Aqua Clara International

Output and Beneficiary Capacities
of **World-Wide Filter Installations**
by **Technology Type**

ACI Filter Update **November 2022**

Since releasing its first biosand filter in 2007, Aqua Clara has designed, tested, and confirmed the efficacy of ten different types of technologies intended to provide clean water for those who live on less than $2 per day. Through partnerships with other organizations, ACI has installed filters representing seven of these technology types in 30 different countries.

ACI Filter Summary
November 2022

Total # of Filters/Systems	Installed Capacity Liters/Day (lpd)	Total # of Beneficiaries
26,582	3,284,620	337,120

Household Module Type I: Biosand Filter

The Biosand Filter Capabilities:

- Uses raw water source: surface water and/or well water
- Daily output capacity: 40 lpd
- Contaminant removal***: bacteria***, sediments, etc
- Output water quality: meets W.H.O. standards
- Provides, on average, daily water needs for at least five people
- Scalable engineering: sand filtration + a ***bio-reactor***

Country	City / Region	# of Filters	Installed Capacity	# of Beneficiaries
Afghanistan	Kabul	10	400	100
Bolivia	Cochabamba	40	1,600	400
China	Beijing Region	50	2,000	500
Ghana	Kumasi Region	15	600	150
	Winneba Region	100	4,000	1,000
Guatemala	Esquintia	125	5,000	1,250
Honduras	La Ceiba Region	1,000	40,000	10,000
India	Dehradun	50	2,000	5,00
Indonesia	Lapung Sematra	10	400	1,000
	Palembang Sematra	10	400	1,000
	Sara Baya, Java	10	400	1,000
Kenya	Eldoret	1,169	46,760	11,690
	Kisii	2,923	116,920	29,230
	Other	761	30,440	7,610
Mexico	Chiapas	300	12,000	1,500
	Esquinta	120	4,800	1,200
	La Ceiba	50	2000	500
	Monterrey	300	12,000	3,000
	Oaxaca	300	12,000	3,000
	Queretero	11	440	110
	Yucatan	40	1,600	400
Mozambique	Cabo del Gado	200	8,000	2,000
	Limpopo Region	35	1,400	350
Nepal	Nepalgunge	10	400	1,000
Nicaragua	Multiple locations	3,214	128,560	32,140
Panama	Santiago Region	200	8,000	1,000
Peru	Cuzco Region	40	1,600	400
Philippines	Manila Region	15	600	150
Rwanda	Masaka	1,180	47,200	11,800
	Mukono	50	2,000	500
South Africa	Johannesburg	50	2,000	500
Thailand	Chacheongosao	5	200	500
Uganda	Mityana	30	1,200	300
Vietnam	Hanoi Region	100	4,000	1,000
TOTALS		**12,553**	**500,920**	**125,680**

Household Module Type II: Household Hollow Membrane Filters

The Household Membrane Capabilities:

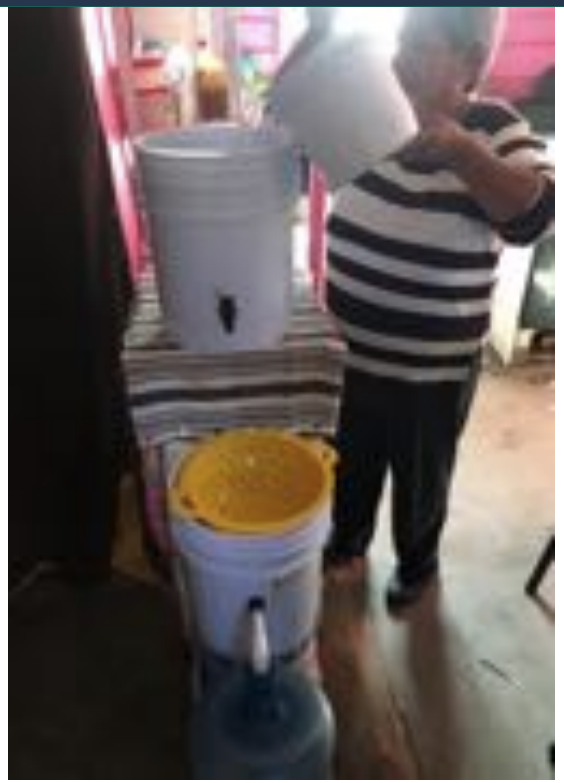
- Raw water source: municipal water and/or well water
- Daily output capacity: at least 150 lpd
- Contaminant removal***: bacteria*** only
- Output water quality: 99.9999% bacterial removal
- Provides, on average, daily water needs for at least 10 people
- Scalable engineering: coarse filtration + micron-filtration

Country	City / Region	# of Filters	Installed Capacity	# of Beneficiaries
Belize	Mountain Region	20	3,000	200
Camaroon	Bafia	50	7,500	500
Costa Rica		5	750	50
Dominican Republic	Multiple Locations	2,803	420,450	28,030
Haiti	Longane Region	55	8,250	550
Honduras		20	3,000	22,190
Kenya	Kisii, Eldoret, Nairobi	2,137	320,550	21,370
Mexico	La Paz, Baja	4	600	40
	Queretaro	3	450	30
	Pueblo	60	9,000	600
	Yucatan	120	18,000	1,200
Mozambique	Songea Region	2	300	20
	Cablo Del Gado	4	600	60
Nepal	Nepalgunge	5	750	50
Nicaragua	Granada	1	150	10
	Managua	337	50,550	3,370
	Leon	3	450	30
Peru	Cuzco	28	4,200	280
Puerto Rico	Northwest Region	1,611	241,650	16,110
Rwanda	Multiple Locations	6,232	934,800	62,320
Tanzania	Arusha	10	1,500	100
Uganda	Sonyga	102	15,300	1,020
Vietnam	Multiple Locations	15	2,250	150
Zambia	Lusaka	30	4,500	300
TOTALS		**13,532**	**2,029,800**	**135,340**

Household Module Type III: Bioreactor and Arsenic Filter

The Bioreactor / Arsenic Capabilities:

- Raw water source: surface water and/or well water
- Daily output capacity: at least 50 lpd
- Contaminant removal: ***arsenic and/or other heavy metals only***
- Output water quality: < 5ppb of arsenic
- Scalable engineering: ***pre-filtration + heavy metal adsorption***
- Provides, on average, daily water needs for at least 10 people



Country	City / Region	# of Filters	Installed Capacity	# of Beneficiaries
Nicaragua	La Carona, Boaco	17	850	170
	Tipitapa, Managua	59	2,950	590
	Achuapa, Leon	14	700	140
Mexico	Guayacan, Sonora	65	3250	650
TOTALS		**155**	**7,750**	**1550**

Facility Module Type I: Hollow Membrane System for Villages or Institutions

The Facility Type I Capabilities:

- Raw water source: surface water and/or well water
- Output capacity: 8,000 – 10,000 lpd [per 12 hour day]
- Contaminant removal: ***bacteria***, sediments, etc
- Output water quality: 99.9999% bacterial removal + no sediments , etc
- Scalable engineering: sand filtration + coarse filtration + micro-filtration
- Provides, on average, daily water needs for at least 600 people

Country	City / Region	# of Systems	Installed Capacity	# of Beneficiaries
Kenya	Kisii, NAPS	1	10,000	600
Kenya	Kisii, Ekerubo	1	10,000	600
Kenya	Kibera, Magoso School	2	20,000	1,200
Haiti	Cape – Haïtien	3	30,000	3,000
TOTAL		**7**	**70,000**	**5,400**

Facility Module Type II: Membrane-Based Systems for Schools, Clinics, Etc.

The Facility Type II Capabilities:

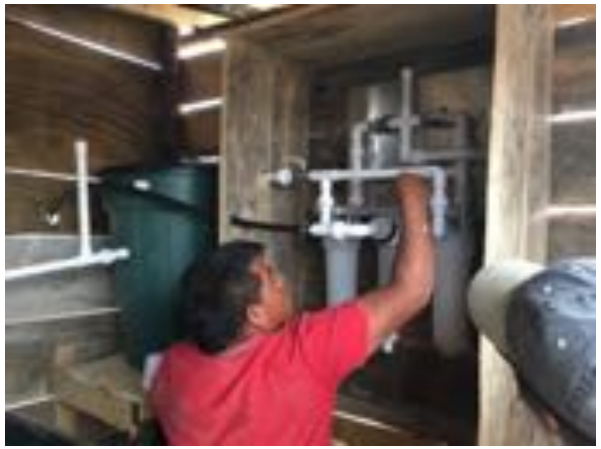
- Water source: surface water and/or well water
- Output capacity: 1000 – 6,000 lpd [per 12 hour day]—avg 4,000 lpd
- Contaminant removal: ***bacteria***, sediments, etc
- Water quality: 99.9999% bacterial

Country	City / Region	# of Systems	Installed Capacity	# of Beneficiaries
Cameroon	Bafia	1	4,000	200
Costa Rica		2	8,000	400
Dominican Republic	Various Locations	18	72,000	3,600
Haiti		20	80,000	4,000
Kenya	Eldoret, Kisii, Nairobi	14	56,000	3,000
Mexico	La Paz, Baja	1	4,000	200
	Queretaro	4	16,000	800
	Yucatan	9	36,000	3,000
Nicaragua	Leon	2	8,000	400
	Managua	13	52,000	5,200
Peru	Cuzco Region	5	20,000	1000
Rwanda	Kigali Region	19	76,000	38,000
Tanzania	Arusha & Other	4	12,000	600
Uganda		2	4,000	500

Facility Module Type III: Arsenic/Heavy Metals Remediation Filters

The Facility Type III Capabilities:

- Raw water source: surface water and/or well water
  - Output capacity: 1000-10,000 lpd [per 12 hour day]
  - Contaminant removal: **bacterial**, sediments, etc - plus **arsenic** &/or other heavy metals
  - Water quality: 99.9999% bacterial removal, no sediments & < 5ppb of arsenic
  - Provides, on average, daily water needs for 200 people
  - Scalable engineering: sand filtration/coarse filtration/ micro-filtration/Heavy Metal adsorption



Country	City / Region	# of Systems	Installed Capacity	# of Beneficiaries
India	Assam (Prototype)	5	20,000	1,000
Mexico	Querétaro/Guanajuato	10	32,000	2,000
TOTAL		**15**	**52,000**	**3,000**

Industrial Module Type I: Hollow Membrane System for Large Institutions

The Industrial Type I Capabilities:

- Raw water source: surface water and/or well water
- Solar powered pumps or electrically powered pumps to raise the water overhead
- Output capacity: 40,000 lpd [per each manifold per12 hour day]
- Contaminant removal: bacterial, sediments, etc
- Water quality: 99.9999% **bacterial** removal + no sediments ,
- Scalable engineering: sand filtration + coarse filtration + micro-filtration
- ***Prefabricated components*** in country, transported to the site and assembled

Country	City / Region	# of Systems	Installed Capacity	# of Beneficiaries
Phillipines		1	86,400	n/a
TOTALS		**1**	**86,400**	**n/a**