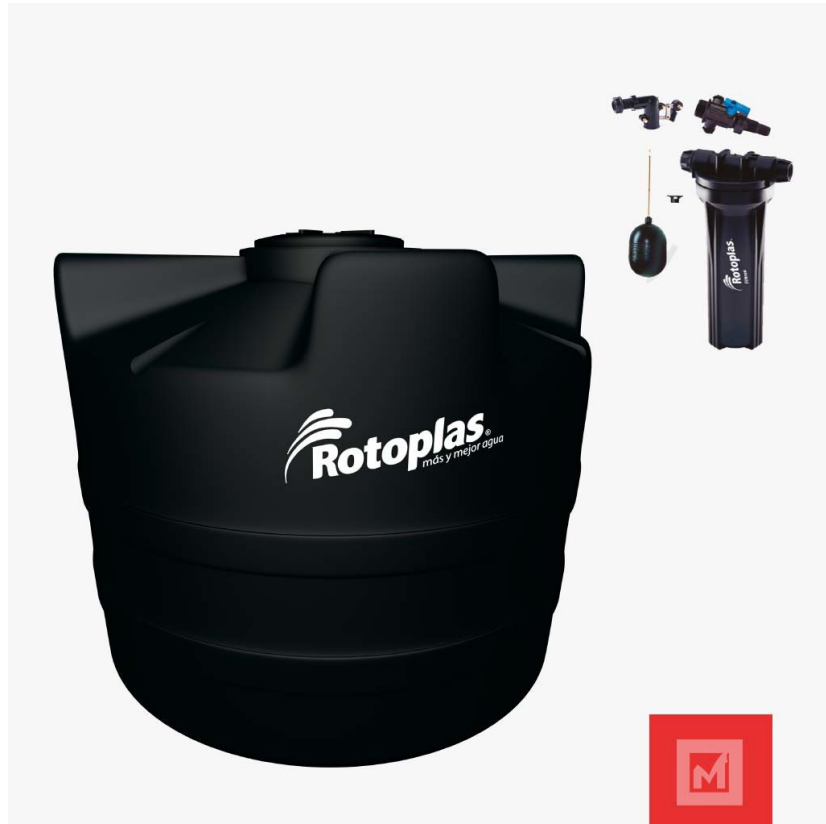
- **Description:** Container of 2,500 liters. Made of high density polyethylene.



Description	Supplier	Price per unit in GTQ
Tinaco 2,500 l	Distribuidora Mariscal	Q.2,519.00

Rotoplas Container

- **Description:** 1,700 liter container. Made of high density polyethylene.



Description	Supplier	Price per unit in GTQ
Tinaco 1,700 l	Distribuidora Mariscal	Q.1,909.00

Rotoplas Container

- **Description:** container of 1,100 liters. Made of high density polyethylene.



Description	Supplier	Price per unit in GTQ
Container 1,100 l	Distribuidora Mariscal	Q.1,340.00

Rotoplas Container

- **Descripción:** Container of 450 liters. Made of high density polyethylene.



Description	Supplier	Price per unit in GTQ
Container 450 l	Distribuidora Mariscal	Q.1,000.00

Container valve

- **Description:** Water outlet valve for water storage tanks.



Description	Supplier	Price per unit in GTQ
Rotoplas Sphere Valve 3/4 in.	Distribuidora Mariscal	Q.50.00

Container filter

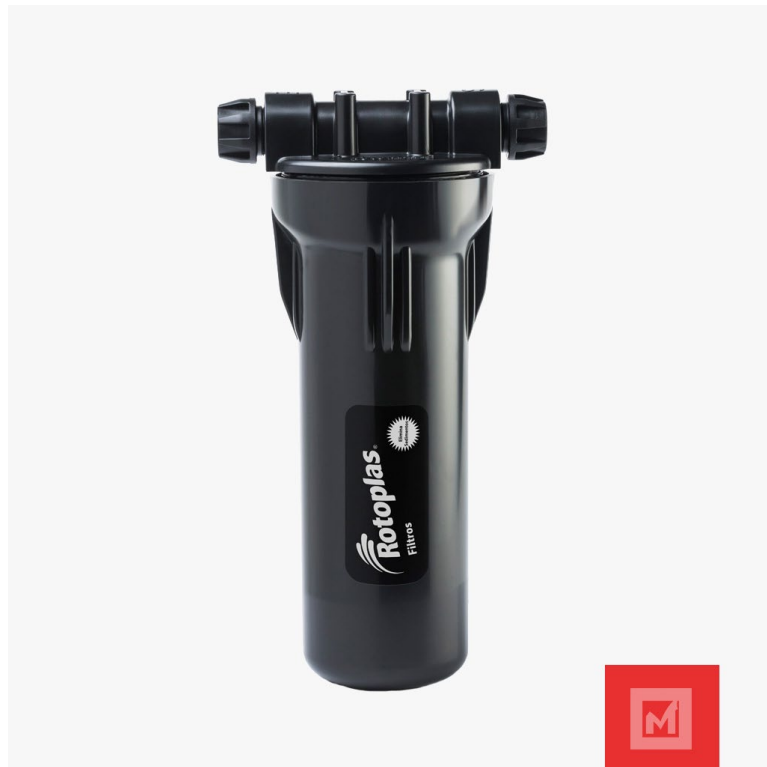
- **Description:** Filter to capture cediments in the water stored in the rotopla tanks.



Description	Supplier	Price per unit in GTQ
Filter cartridge for sediment	Distribuidora Mariscal	Q.70.00

Container filter

- **Description:** Filter to capture cediments in the water stored in the rotopla tanks.



Description	Supplier	Price per unit in GTQ
Filter cartridge for sediment	Distribuidora Mariscal	Q.365.00

Materiality catalog for guttering



Galvanized gutter

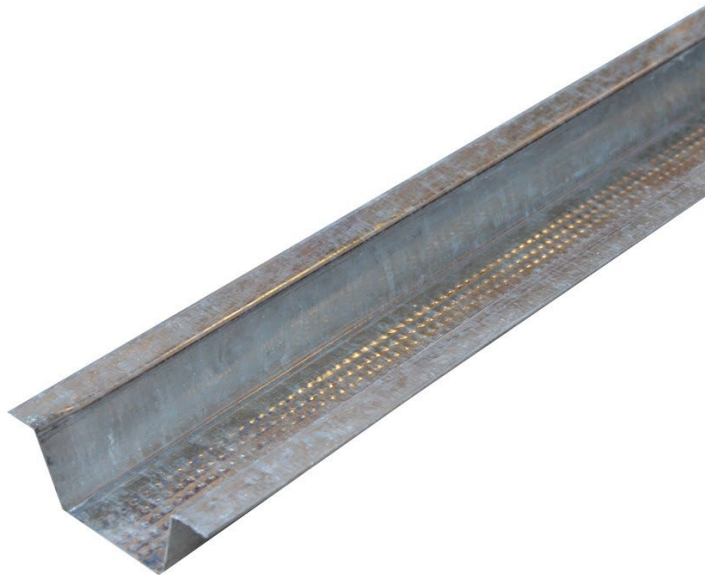
- **Description:** Galvanized gutter for water transport.



Description	Supplier	Price per unit in GTQ
8ft Galvanized Gutter	Novex	Q.30.00

Iron gutter

- **Description:** Galvanized gutter for water transport.



Description	Supplier	Price per unit in GTQ
Slat channel 7/8 in x 12 ft 26 gauge	Novex	Q.26.00

PVC Durm gutter

- **Description:** 3 m durm gutter for water transport.



Description	Supplier	Price per unit in GTQ
Durm channel 3m PVC	Distribuidora Mariscal	Q.152.00

PVC gutter

- **Description:** Resistant PVC gutter.



Description	Supplier	Price per unit in GTQ
3 meter PVC gutter	ConstruFácil	Q.152.00

PVC pipe for rain descent

- **Description:** PVC pipe for rain descent. If a cross section is made, it could be used as a gutter as well.



Description	Supplier	Price per unit in GTQ
PVC pipe lowered pluvial 4PLG	Distribuidora Mariscal	Q.148.00

Elbow for drainage

- **Description:** Elbow that can be used to connect rain gutters or pipes.



Description	Supplier	Price per unit in GTQ
Elbow durm PVC rainfall 4PLG	Distribuidora Mariscal	Q.20.00

T Connection

- **Description:** PVC T for connection between drainage pipes.



Description	Supplier	Price per unit in GTQ
T durm for connection between 4PLG tubes	Distribuidora Mariscal	Q.2.50

**If you also hold a grassroots solution,
Please share with us!**

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