UV Water Disinfection in rural Mexico

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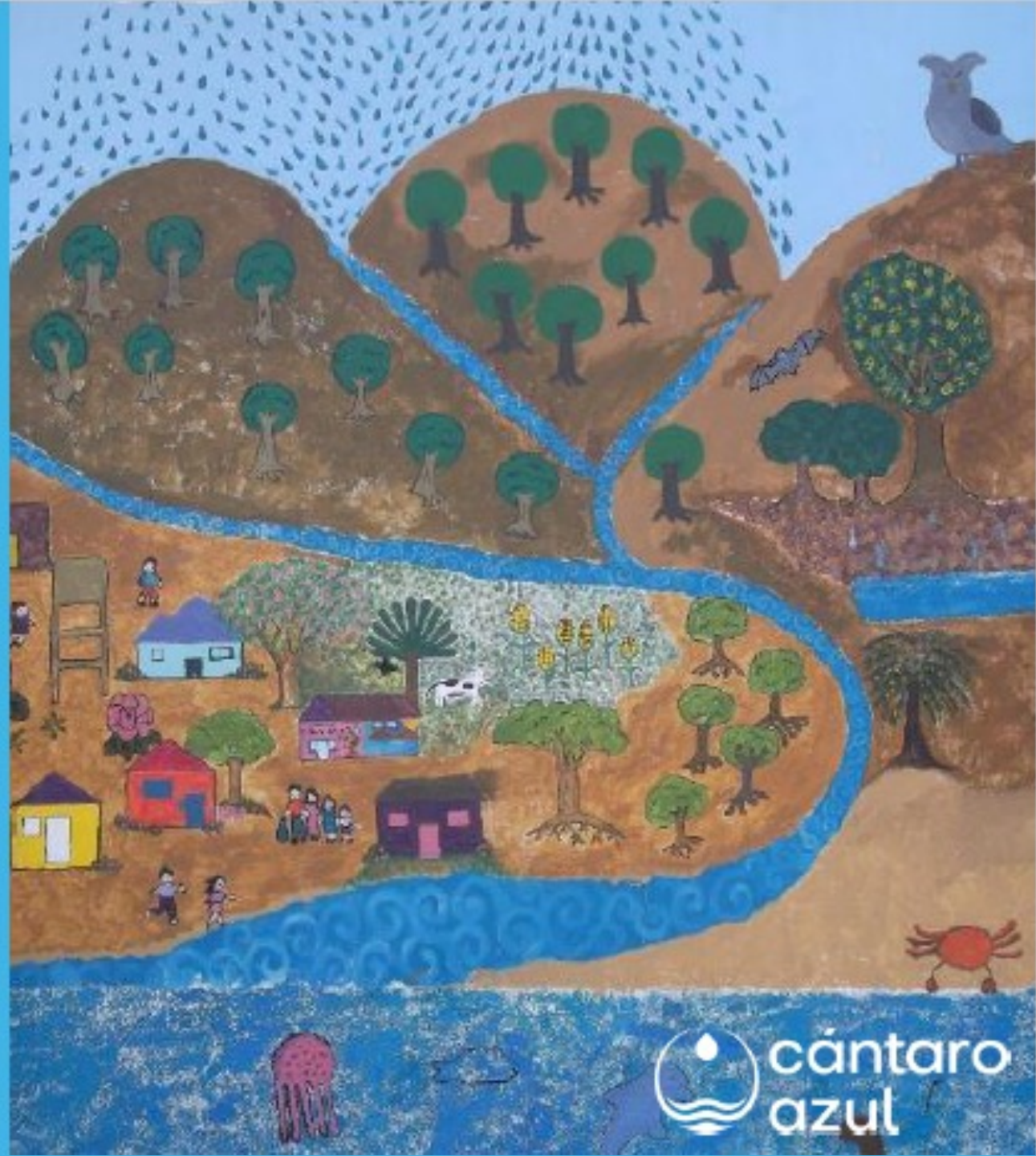
UV Applications in Low Resource Settings
IUVA Webinar



UV Disinfection
Household Water Treatment and Safe Storage

cántaro azul



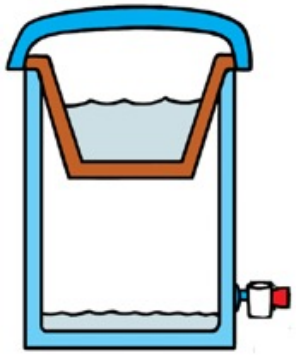


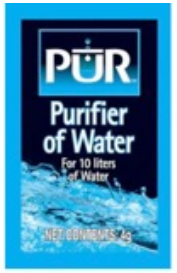


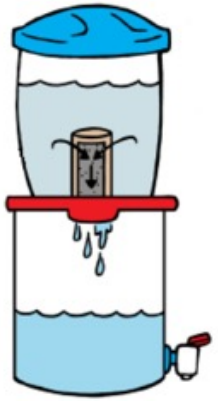


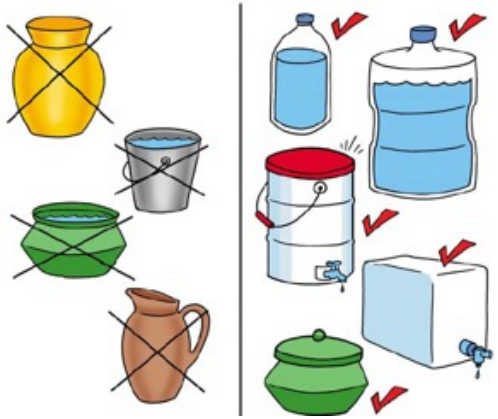


Household Water Treatment (HWT)

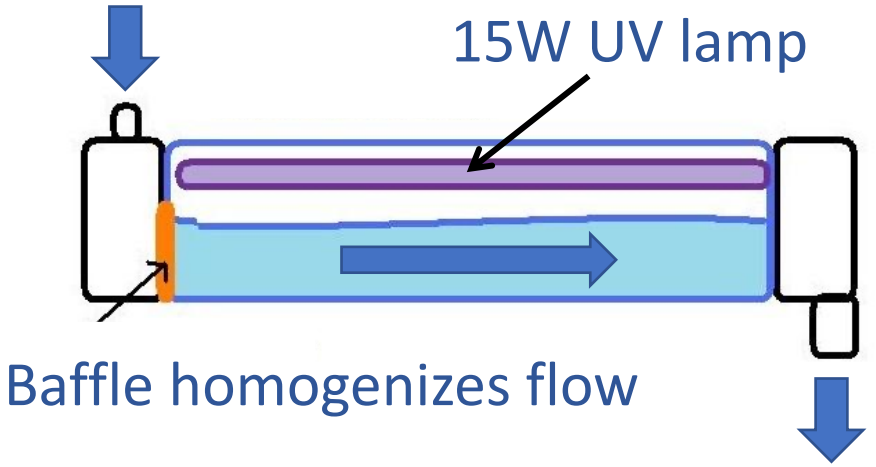






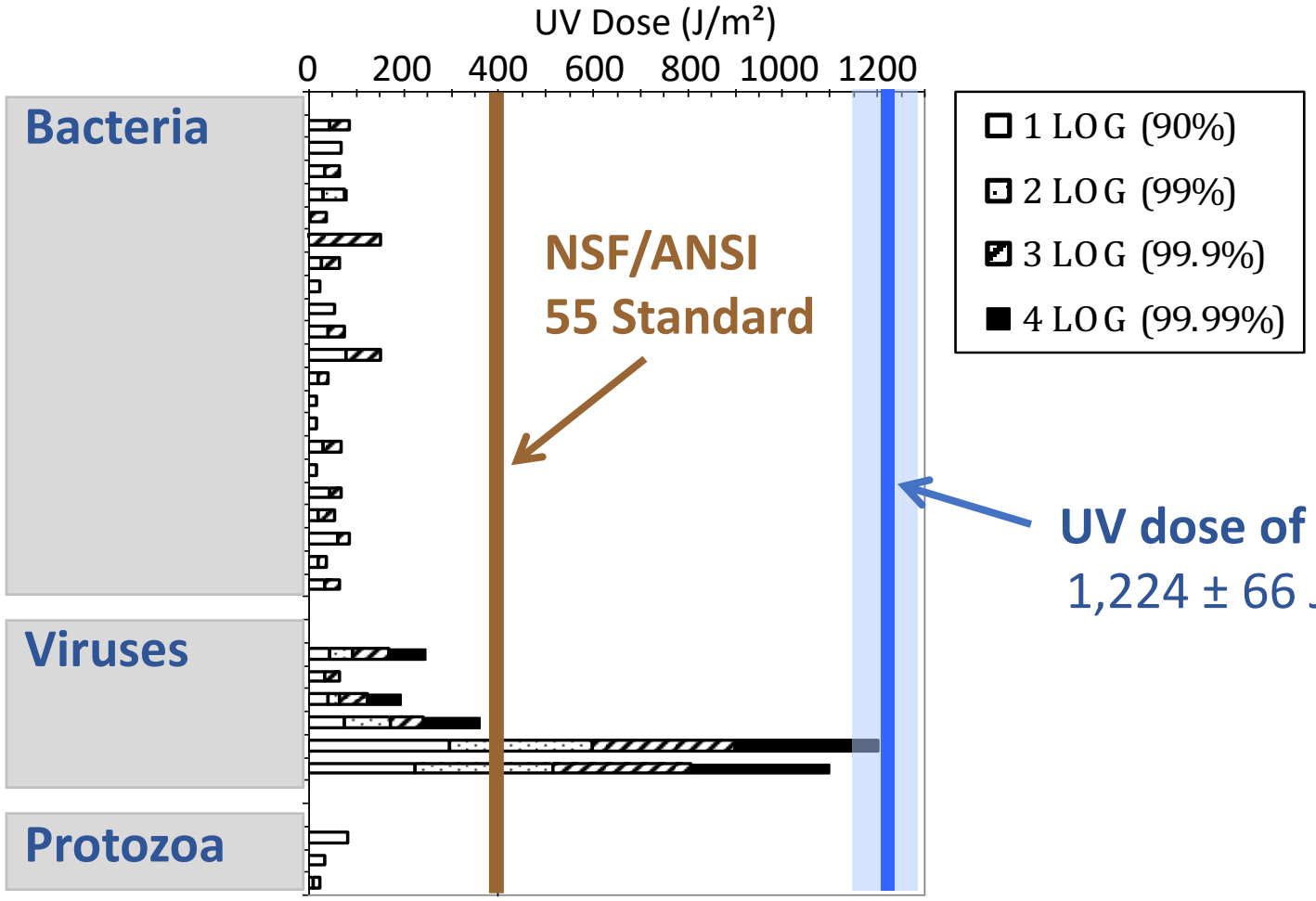


Mesita Azul: Water Disinfection at the Household Level



- Operates at fast flow rate of 5 liters / minute
- Easy to use and does not change taste of water
- Requires electricity, clear water, and safe storage

Laboratory Efficacy of the Mesita Azul



UV dose of Mesita Azul:
1,224 ± 66 J/m² (95% CI)

- Inactivates bacteria, viruses, and protozoa
- Meets the highly protective target of the WHO guidelines for HWT
- Delivers high germicidal dose, providing a safety margin[1]

([1]Brownell et al.)

Mesita Azul Program

Needs Assessment

Community Presentation

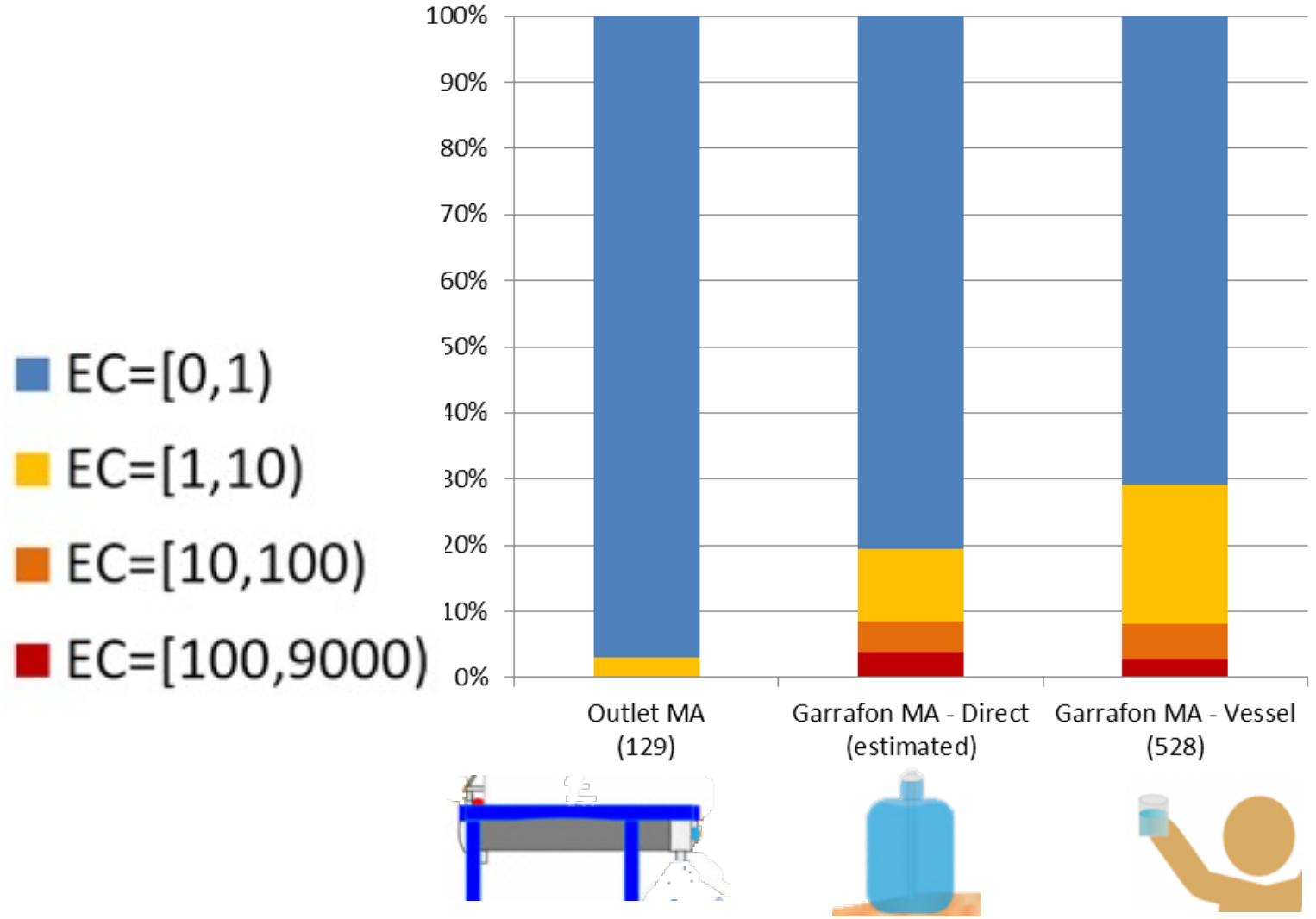
Installation

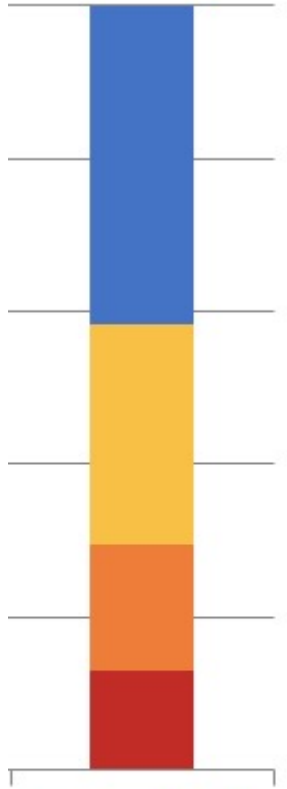
Follow Up Visits

Design Process: Mesita Azul

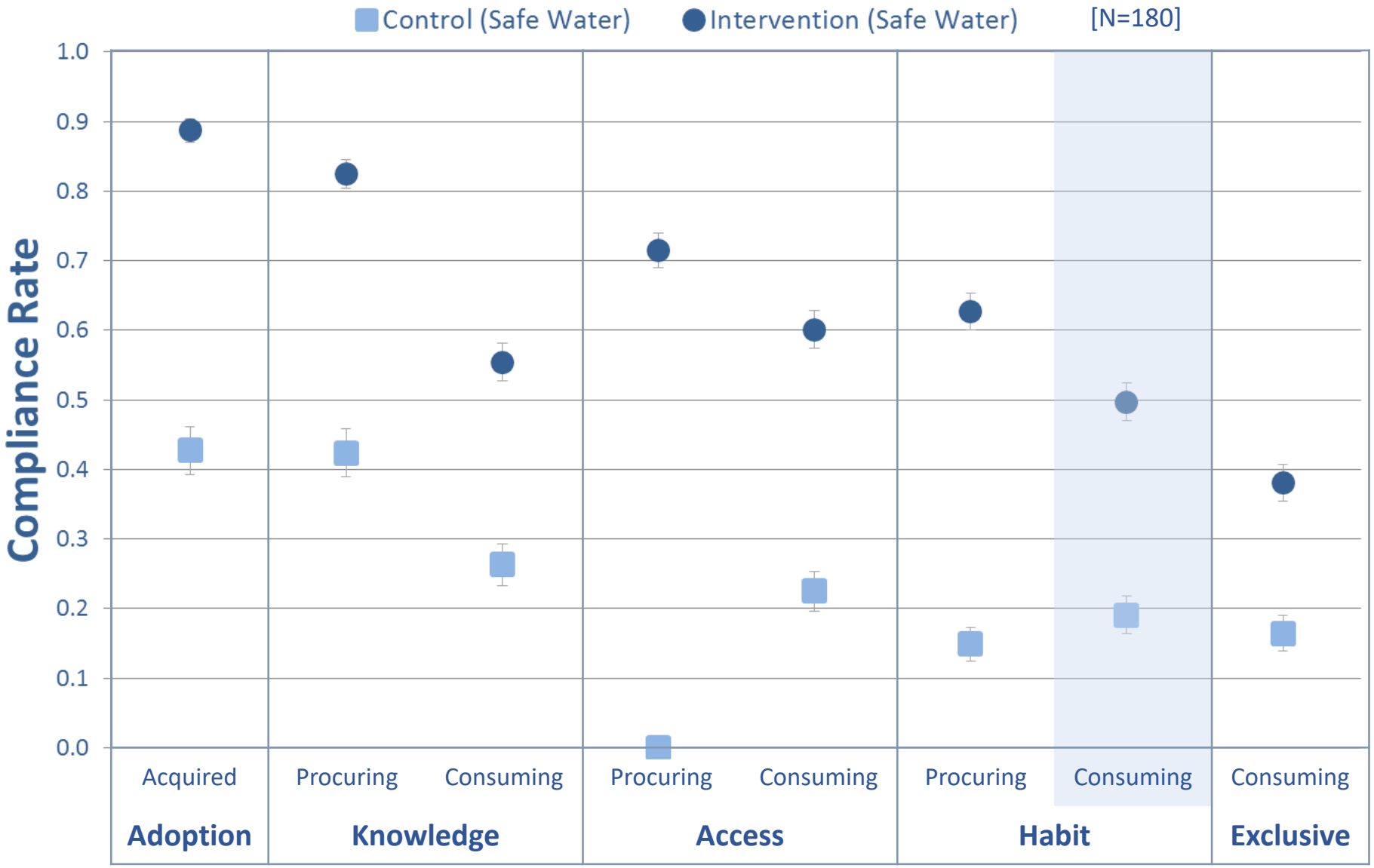
After Treatment and Before Consumption

Control Group





Compliance in Intervention and Control Groups



Definition of Compliance

Research and Practice Conclusion:
Paradigm Shift from Product to Service-based Programs

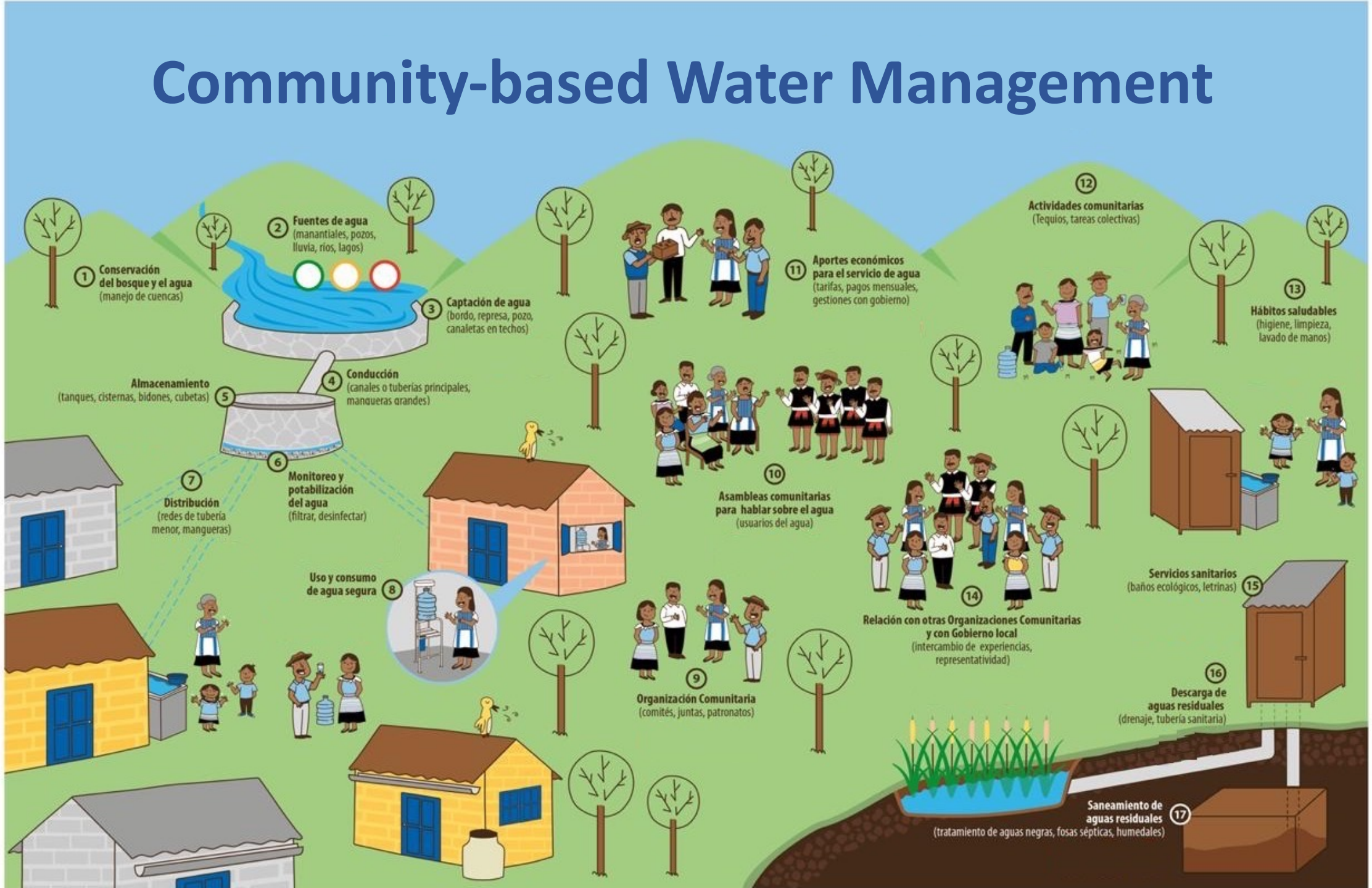





Can household water treatment play a significant role in addressing water, health, and development inequalities?

- HWT can empower end-users, but also transfers burdens
- These burdens have negatively impacted the sustained use of HWT products
- Narrow focus on drinking water at the household => poor compliance
- Need new paradigm, from product to service-based HWT programs

Community-based Water Management



The water is piped and distributed to taps at different points in the household

UV Disinfection
Community Kiosks

cántaro azul


Yavil
milbil xchanul ja'


SISTEMA DE AGUA SEGURA
"Lékil bó"
Rotoplas
AGUA SEGURA COMUNAL SALUDABLE
FODM
Chiapas
Gobierno del Estado


AGUA
DESINFECTADA


TINACO DE AGUA CRUDA
"Kiosco Azul"
de Francisco Sarabia
NuestrAgua
NuestrAgua

UV Disinfection
Safe Water in Schools

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mesita azul
que ase agua
limpio agua
tomimos
dolor de
pero tom
agua segura
Max ch'ay ta ha wo'tan sok pacel te xpotayel te ha wa'al.
Poka ♦ ka'b
Ak'beya spotsil ha' k'ab
Ak'beyaj spotsil ha' wej


1 Lluvia
¡La lluvia es importantísima! Gracias a ella obtenemos agua que podemos usar para beber. Consumir agua de lluvia reduce la sobreexplotación de acuíferos, ríos, lagos y manantiales.
SISTEMA DE AGUA SEGURA
¿Cómo se desinfecta el agua que tomamos?
3 Tlaloque
El Tlaloque ayuda a separar las hojas, tierra y polvo de las primeras aguas de lluvia, permitiendo que el agua salga más limpia.
Agua de lluvia
2 Techo
4 Filtro de membrana
Este filtro limpia el agua de polvo y algunos microbios.
5 Filtro de carbón
Este filtro elimina malos olores, sabores y cloro
El agua entra con algunos contaminantes.
6 Cántaro UV
La luz ultravioleta o luz UV, inactiva los microbios que nos enferman.
Y al final tenemos:
AGUA SEGURA, ¡lista para beber!


AGUA SEGURA
para beber!
¡RECUERDA LAVAR TU BOTELLA!


3
CANTARO UV
2
2
4
4
5
AGUA
purificada


5
Consumo de
Agua Segura


Fitness


¡RECUER
LAVAR
BOTELL

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