Water and Sanitation Summary for Greenland

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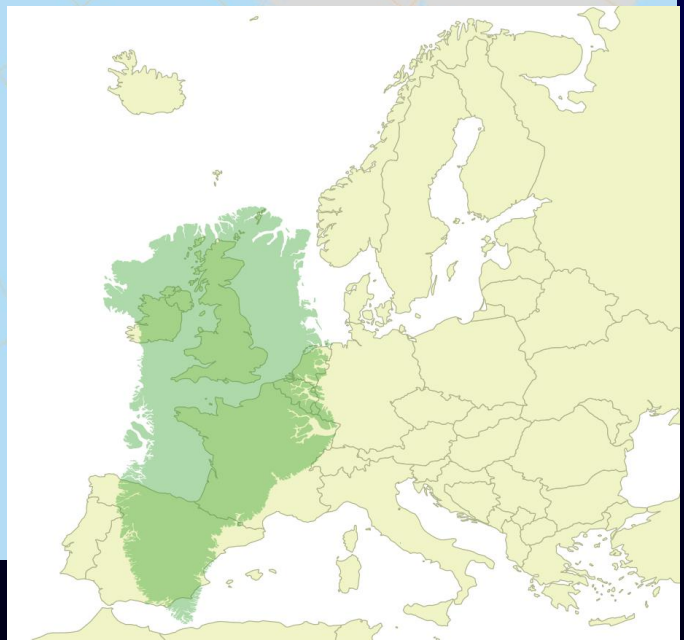
Geography and Demographics

- Greenland
  - 2,146,000 km²
  - Population: 56,000
  - Urban: 17 “towns” with 430 to 17,000 inhabitants
    - Largest city Nuuk 17,000 inhabitants
  - Rural
    - 56 “settlements” with 20 to 460 inhabitants
    - App. 40 isolated sheep farms
- Ethnic groups
  - App. 86% Greenlanders (inuit)

All infrastructure in all towns and settlements in Greenland is based on island operation



Water and Sanitation Services

Total number of households: 22,000

- Households without:
  - Water app. 1,800 = 8 %
  - Sewer app. 5,900 = 27 %
- Households in “settlements” without:
  - Water app. 1,600 = 60 %
  - Sewer app. 2,350 – 88 %
- Household in “towns” without:
  - Water more than 200 = 2 %
  - Sewer app. 20 – 25 %

Unserved Communities

Water Service

All water production based on surface water (except one smaller settlement that has groundwater)

- Generally using larger and deep lakes – alternatively rivers
- 1 settlement have no water supply
- 7 settlements are using reverse osmosis (RO)
- 1 town and 3 settlements with RO backup
- 1 town melt icebergs a third of the year

Water Service

Water treatment

- Towns
  - Sand filter, chloride and UV light
  - In case of organic material aluminum-salt
- Settlements
  - Bag filter and UV light (5 settlements without UV)
  - Chloride is only used in 6 settlements

Water Service

Water distribution to homes

- Towns
  - Mainly pipes
  - Truck transport
  - Individual collection at tap-houses
- Settlements
  - Few pipes
  - Individual collection at tap-houses
  - “Alternative solutions”

Intake of raw water in Ilulissat

Fotos: Hans Ole Hansen

Raw water pipe, waterworks and water tank of Ilulissat

Intake of raw water in Kuummiut

Intake of raw water in Sermiligaaq

Sewage Service, black water waste

Sewage and black waste water treatment

- Larger towns (+ 500 households)
  - Mainly sewages with pumps
  - Truck pick up from tanks
  - Plastic backs (honey buckets) 7 %
- Smaller towns
  - Manly plastic backs (honey buckets) 75 %
- Settlements
  - Manly plastic backs (honey buckets) 88 %

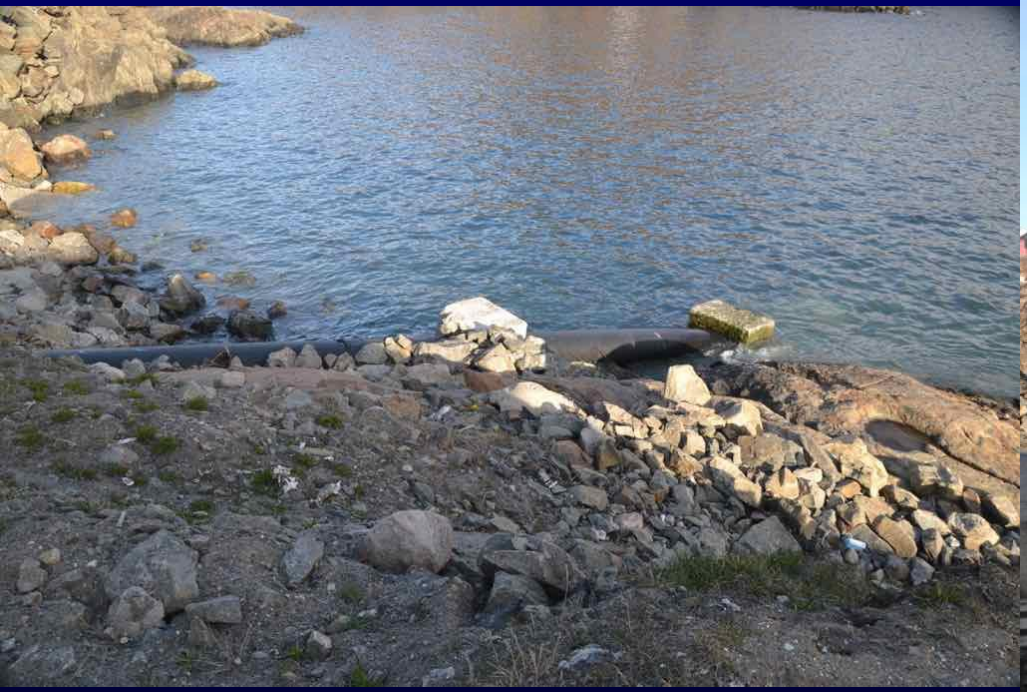
Grey water are let out to the ground

Sewage Service, household waste

Sewage and black waste water treatment methods

- Sewage is lead into the sea
- The tanks and plastic backs (honey buckets) are emptied into the sea

Sisimiut – the second largest town in Greenland



Sewage is lead into the sea

House for emptying the honey buckets

Emptying of honey buckets in settlement

Photo: Hans Holt Poulsen

Honey buckets in Qaanaaq

The bags are left on the dump

Loose dogs and birds tearing holes in the bags


Qaasuitsup Kommunia

Costs

Water supply is treaded by the national electricity and water supply company Nukissiorfiit

- Owned by the Self Government

- **Establishing** all older water supply systems was paid by the public
  - during the last decade new systems have been paid by Nukissiorfiit – unless it is in the Self Government budget

Costs

- Water is paid by the users
  - Until 2005 there were fixed prices for electricity and water – changed to ‘cost based prices’
  - Public subsidies to stay under a maximum price
  - Price differentiation up to app. 100 %

Costs

Sewers are established and run by the municipality

- There is no fee for using the sewer
- But there is a fee for empting tanks and collecting plastic bags (honey buckets)

Regulation Authority

- The overall regulation and definition of level of service is defined by the Self Government
- Nukissiorfiit is responsible for water
- The municipalities are responsible for sewer and black waste water treatment
- Ministry of Nature, Environment and Energy is responsible for control

Challenges

Water

- Several towns and settlements are located on small islands in high Arctic desert with limited water resources
- This challenges the opportunities for business development
- Searching for sustainable solutions

Challenges

Black waste water treatment

- It is costly and complicated to establish and maintain sewer – especially in smaller towns and settlements
- Have to develop new and alternative solutions