



Cage aquaculture.

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Cage aquaculture.

- **Aquaculture can be traced back to China as far as 4000 years ago.**
- **It has been predicted that fish consumption in developing countries will increase by 57 percent from 1997 to 2020.**
- **By comparison, fish consumption in developed countries will increase by only about 4 percent, at the same time.**
- **Rapid population growth, increasing affluence, and urbanization (China).**

Cage aquaculture.

- **80 species are cultured in cages today.**
- **Salmon is about 51% of all cage culture.**
- **90% is from only eight species.**
- **Salmon cage farming has manifolded 4000 times from 1970 to 2005.**

Cage aquaculture.

The success of salmon farming is because:

- Technology in cage farming.
- Large areas of pristine coastal waters.
- A preferable specie.
- Good market.
- Good governmental support and regulatory.

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But there are some troubles too:

- Increased nutrient loss from feed.
- Excreta from cage fish.
- Feed demand from fishery resources.
- Escape of farmed fish from cages.
- Sharing of costal waters with the public.
- Need for government controls of the cage farming.

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Cage aquaculture is important because of:

- Social benefits.
- Economic benefits.
- Environmental benefits/impact.

The key theme in cage culture is therefore:

- How to manage it.

Cage aquaculture.

- **Cage aquaculture mostly takes place in much exploited costal environments.**
- **At the same time, there is a growing awakening for the environment of our oceans and aquatic areas aganist pollution.**

That pollution comes from:

- **Sewage 25%,**
- **Air pollutants 25%,**
- **Agriculture 20%,**
- **Industrial wastewater 10%,**
- **Ships 10%,**
- **Oil 5%,**
- **And litter 5%.**

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- **There is increasing concern for food safety (use of antibiotics, heavy metals).**
- **Aquaculture is still a minor source of pollution but it can be a problem in inshore costal waters.**
- **Cage culture needs to go further offshore in the future.**

Cage aquaculture.

- **With 97% of all our planet's water in the ocean, the opportunities for cage culture is enormous.**
- **But as for world fisheries in the oceans:**
 - **52% of known fish stocks are fully exploited,**
 - **20% moderately exploited,**
 - **17 % over-exp.**
 - **7% are depleted,**
 - **3% are under-exp. and**
 - **1% are recovering.**

Cage aquaculture.

- **At the same time as the fish stocks are well exploited the world's population is growing by more than 80 million a year.**
- **Cage aquaculture, and aquaculture as a whole, will be an increasingly source of fish in the future.**

Cage aquaculture.

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