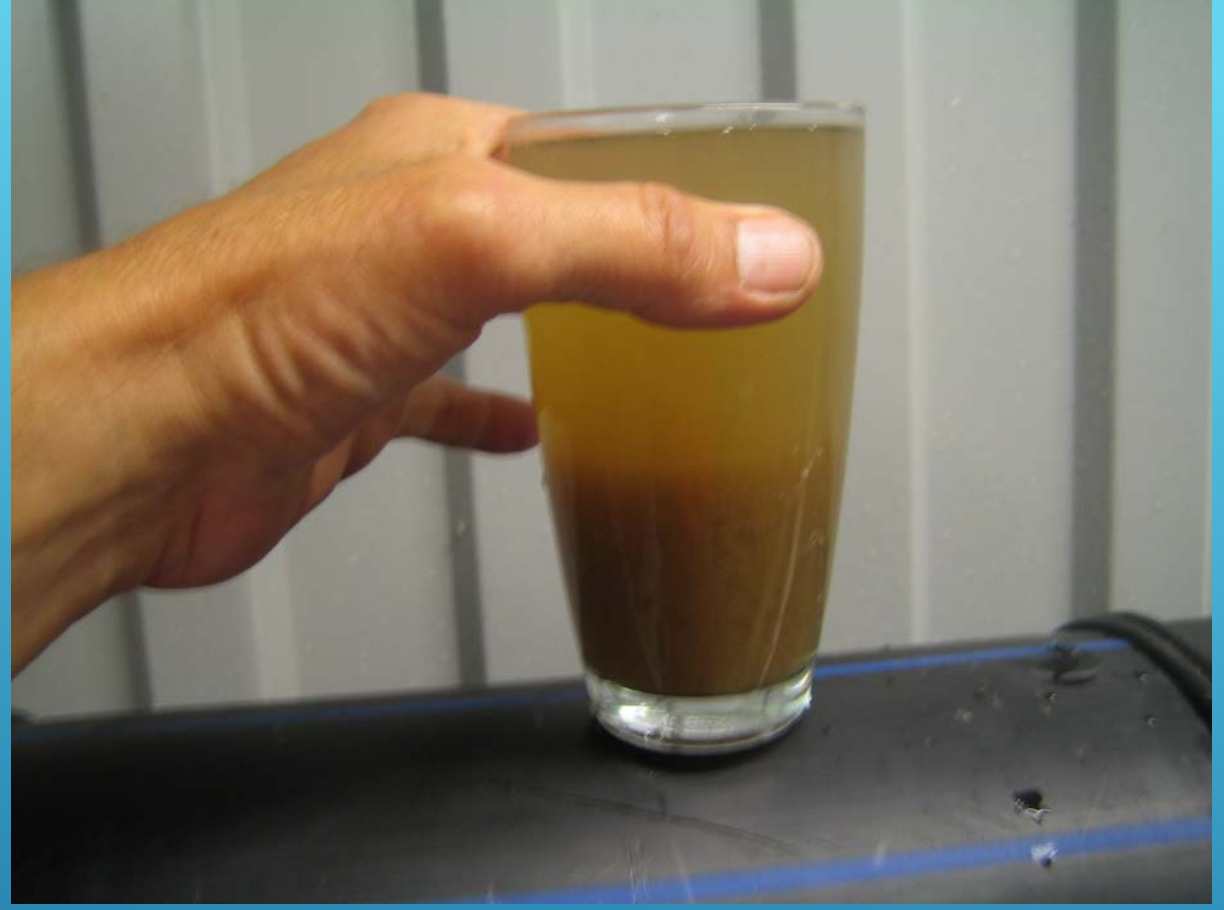
FISH MANURE, A VALUABLE PRODUCT, OR A PAIN IN THE …?

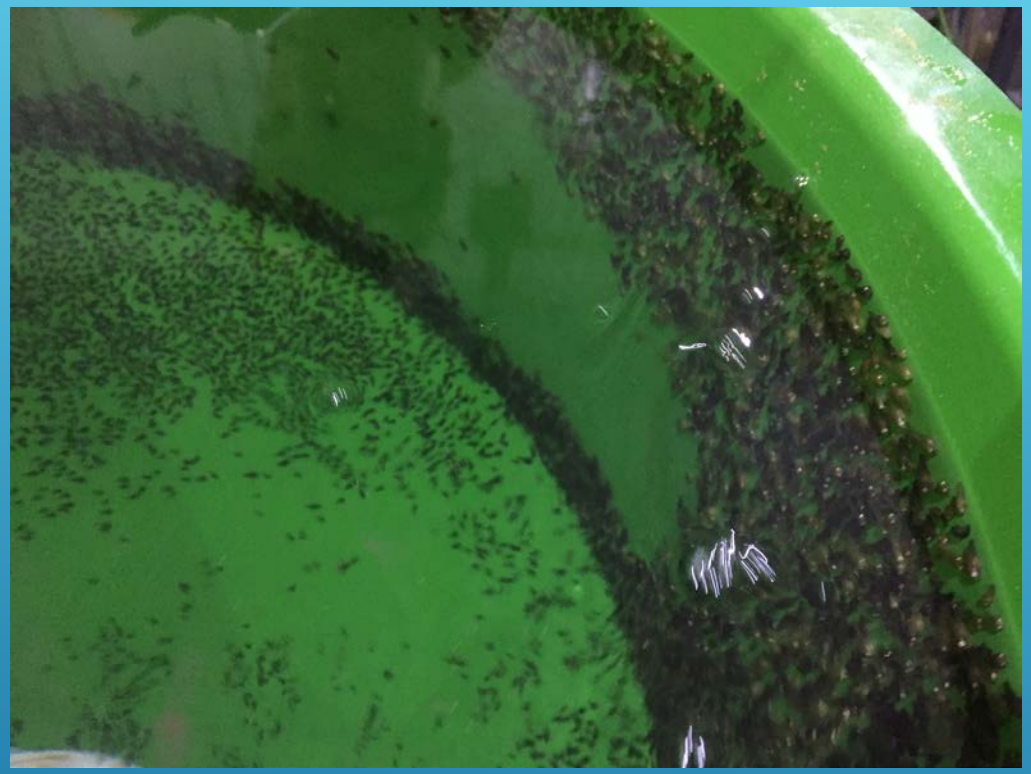
Do Aquaculture in Island and other Countries have a problem with sludge?

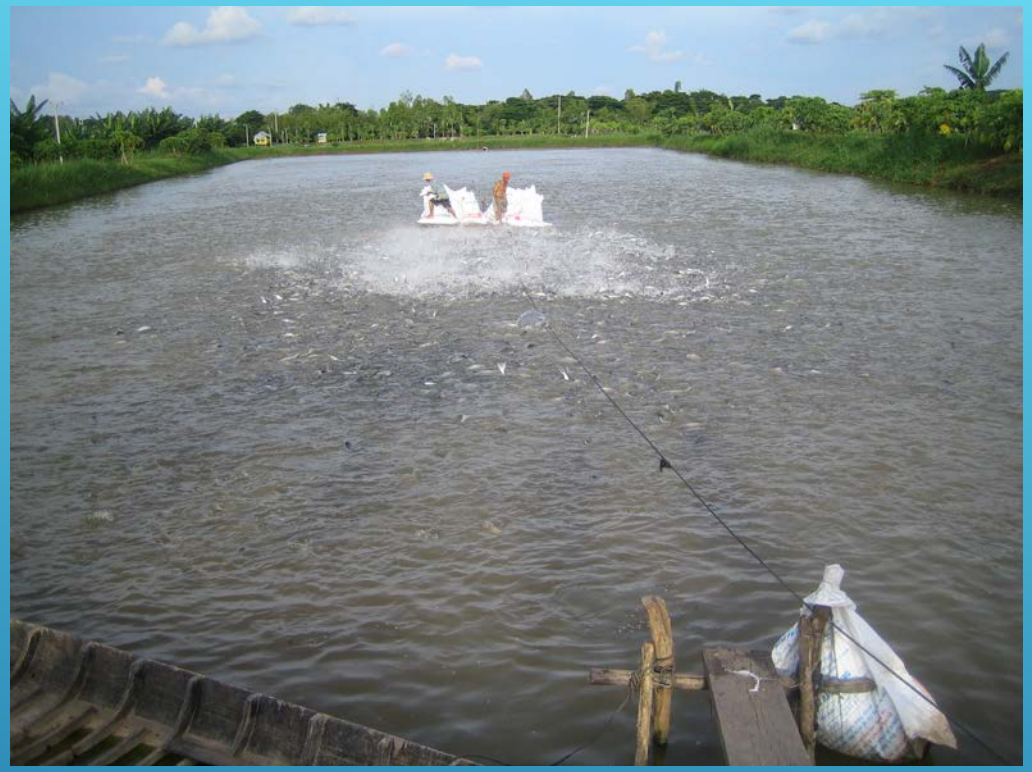
Strandbúnaður 2018, Grand Hótel Reykjavík, 19.-20. mars.

FISH MANURE AND PARTICLES

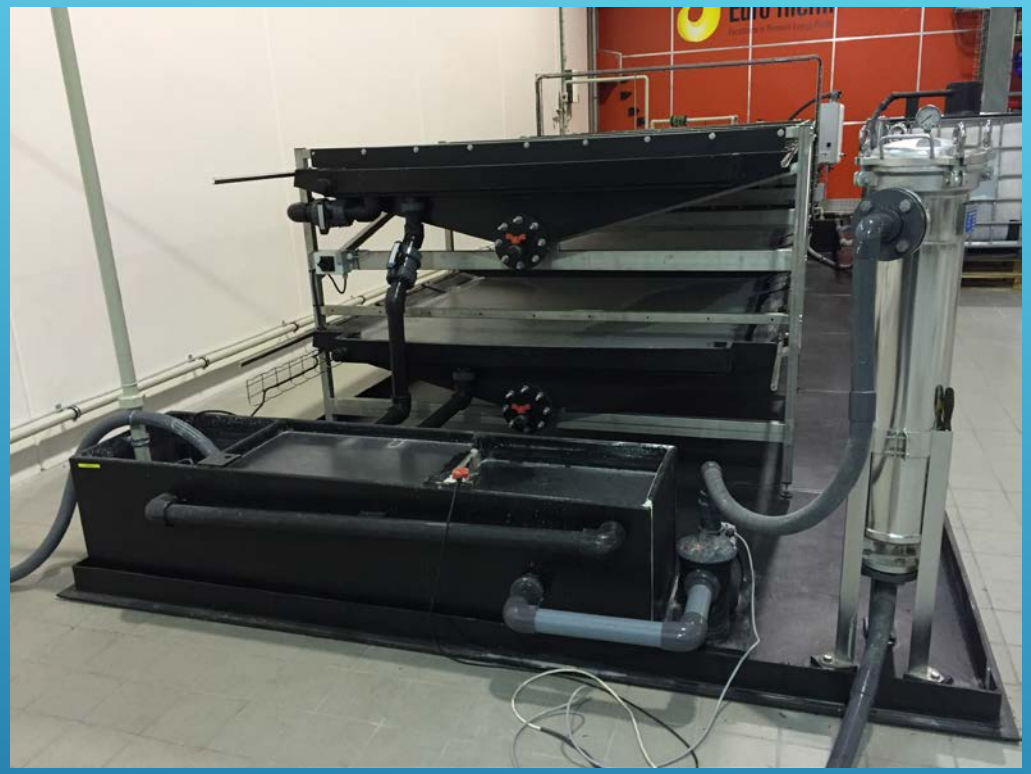


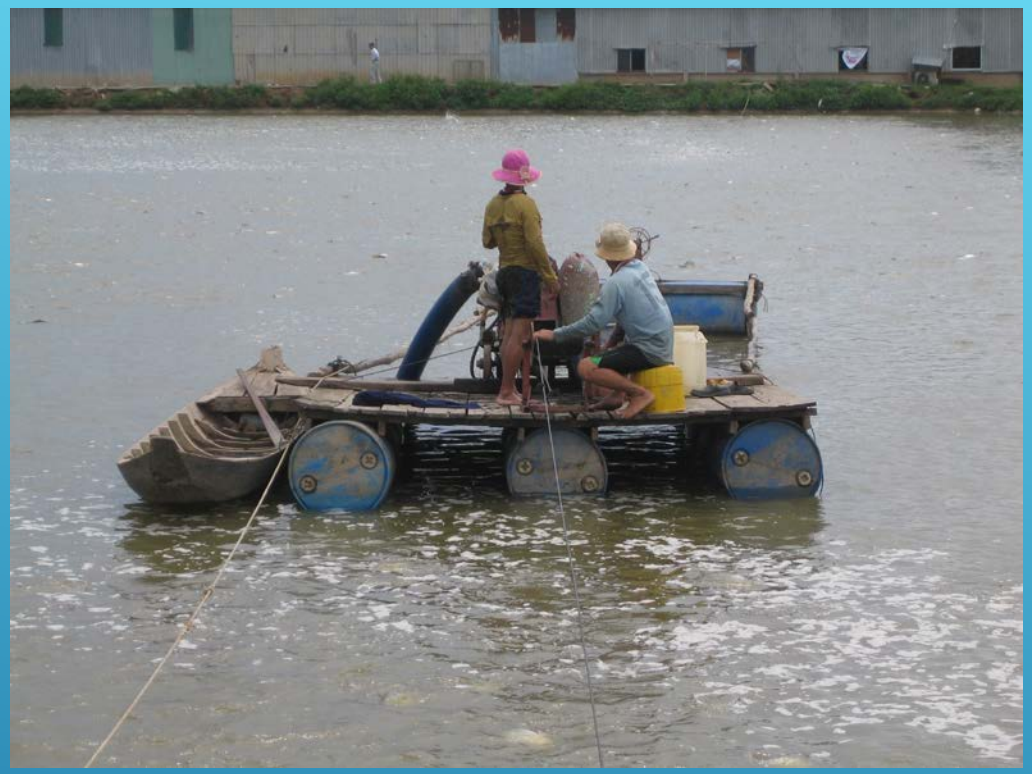
BIOFILTER SLUDGE – BACTERIA CULTURE



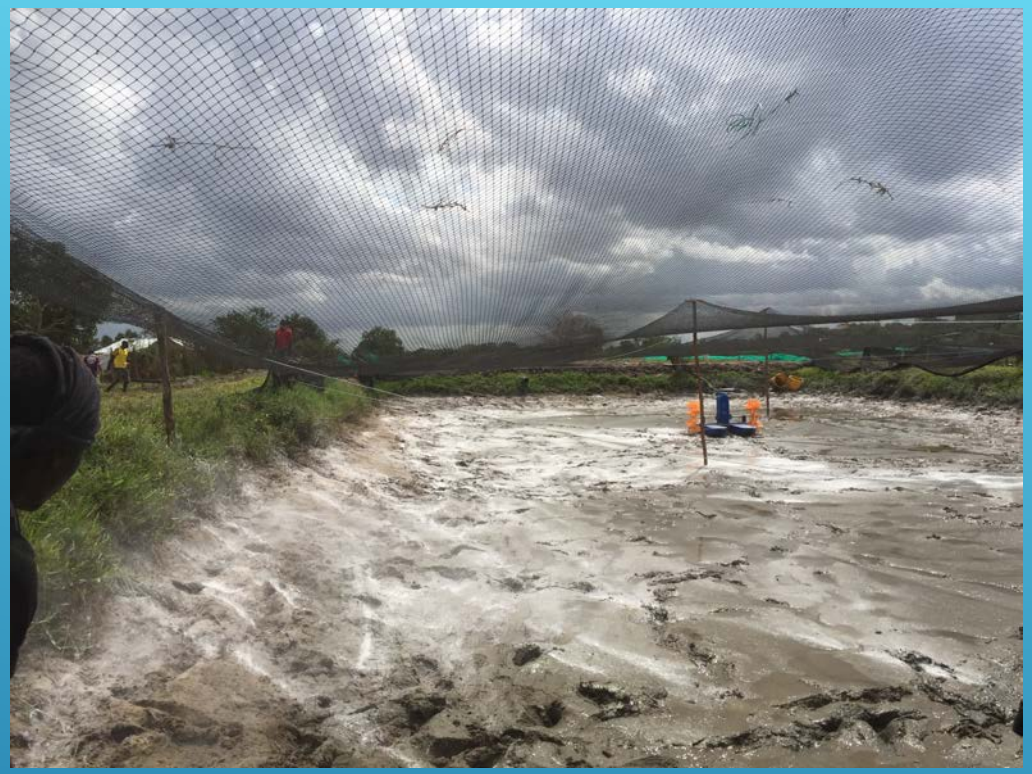


IF YOU PRODUCE FISH –YOU PRODUCE FISH MANURE

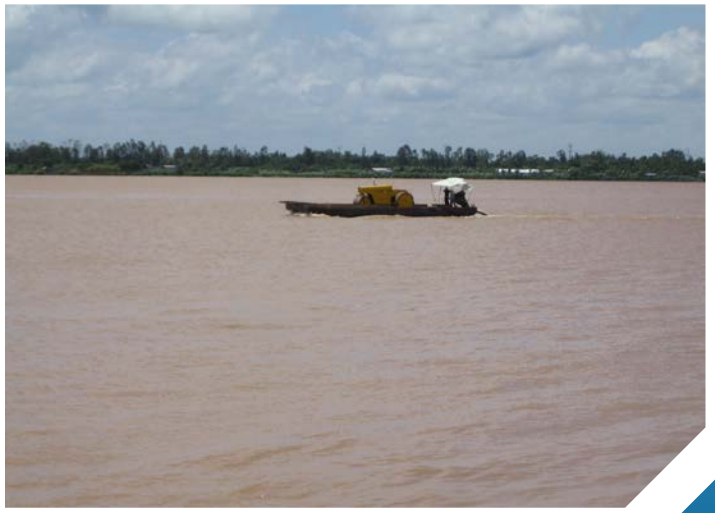




REMOVAL OF SEDIMENT CAN BE DONE IN A NUMBER OF WAYS



TRADITIONAL TREATMENT AND STORAGE DRAINAGE AND OUTLET FROM



- Nature have limits.
- We need to utilize as muche of the inputs as possibel and return what is spent in the aquaculture production, back into the environmental circle.
- We can improve.

THE CARRYING CAPACITY?

WHAT CAN BE RECOVERED

- All depends on efficiency of feed, sedimentation and filtration.
- Typical feed for Trout - Salmon
- 45% protein.
- 0,9% P

- N in feces: 5,7 gram
- N in water: 35 gram
- P in feces: 2,6 gram
- P in water: 2,1 gram
- BOD: 130 gram per 1 kg feed
- COD: 430 gram per 1 kg feed

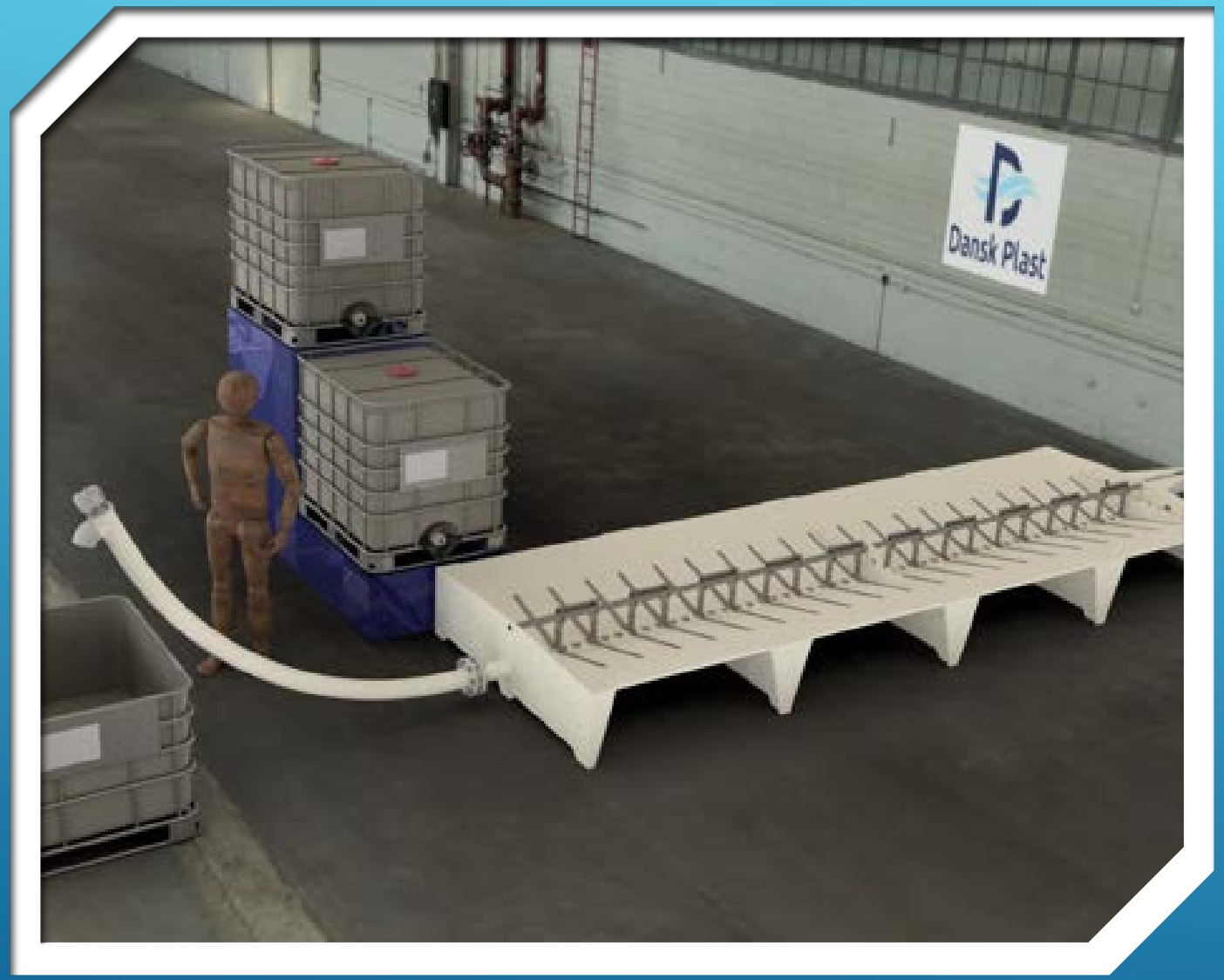
- It is possible to remove 70% of particles.
- 73g Particle BOD = 51g per kg feed
- 57g dissolved BOD + what pass the micro filter = 32 g per kg feed.
- Phosphorus:
- 0,9% = 9 g/kg feed. 4 g is incorporated in the fish, remaining 5 g.
- In Feces – particles 2,6g - dissolved in water 2,1g

Part of the sludge – manure is lime, P and carbo hydrates hard to brake down.

Part of the sludge is recycled and acumulated i biofilters.

Removing the P fixed in feces and particles is the low hanging froot

TOTAL TSS TO BE REMOVED180 GRAM/KG FEED
MICRO FILTRATION - DRUM FILTER, 40 MIKRON



NEW METODES AND SYSTEMS

- Development of systems that will turn fish manure in to usefull fertilizer.
- That will minimize transport cost.
- That will improve the image of Aquaculture.
- Better utilization of natural resourses.

THANK YOU