LOW-TECH, LOW-COST WATER SOLUTIONS

A focused approach to the mineral extraction industries contribution to sustainable development of clean water using artisanal nanotechnology

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PART 1
• Introduction
• Ceramic Water Filters
• Potters for Peace

PART 2
• Misima Mine Case
• Intent & Communities
• CSR & Ceramic Water Filters
Ceramic Clay Water Filters
SDIMI Mandate

- Half the people on earth experience water scarcity
- 740 million do not have access to improved water sources
- 2 billion have no sanitation
- 1 billion practice open defecation
- 97% of rural people in developing countries lack piped water
What is the FILTRON?

It’s the entire unit, which includes:
- the filter element,
- The storage container,
- the lid,
- and the spigot.
Potters for Peace
1998

Hurricane Mitch damaged the water supply in Nicaragua and created the need for massive distribution.
1981

DR. FERNANDO MAZARIEGOS

ANDREW MAZARIEGOS

INVENTED THE CERAMIC WATER FILTER IMPREGNATED WITH COLLOIDAL SILVER.

DR. FERNANDO MAZARIEGOS OF "ICAITI"

(INSTITUTO CENTROAMERICANO DE TECNOLOGIA INDUSTRIAL, GUATEMALA)
Ron Rivera and Manny Hernandez invented the process to manufacture the filters more efficiently.
The Original Crew, 1999
RON RIVERA
1948 - 2008
DOES NOT:
Own filter factories
Produce filters
Sell filters
Trains local partners to create a business to make and promote a safe HEALTH PRODUCT
MODEL

“Social Enterprise”
MODEL

“Social Enterprise”
Local Production
MODEL

“Social Enterprise”
Local Production
Sustained by Sales
MODEL

“Social Enterprise”
Local Production
Sustained by Sales
Simple, not Easy
EL FILTRÓN IN THE WORLD
Ron Rivera’s “Dream of 100 Factories”

USA
Canada
Colombia (2)
Cuba
D. R.
Ecuador (2)
El Salvador
Guatemala (2)
Honduras
Nicaragua (2)
Peru (2)

Cambodia (3)
Indonesia
Laos
Myanmar (8)
Sri Lanka (2)

Factories in the world
EL FILTRÓN IN THE WORLD
Ron Rivera’s “Dream of 100 Factories”

Factories in the world

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Sri Lanka (2)

...
SOME PARTNERS

INTERNATIONAL RED CROSS AND RED CRESCENT
UNICEF
UNITED NATIONS DEVELOPMENT PROGRAM
USAID
WORLD BANK
US PEACE CORPS
DOCTORS WITHOUT BORDERS
PLAN INTERNATIONAL
OXFAM
ROTARY INTERNATIONAL
AWARDS & RECOGNITION

Ranked #1 HWTS Option by the RURAL WATER SUPPLY NETWORK at the WORLD WATER FORUM (2012)

Awarded the highest score for OVERALL APPROPRIATENESS in “SMART DISINFECTION SOLUTIONS” by the NETHERLANDS WATER PARTNERSHIP (2010)

WORLD BANK MARKETPLACE PRIZES
Cambodia (2004), Ghana (2005)


UN IDEASS FIRST PRIZE FOR APPROPRIATE TECHNOLOGY Nicaragua (2003)

Participant at the UN MILLENNIUM GOALS DEVELOPMENT CONFERENCE Johannesburg, South Africa (2000)
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ENGINEERS WITHOUT BORDERS TECHNOLOGY OF THE YEAR
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Misima Mine

- Placer Dome (PD) – gold deposit
- 1977 – 2012
- Island has no running water or power
- PD created economic and social programs
  - Fishing
  - Farming
  - Closure Planning committee
  - Provided water and power

How did it fail?
Intent
Culturally Appropriate Technology
CSR PORN
Epistemology
Community Buy-In
Truth, Trust & Shared Values
Love