



Introduction of Drip Irrigation System and Clean Water Supply System

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- 1. Company profile**
2. Drip irrigation system
3. Water condition in the world
4. Clean water supply system
5. Conclusion

Company profile

Founded: July 1, 1955

Head office: Iwata, Shizuoka

Capital: 85.7 billion yen

(as of March 31, 2014)

Sales: 1,410 billion yen

(as of December 31, 2013)

Sales by region Overseas: 87.4%

Domestic: 12.6%

Employees: 53,382

(consolidated, from Jan. 1, 2013 to Dec. 31, 2013)

Group companies: 140

(as of March 31, 2014)



Diversity of our business

Motorcycles



Recreational Off-highway Vehicles



Commuter Vehicles



All-Terrain Vehicles



Golf Cars



Snowmobiles



Personal Watercraft



Boats



Generators



Pumps



Electric Vehicles



CATs(China Electric Vehicles)



Electrically Power Assisted Bicycles



Outboard Motors Automobile Engines



Industrial –use Unmanned Helicopters



Intelligent Machinery



Clean Water Supply System



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Drip irrigation system



Pump & generator market



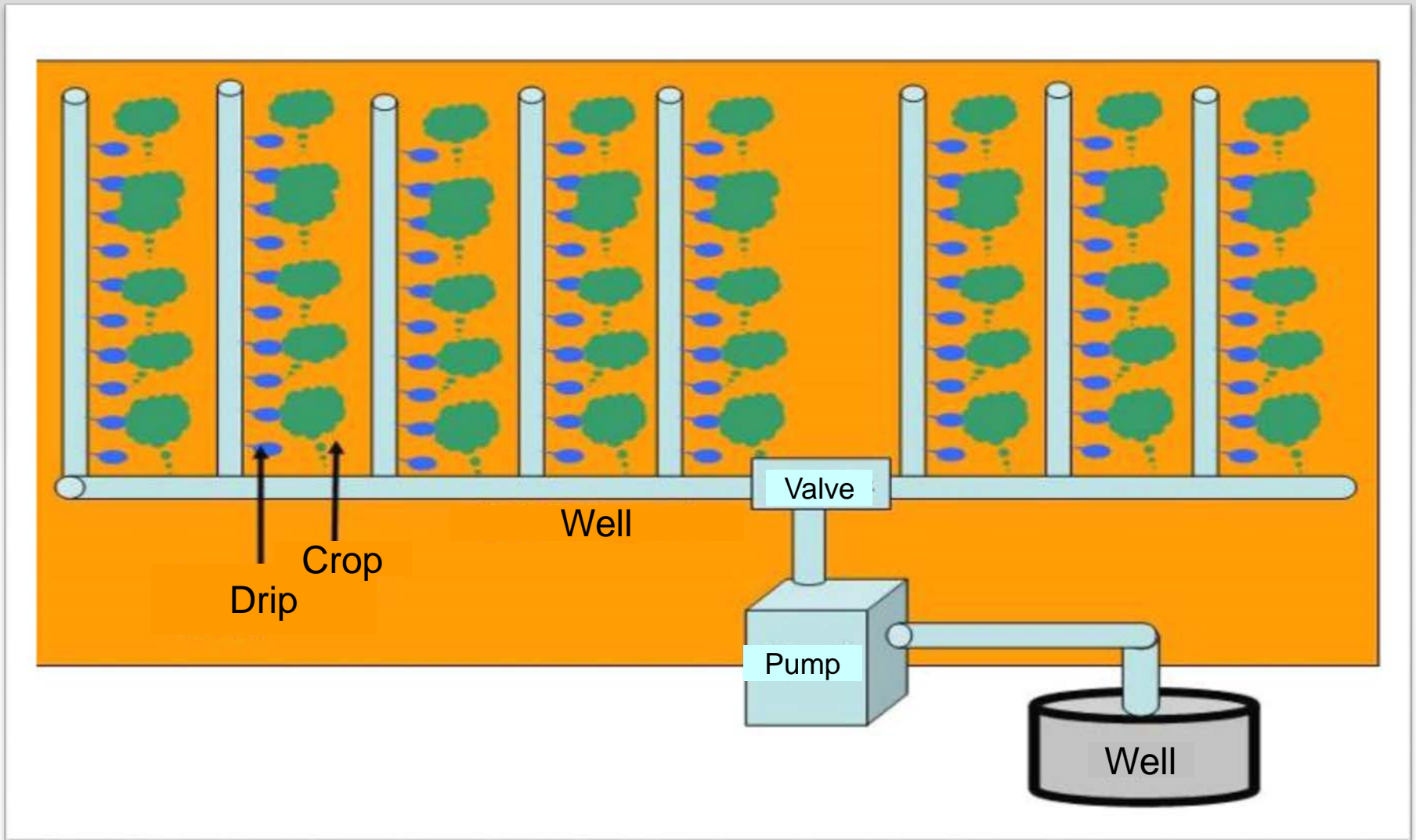
- ◆ Display of the variety model in Nigeria
- ◆ There are so many of the copy products
- ◆ Customer is conscious of price instead of quality

Traditional watering in Senegal



- ◆ Watering by only manpower is hard work and uneven
- ◆ Labor charge to hire another person is big burden
- ◆ Women & children engage the fetching water → Is there any solution?

Introduction of the Drip irrigation system



◆ How to arrange the fund? How to maintain this system?

Cross-sectoral cooperation

◆ NGO

Collection of the money & training

◆ Drip irrigation maker

Operation & maintenance support

◆ YAMAHA

Supply the engine pump & training



NGO (MECZOP)



Drip irrigation maker

Drip irrigation system with the engine pump

◆ Only a person



Explanation to villagers by NGO, Yamaha and government



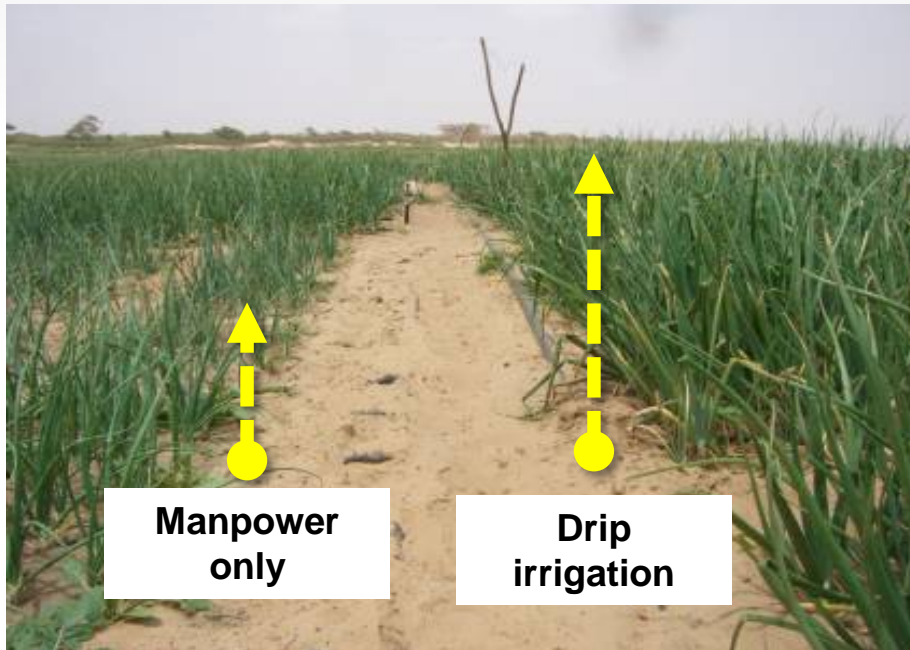
Cost efficient and increase the productivity

◆ Cost efficient

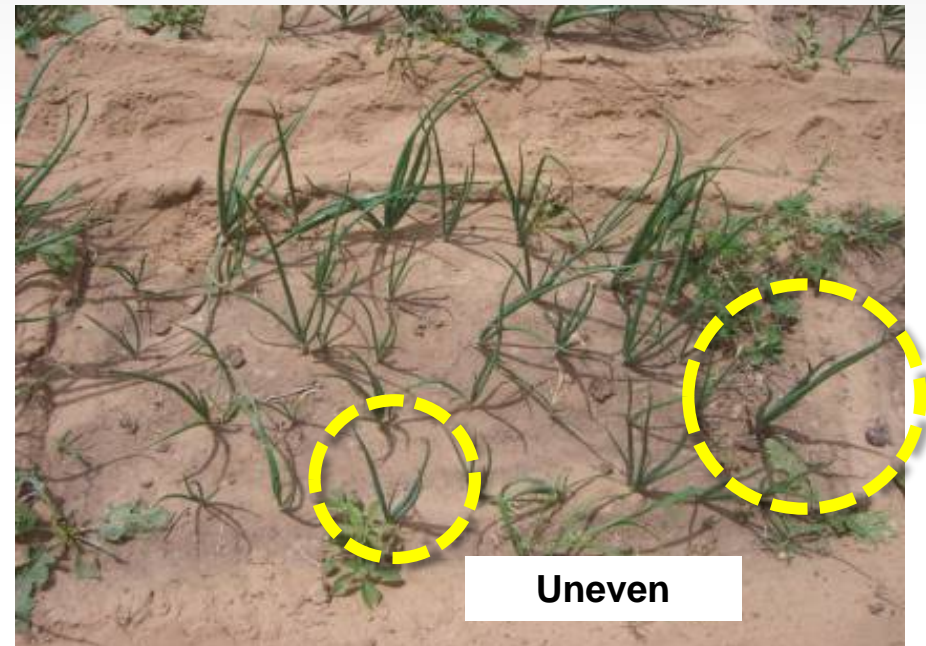
Total cost will be decreased due to increase yield, even though the first investment is required

◆ Increase the productivity

Effective watering bring much time, which increase the maintenance time for the land and crops



Before and after



Watering by manpower

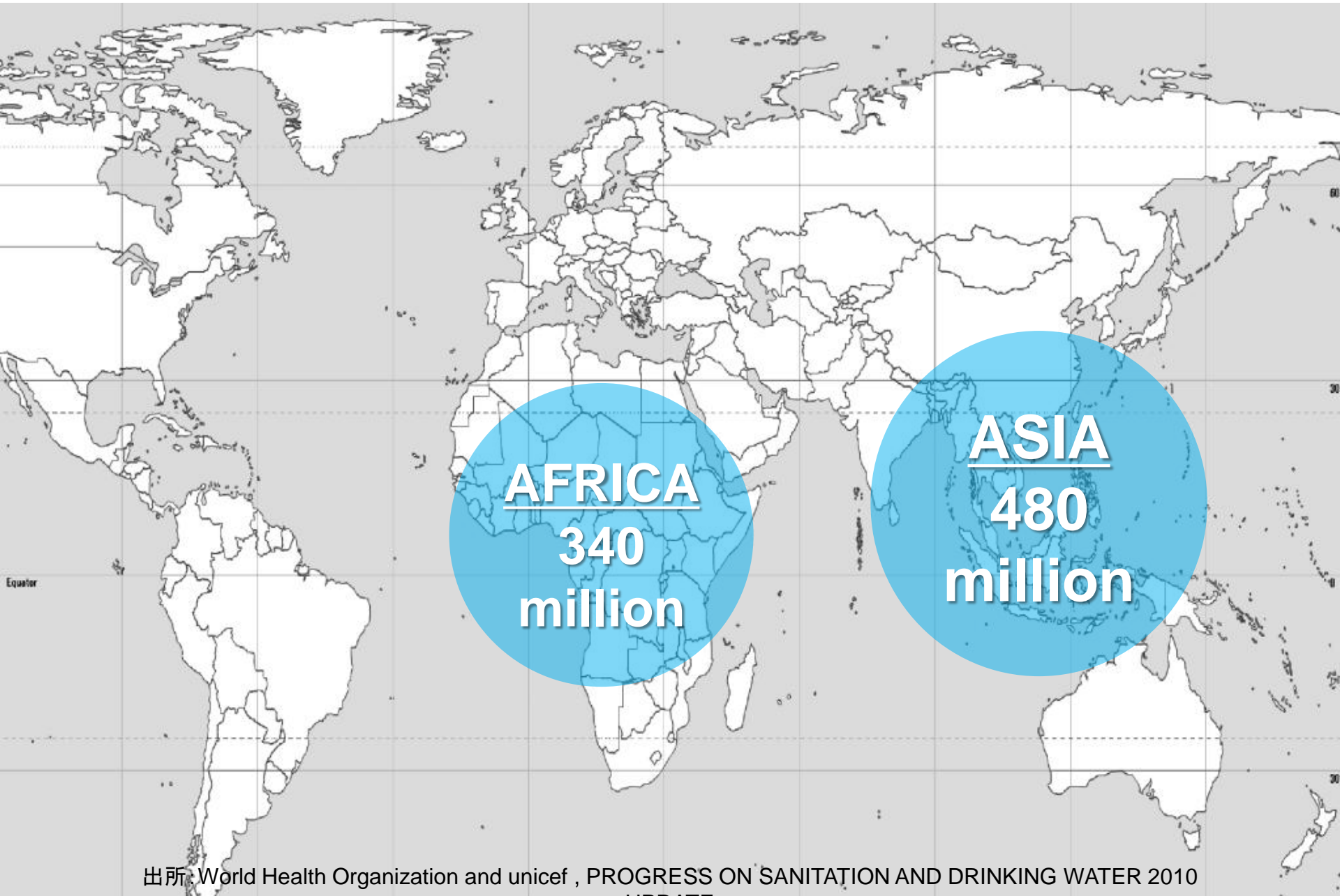
Establish the new pump business with drip irrigation



- ◆ Stimulate the local and introduce this system at 600 Villages in Senegal

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Peoples suffer from access the clean water



Water condition in Burkina Faso 1/3



Capital: Ouagadougou in Burkina Faso 2/3



Moped



Sikaku in Burkina Faso 3/3



Teacher and student



Color of river



Railway to Ivory Coast

Water condition



Water business



Water business

Water condition in Mali 1/4



Capital: Bamako in Mali 2/4



Niger river



Water business in Mali 3/4



Supermarket

DIAGO: 0.5L
Tomboucton: 1.5L

Local in Mali 4/4



Water condition in Senegal 1/3



Capital: Dakar in Senegal 2/3



Local in Senegal 3/3



Water condition in Mauritania 1/3



モーリタニア
イスラム共和国
Mauritania

Nouakchott in Mauritania 2/3



Local in Mauritania 3/3



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Clean Water Supply System



History of Clean Water Supply System

History of Clean Water Supply System

■ Motorcycle factory:

Established in 1974



■ Water purifier for personal home use

The expatriates had trouble with piped water. YAMAHA developed and released a water purification system for personal use in 1991



■ Clean Water Supply System

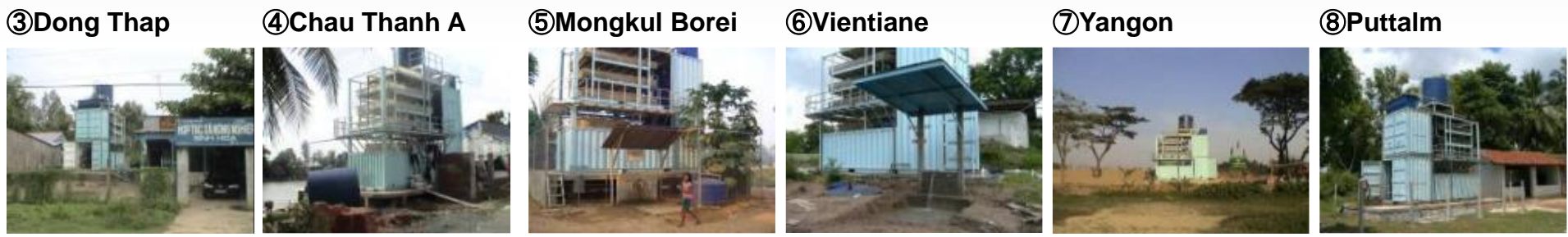
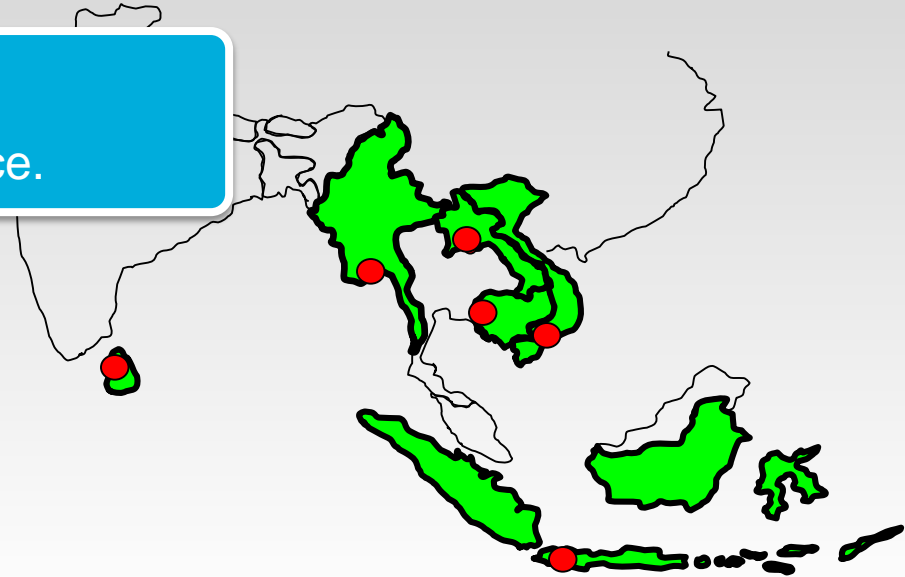
YAMAHA developed a new type for villagers who had trouble to access the clean water in 2000. Monitoring test from 2000 to 2010. Clean Water Supply System business started in 2012.



Monitoring site & Support by Public Institution

Pilot monitoring site in Asian countries

- Development: Collection of technical data.
- Sales: Monitoring operation and maintenance.



Indonesia		Vietnam		Cambodia	Laos	Myanmar	Sri Lanka
①	②	③	④	⑤	⑥	⑦	⑧
Ministry of Health	Rotary Club	The People Committee	Hospital	Ministry of Health	Ministry of Health	Water & Sanitation Department	National Water Supply
River	River	River	River	River	River	Pond	Pond
Village	Village	Village	Village	Hospital	University	Village	Village

Support by Public Institution

Institution	Title of study	Site	Period	object
UNDP	Market Survey in Java Is.	Indonesia	2008/7– 2008/9	Market Survey
NEDO (New Energy & Technology Development Organization)	Joint Study with the Can Tho University	Vietnam	2009 /6– 2010/2	Decision of final specification
METI, (Jpn)	Market Survey Kalimantan Is.	Indonesia	2009/12	Feasibility study
METI, (Jpn)	Operation Test in Sulawesi Is.	Indonesia	2010/8– 2011/1	Adoption to the solar power generation
JICA	Study of preparation of Water Supply business in a village in West Africa	Senegal	2011/3– 2012/10	Operation test with the system installed in Africa
METI, (Jpn)	FS of small water purification system in Côte d'Ivoire, Ghana	Côte d'Ivoire, Ghana	2012/7– 2013/2	Feasibility study in Africa
UNDP	Market Survey	Mauritania	2013/3– 2013/12	Market Survey



Joint Study with the Can Tho Univ. (Vietnam) Operation Test in Sulawesi Is. (Indonesia)

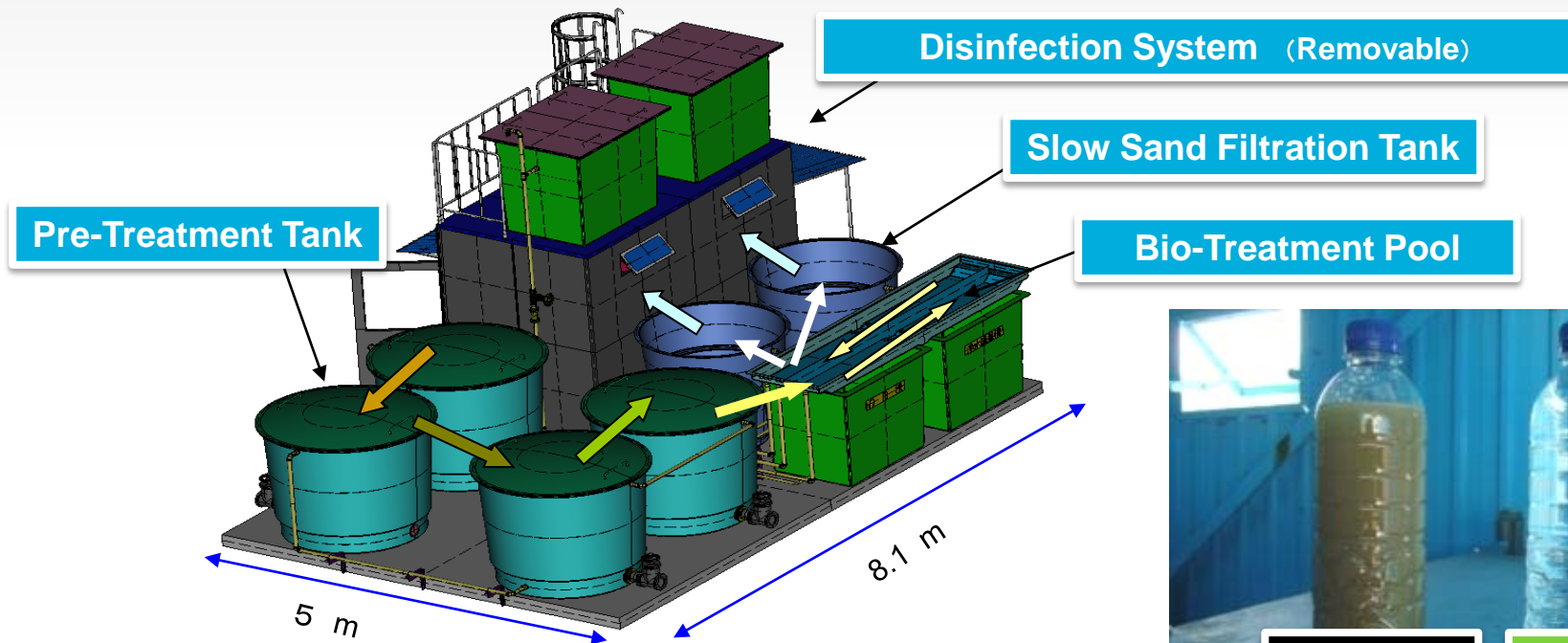
System Outline

System Outline

- Slow sand filtration system uses sand, gravel and microorganism

(No use of coagulants or membrane filters)

- Supplies 8000L of clean water in 1 day



Features

- Low running cost
(No use of coagulants or membrane filters)
- Easy maintenance
(No need an engineer with special technique)

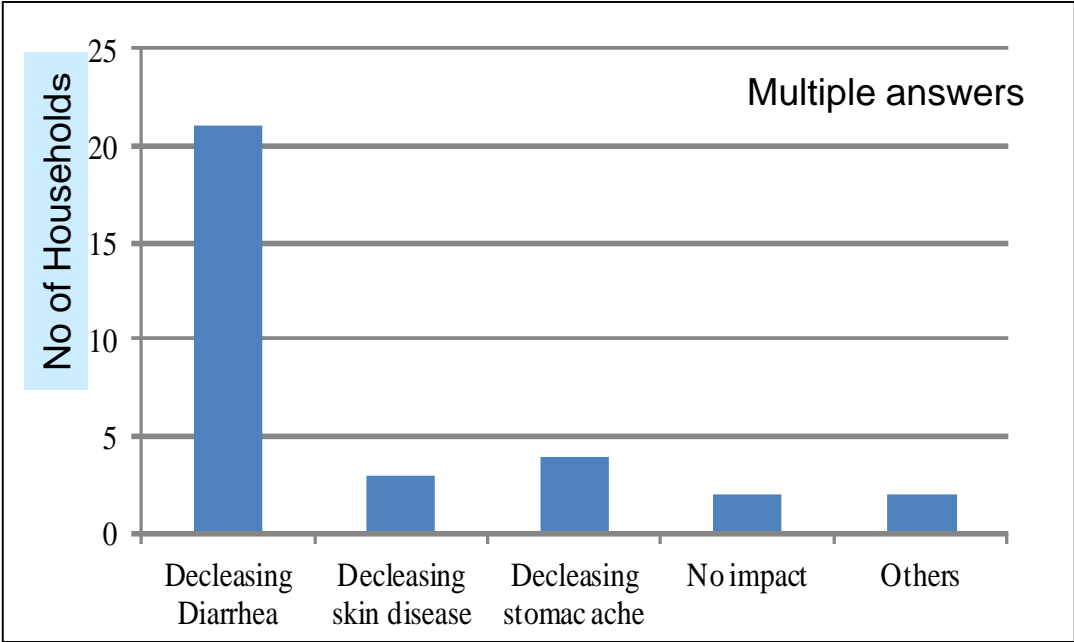
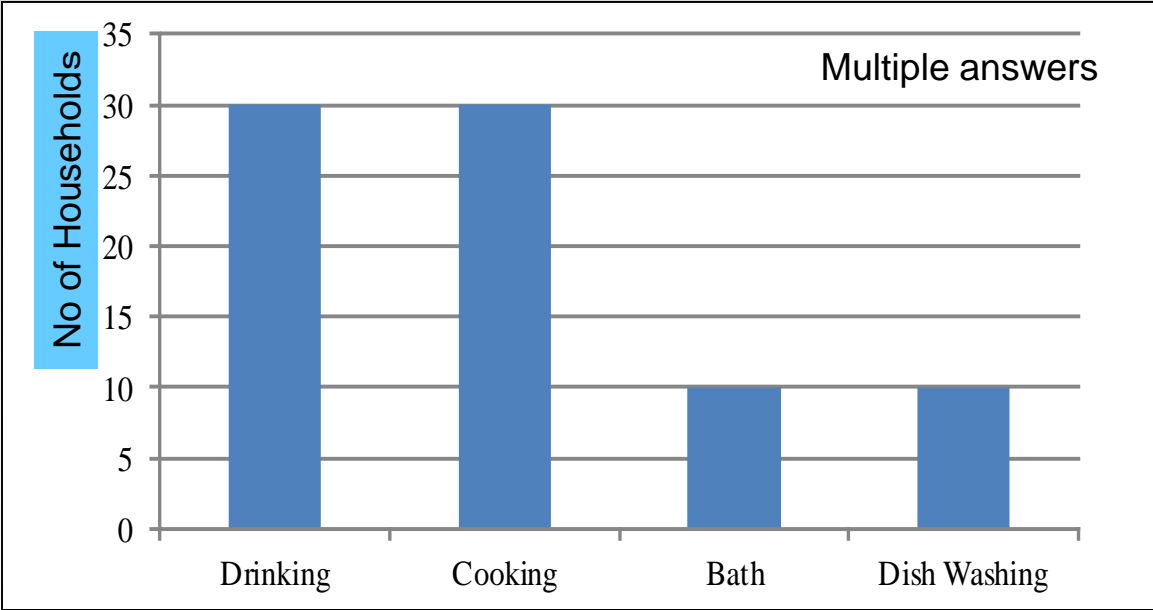


Clean Water Supply System



Self Management by villagers (Senegal)

Usage of clean water and effectiveness of system



Installation site in Senegal 1/3

<Place> Ndiawdoune Nar Village



Current Status in Senegal 2/3



Clean Water Supply System
(solar power : option)



Charging mobile phone with solar power



Village people buy water



Clean water is available for the villager

Explanation in Senegal 3/3



Seminar to government officers, JICA, JETRO, NGO



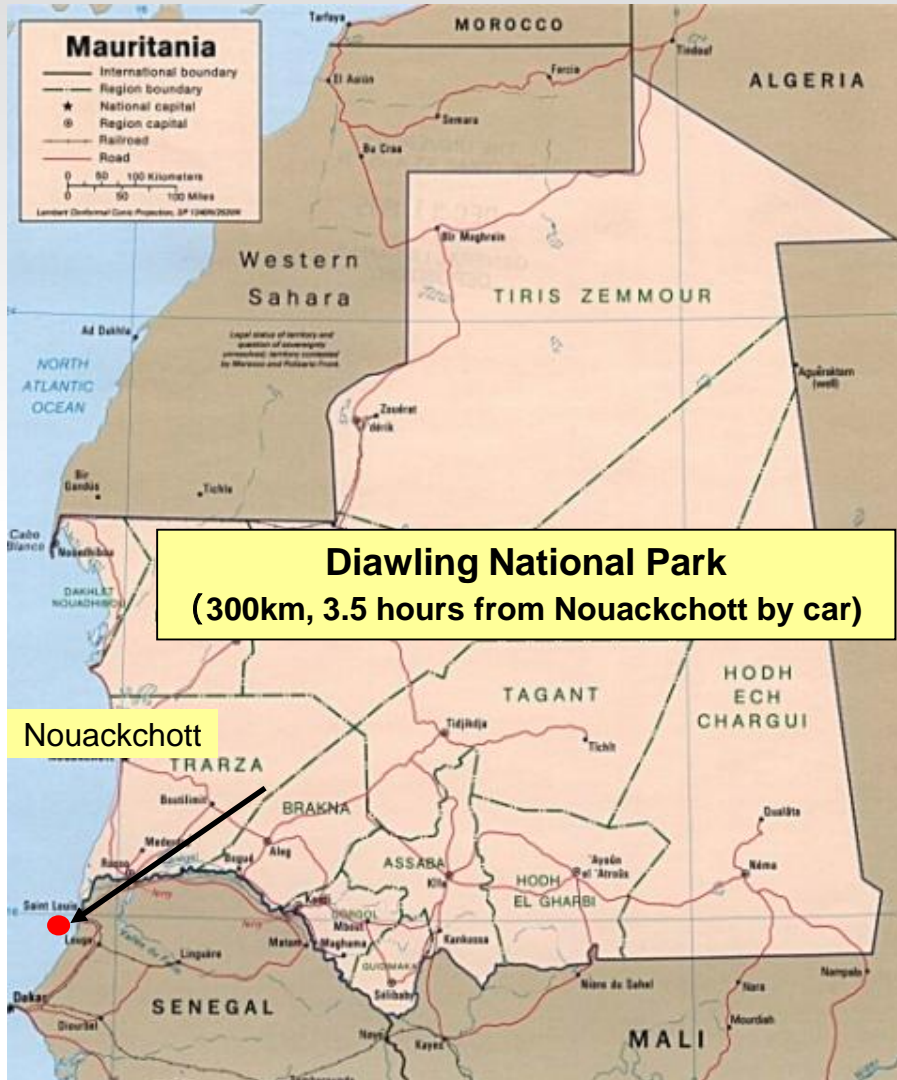
Explain to villagers



Site check

Installation site in Mauritania 1/2

<Place> Diawling National Park



Signboard of Diawling National Park



System with solar power

Clean Water Supply System & Drip Irrigation System in Mauritania 2/2



Overview of Clean Water Supply System



Introduction of Drip Irrigation System

Business scheme and sample

Business Model

Donor

Global Bank

(World Bank,
AfDB, ADB)

National Aid

(JICA, USAID,
DFID, GTZ)

Donation

Purchaser

Government (National /Local)

**Bureau of
waterworks**

NGOs
(International /
Local)

Rotary club / Lions club

Company
(Government-owned, private)

User

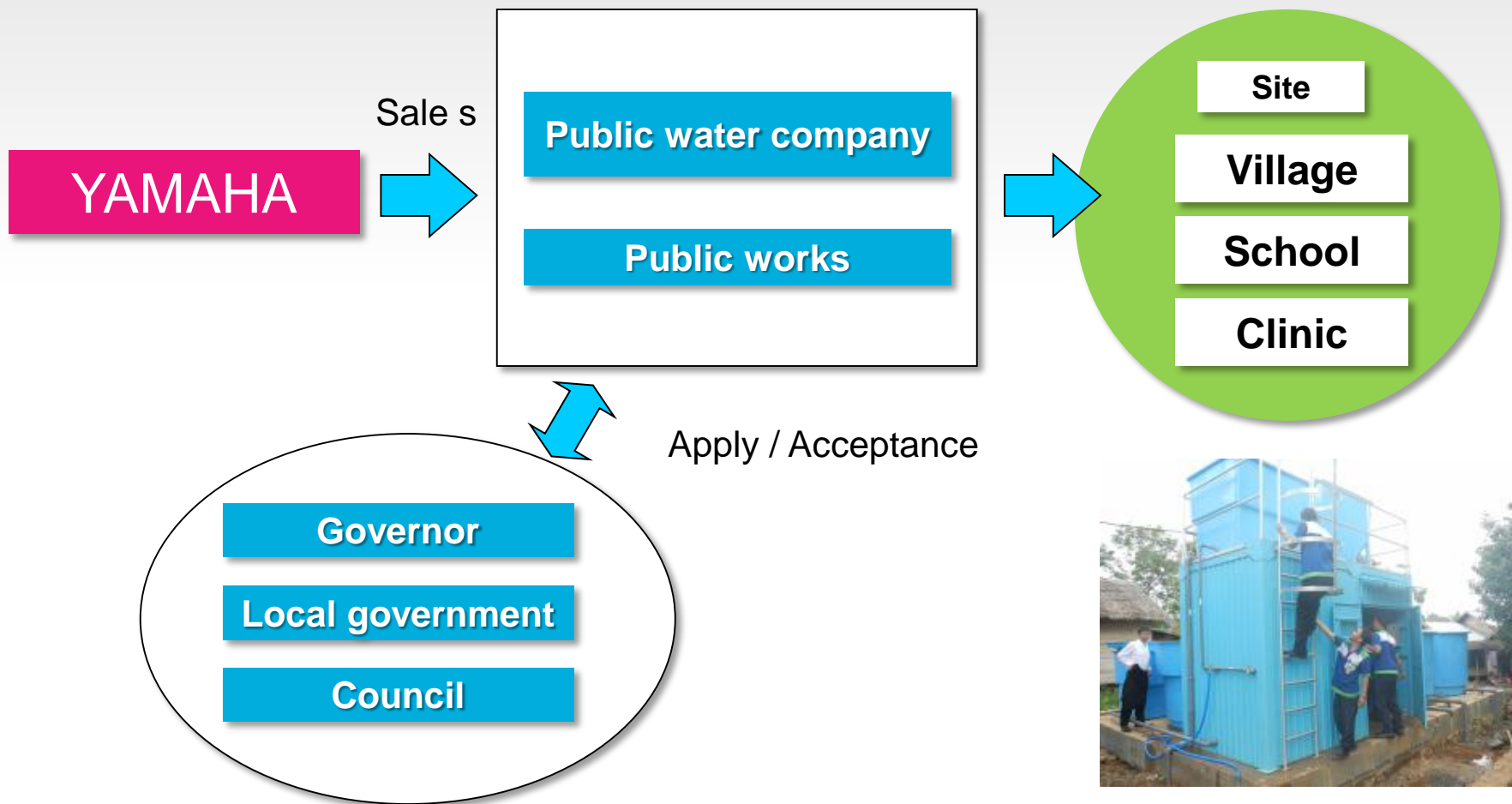
Village

Hospital

School

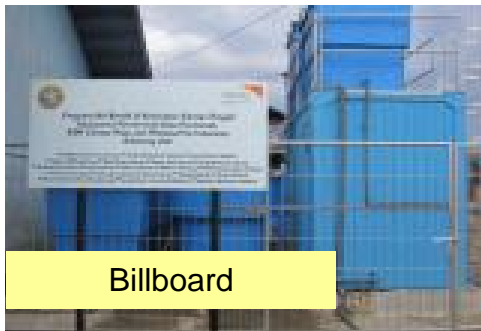
Public water company's scheme

- ◆ Install the area where the piped water is not available
- ◆ Acceptance by central or local government
- ◆ Control/ Maintenance by public water company after installation

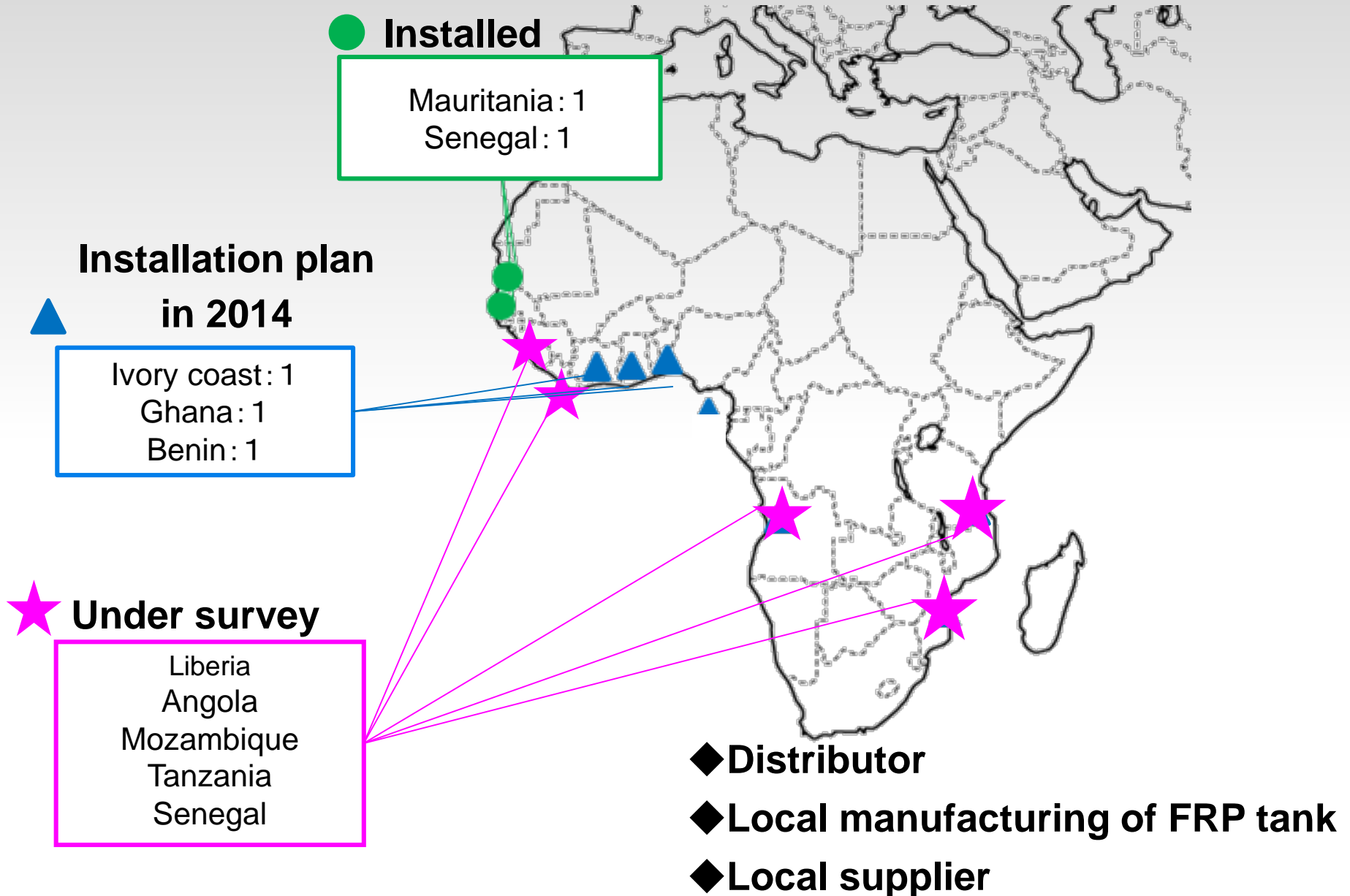


Small fund scheme

◆ One package: USD100,000-, USD 5,000- by one donor, Total 20 donors

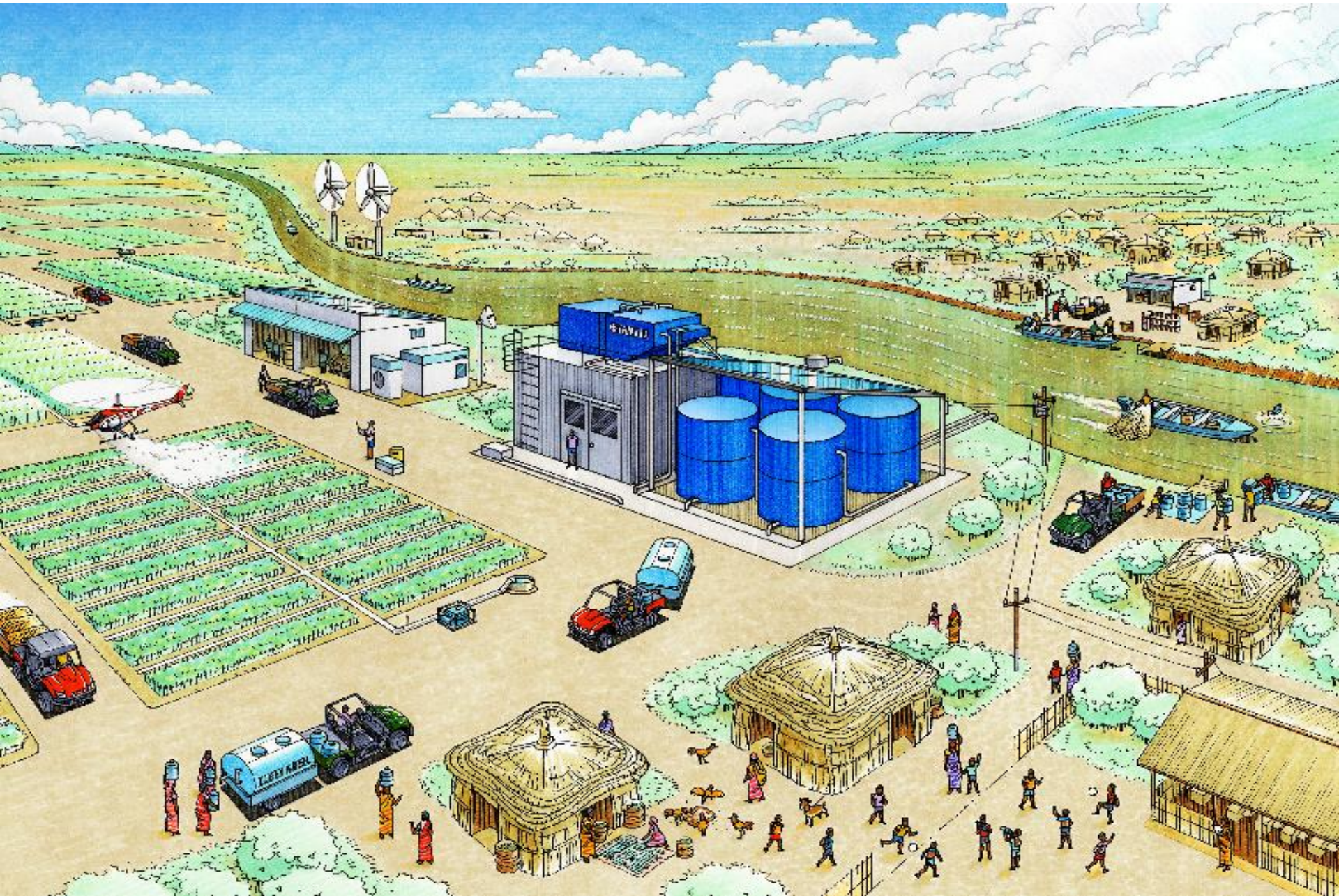


Business in African countries



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Conclusion



Integration of business

First stage

Second stage

Third stage

1) Clean Water Supply System

① **Get clean water**
(improve hygiene)



② **Selling water**
(increase income)



③ **Ice (storage)**
(added value)

2) Solar Power System

① **Lighting/ power**
(Improve lifestyle)

② **Electricity for mobile phone**
(increase income)

③ **Electricity for Battery**
(added value)

3) Drip Irrigation System

① **cost efficient/ Increase productivity**
(improve lifestyle)

② **Increase the crops**
(increase income)

③ **Establish a new business**
(added value)

Adaptation against climate change

Agriculture

**Selective breeding/
Seeds**

Water

**Irrigation/
Safety Water**

Fishery

**Aqua culture/
Processing/ storage**

Vulnerability in climate change

- The upward tendency of maximum temperature and the downward tendency of the rain-fall
- Frequent occurrence of drought and flood.
- Expand the drought area.
- The increasing social problems by climate change
 - Agriculture is the main business in African countries however conventional rain-fed agriculture face serious problem .
 - Decreasing the rain-fall affect directly the daily life
 - Quality of water worsen according to the flood and local peoples suffer diarrhea and malaria.
- Business environment
 - **There is a big demand for agriculture, water and fishery.**

Message to start BOP Business

- It will take time until business gets rolling well
- Business will start smoothly when you make partnership with public / International institution, NGO and NPO
- When you develop the niche market, you acquire much more business chance and profit, even first approach is tough.
- Focus not only BOP business but also MOP one. If possible, approach both BOP business and MOP one parallel.
- Exploit the official institution's support

Thank you very much!

