



LANDING

AQUACULTURE

DISCUSSION BETWEEN BUSINESS / ENGINEERING

1. Main design / engineering failures
2. Management challenges
3. Practical advice

SITE SELECTION

DO

1. Make sure your site can legally host your site
2. Look for sources of waste heat
3. Look for a site that benefits your business strategy
4. Allocate space for storage, workshops quarantine, cleaning, visitors, offices, fish purging, packing
5. Find out waste disposal alternatives

DONT

1. Place your site close to pollution sources
2. Underestimate the capacity of access roads, electrical infrastructure and wastewater infrastructure
3. Pick a place in an area where important fish diseases are reported
4. Pick a site that does not have enough clean water

WATER SOURCES

DO

1. Ensure enough volume to exchange at least 50% of the farm volume in a day
2. Ensure a pathogen-free water source (boreholes, tap water)
3. Test your water source before and during the project

DONT

1. Use surface water without proper treatment and disinfection
2. Use borehole water without testing for dissolved gases
3. Rely on rainwater alone
4. Rely on a single water source

SOLIDS CONTROL

DO

1. Select an appropriate technique to remove each size of solids
2. Oversize your solids filtration equipment a bit
3. Be careful with pipe velocities, pipe bends and areas where solids may accumulate
4. Learn about self-cleaning fish tank designs

DONT

1. EVER, cut down costs for solids treatment equipment.
2. Reduce system flows below 1 turnover per hour
3. Pump solids-laden water without pre-treatment (with exceptions)
4. Use hydroponic systems without proper solids treatment. Each hydroponic system has its own solids treatment requirement

BIOLOGICAL FILTRATION

DO

1. Select the right biofilter size according to temperature and salinity
2. Manage your water quality, especially pH and alkalinity
3. Rinse your biofilters gently unless they are self-cleaning
4. Give them time to mature

DONT

1. Undersize your biofilters.
2. Deprive your biofilters of oxygen
3. Run water through the biofilter without proper solids treatment
4. Shock them with temperature, pH or salinity fluctuations

BUILDING / GREENHOUSE

DO

1. Take into consideration how humidity affects the indoor environment
2. Take the orientation of the building into account, if you are growing plants with sunlight
3. Consider how parts of the building cast shadows over the crops

DONT

1. Use wood buildings, rock wool and any construction materials that absorb water
2. Forget building ventilation and how it affects energy expenses

AERATION / OXYGENATION

DO

1. Have spare diffusers and blowers or compressors
2. Have backups for power and oxygen. If you lose oxygen, you lose fish
3. Consider the capacity of the diffusers according to the air flow that you need
4. Incorporate efficiency loss in your system

DONT

1. Underestimate the role of bacteria in oxygen use
2. Use technical oxygen without considering how to get rid of carbon dioxide
3. Sacrifice air flow

PUMPING AND WATER TRANSPORT

DO

1. Get some extra pumping capacity
2. Install backup pumps
3. Allow for space for replacing pumps if needed
4. Plumb your pumps for easy replacement
5. Choose bigger pipes (as long as pipe velocity is OK)

DONT

1. Just go and pick any pump. Be careful with the pump you select
2. Stop doing maintenance to your pumps
3. Make the pump work outside their normal range
4. Allow air to enter the pump intake = you may kill fish
5. Connect many tanks to the same pipeline
6. Connect many tanks together without changing pipe size





FISH MANAGEMENT

DO

1. Install a quarantine system
2. Install an off flavour removal tank (tank with clean water running)
3. Learn about your fish's behaviour
4. Feed your fish through the day, in small rations

DONT

1. Feed the fish is something is off
2. Bring fish in without being sure they are healthy
3. Feed the fish before handling them
4. Overlook water quality
5. Make changes on a Friday

SUPPLY CHAIN

Can you sell your fish and veggies at the right time, the right price, with perfect quality?

Can you get your fish eggs/fingerlings/seedlings as often as you need?
What if you have a dieoff....can you stock quickly again?

Can your feed supplier respond to your demands?

Will shipping/customs/logistics screw you up along the way? How do you protect yourself?



Polish land-based producer calls it quits on tilapia

Global Fish currently considering its options after failing to find markets for fish in Europe.