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## 1. What is CWSC?

### Community Water Supply Support Center

- Established in 2006 as a NPO (Nonprofit Organization)
- Main office located in Machida City in Tokyo
- Consists of around 60 members including water engineers, academics, and citizens
- Derives financial resources from membership fees, and income from seminars and projects

‘A totally independent NGO’



## Our slogan and mission

“ Good quality water to everybody, everywhere”

1. Support local communities in choosing proper local water sources and the most suitable treatment technology
2. Advocate EPS (Ecological Purification System), as an alternative solution for water supply treatment



## Activities

### 1 Advocacy

- Annual EPS seminar; cooperated 12 times with various municipal waterworks bureaus
- Helped organize the 2014, 5<sup>th</sup> International Slow Sand and Alternative Conference in Nagoya

### 2 Supporting communities

- Conducted EPS verification test at Mitsuke City Waterworks Bureau from 2008 to 2010
- Provided technical support for implementation of EPS facilities in 5 communities in Tsuyama City from 2011 to 2015

### 3 Research

- The impact of earthquakes in Tohoku Region (March 2011) and Kumamoto (April 2016)
- The conditions of community water supply systems in Tsuyama City and Kyushu



## 2. Two types of difficulties for Japanese water supply systems

- (1) Financial difficulties in the near future for the majority of local public water supply services
- (2) Difficulties in sustaining small water supply systems in local communities (not by a public entity)



## (1) Financial difficulties in the near future; major (general) problems

- Large amount of capital needed for replacement and renovation of waterworks
- Decrease in population and consumption of tap water
- Excessive capacity of facilities relative to operational levels with the lower demand (higher operational cost per unit of water)

→Further increase of water rates



## (2) Difficulties in sustaining small systems; minor but important problem

- 2.3 % of households in Japan are located outside of public water service areas (2013)  
≒  $(124,370,000 \times 2.3\%)$  apprx. 3 million households
- These households have their own supply water systems using groundwater, streams, or springs, and are maintained by the community or each household



## Two sides of the coin: growth strategy of water services

- Local plans are made expecting an increase in population and consumption
- Governments supported and subsidized local services, including water resources development, facilities, and technologies

→ ① Nearly 100 % of the population has access to piped, highly safe water supplies ② The water supply system has excess capacity

↔ Less concern with marginal communities that do not fall into this picture of 'growth'



## 3. A new challenge in small community water supply systems

Background;

- Increase of 'Genkaishuraku' - depopulated villages, with aging inhabitants (marginal villages)
- Changes in water resources characteristics
  - Unmanaged forests, changes in rainfalls patterns, increase in the prevalence of wild animals
  - muddiness, dry, Cryptosporidium etc.
- Climate change → natural disasters
- No public assistance



We are concerning with these communities

Why?

→ Their right to access safe water is endangered  
(we cannot do anything about the major causes)

\*This problem was first mentioned at the 'New Water Service Visions of 2013' by the government



Small communities with difficulties in water supply  
is becoming a new social challenge to be solved



## Our experiences: Solutions for the new social challenge of water supply

Tsuyama City

- Recommended technological solutions to Tsuyama City and the community people
- Designed 6 EPS facilities for 5 communities, and continue to provide maintenance support

Oita Prefecture (our members)

- Designed a micro EPS facility for a community without drinking water resources

Iwate Prefecture

- Provided technological advice to renew facilities



## Micro EPS facility in Oita Pref.



## Still many communities with difficulties

Ex. 5 members, aged 60s-70s constructed their own EPS facility that draws pond water. They maintain it by themselves (Oita Pref.)



## 4. Our recommendations to solve the new challenge

Key: ① Local inhabitants be the main actor  
② Make quality of life the primary purpose

1. Suggest alternative ideas and ways

**Empowerment of community members  
is the most important**

- Simple technology could be sustainable
- Successful examples exist

3. Encourage cooperation and coordination with municipals, NGOs, etc.

- Key is consensus and listening to the wish of the community

