



# Global Conference on Aquaculture 2010

**Farming the waters for People and Food**

**22-25 September 2010, Phuket, Thailand**

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## A summary of the « European Regional Review on Aquaculture Development »

Prepared by L. Váradi, G. Gyalog, E. Békefi and P. Lengyel (HAKI) and by A. Lane and Y. Harache (EAS), in collaboration with FAO/FIRA Aquaculture Service and with the review and contributions by many aquaculture experts in Europe, for which many thanks.

The presentation:

- Status and trends
- Salient issues
- The way forward
- Main messages



## I. Status and trends



### Europe (44 countries)



**Population: 813 million;** 12.6 % of world population; 6 of the 10 largest economies in the world PP (2008)

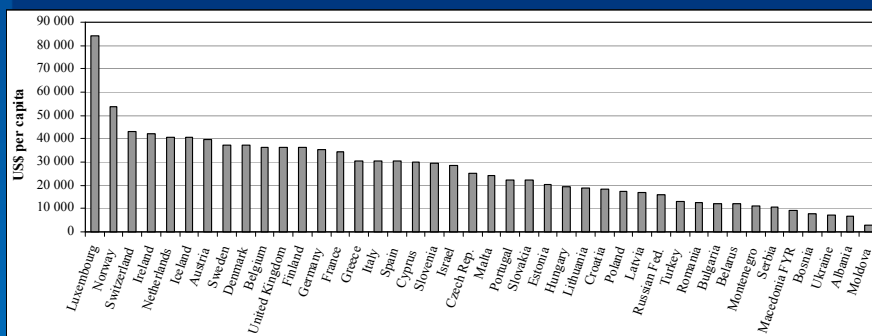


## Economic regions in Europe



## GDP per capita

in USD at PPP in 2008 (IMF, 2009)



Significant differences in GDP per capita



## Employment and labour productivity

- **Employment**

- Production: 150,000
- Post harvest: 135,000

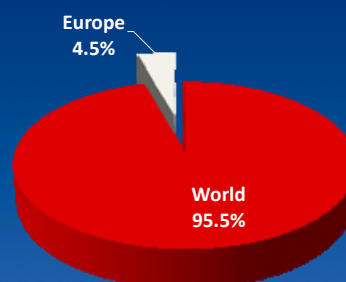


- **Labour productivity**

- Ponds, lagoons: 8-10 t/employee
- Intensive (automated) systems: 250-300 t/employee



## European share from global aquaculture production (2008)



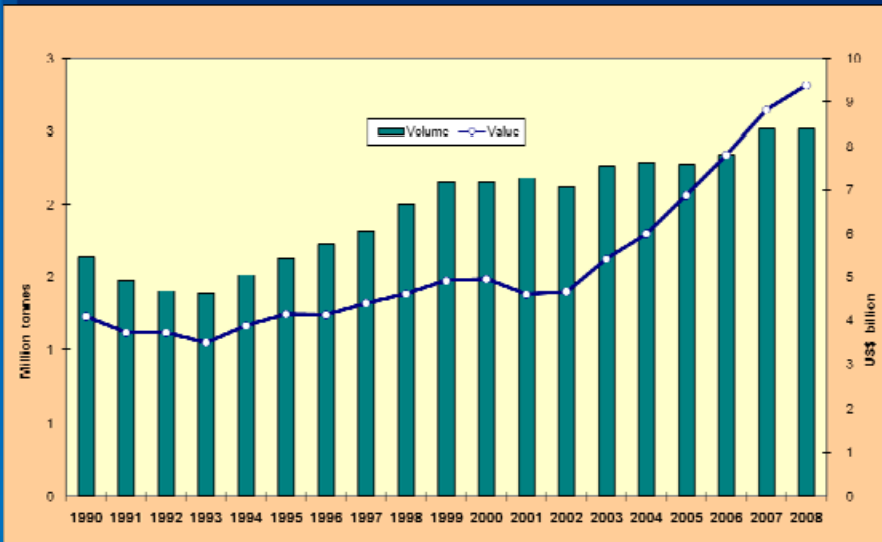
Leading region in the production of some species



Source: FAO, 2010



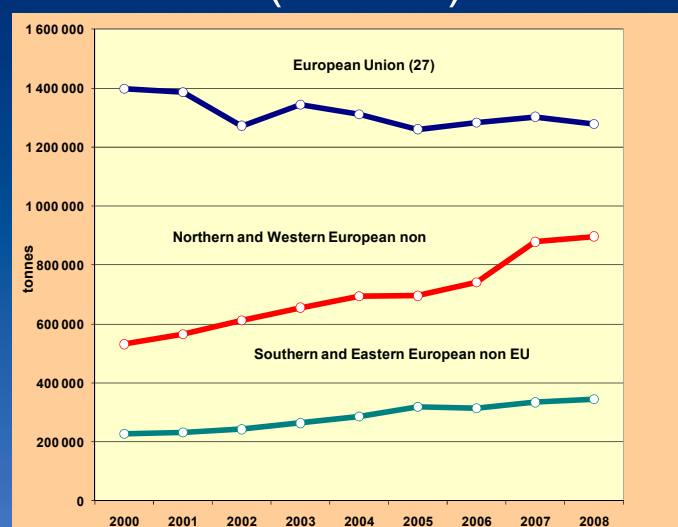
## Aquaculture production, 1990-2008



Source: FAO, 2010



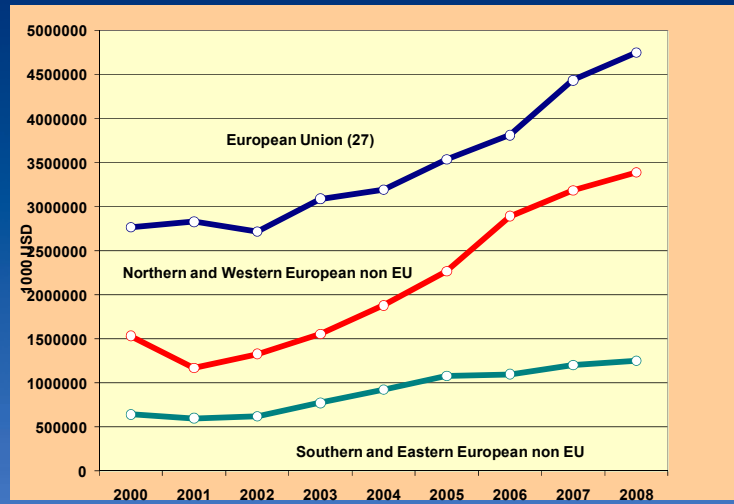
## Aquaculture production by regions (volume)



Source: FAO, 2010



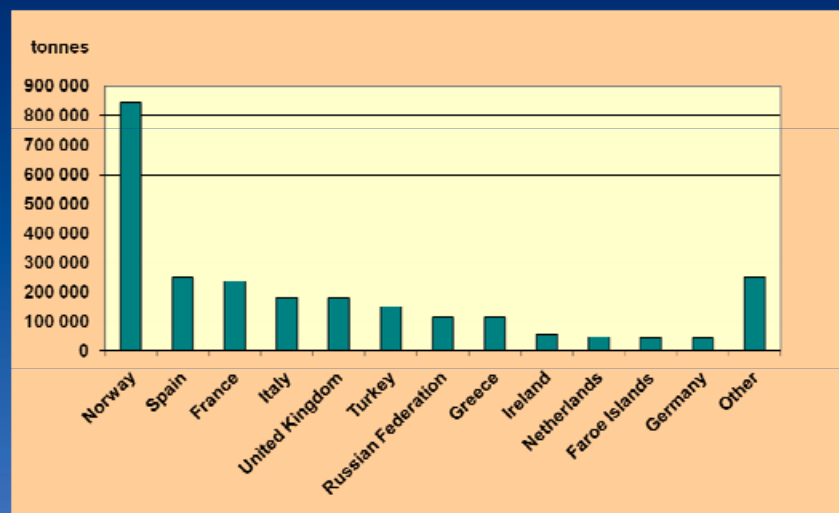
## Aquaculture production by regions (value)



Source: FAO, 2010



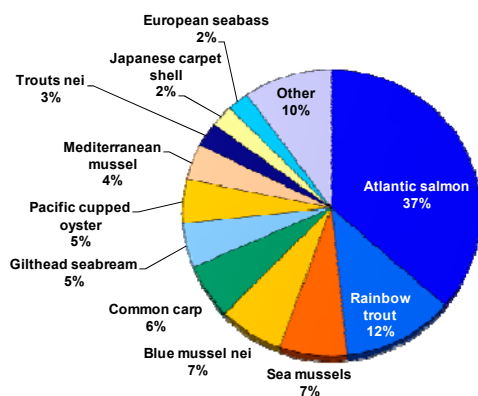
## Main aquaculture producing countries (2008)



Source: FAO, 2010



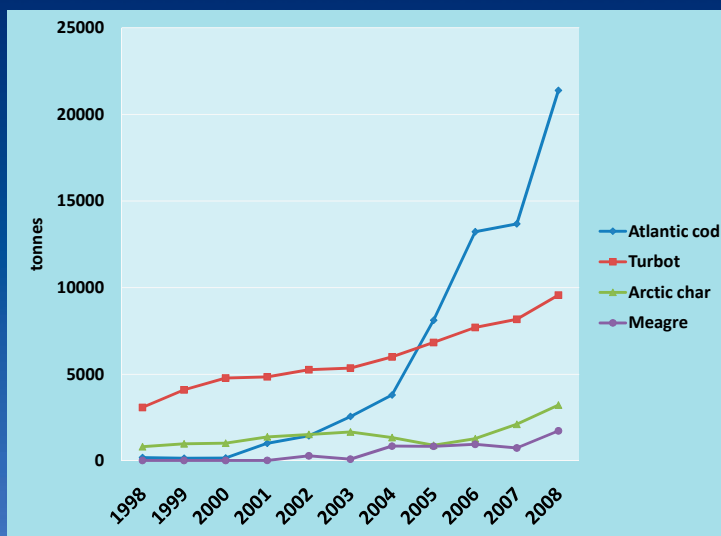
## Major species (2008)



Source: FAO, 2010



## Some emerging species

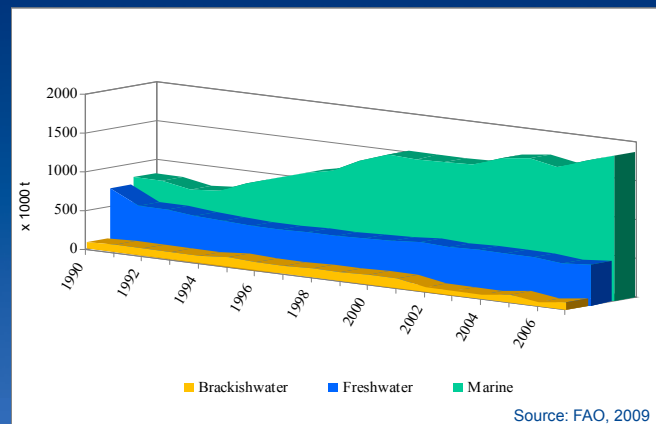


Source: FAO, 2010





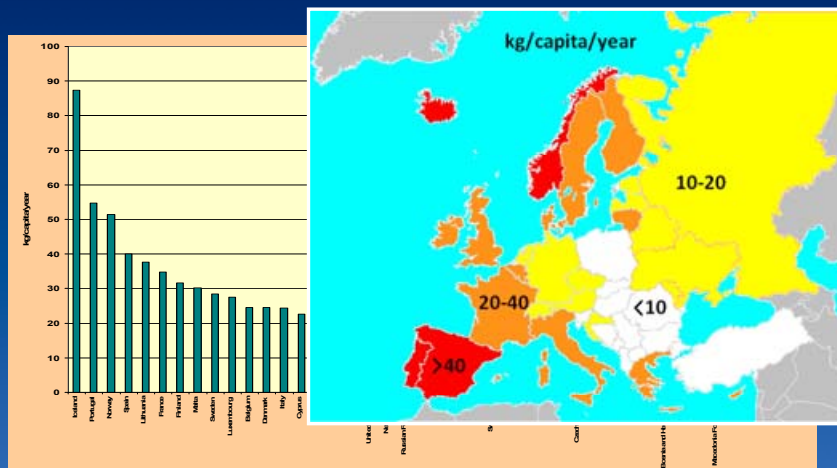
## Aquaculture production by environment



Growing marine, stagnating freshwater and brackishwater production  
75 % of production: marine aquaculture



## Fish consumption (2007)



Numerous sub-markets with significant differences in consumer preferences, distribution channels and economic situation

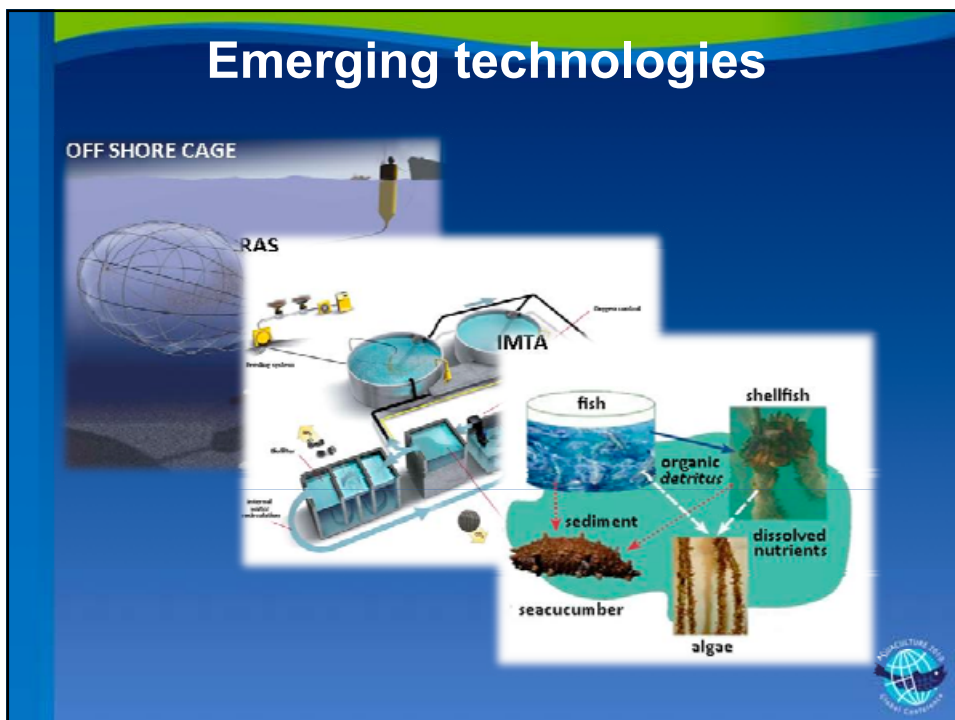
Source: FAO, 2010



## Principal farming systems



## Emerging technologies



## II. Salient issues



### Resources, services and technologies

**Aquaculture is the most heavily  
regulated food production sector in  
Europe**

§



## Resources, services and technologies

- Increasing competition for space
- Limited access to seed capital and/or loan for innovation (especially in CEE)
- Availability of special services required by a modern industry
- Limited availability of authorised veterinary medicinal products



## Sustainable use of feed resources

- Replacement
- Phase feeding
- Change in species mix



50% decrease in the share of fishmeal in fish feeds over the last decade

AQUAMAX Project: 70% plant oil and 80% plant protein is the safe maximum replacement of fish oil and fish meal to meet all nutrient requirements in salmon



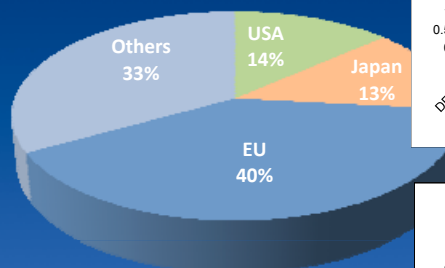
## Aquaculture and the environment

- EU regulations
- Water resources (quality)
- Climate change
- Environmental impact of aquaculture (use of therapeutics and drugs, nutrient discharge, escapees)
- Environment Impact Assessment (EIA)
- Exotic species
- Conflict with other users
- Public perception



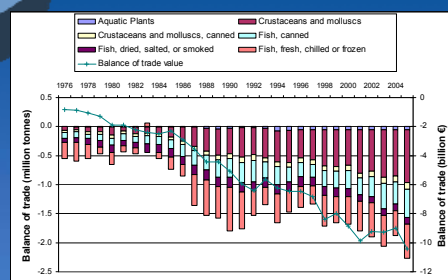
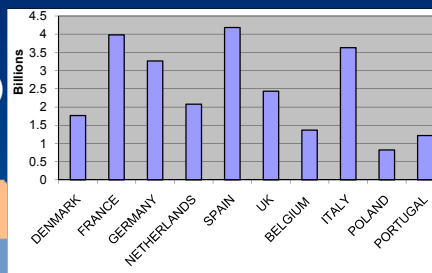
## Markets and trade

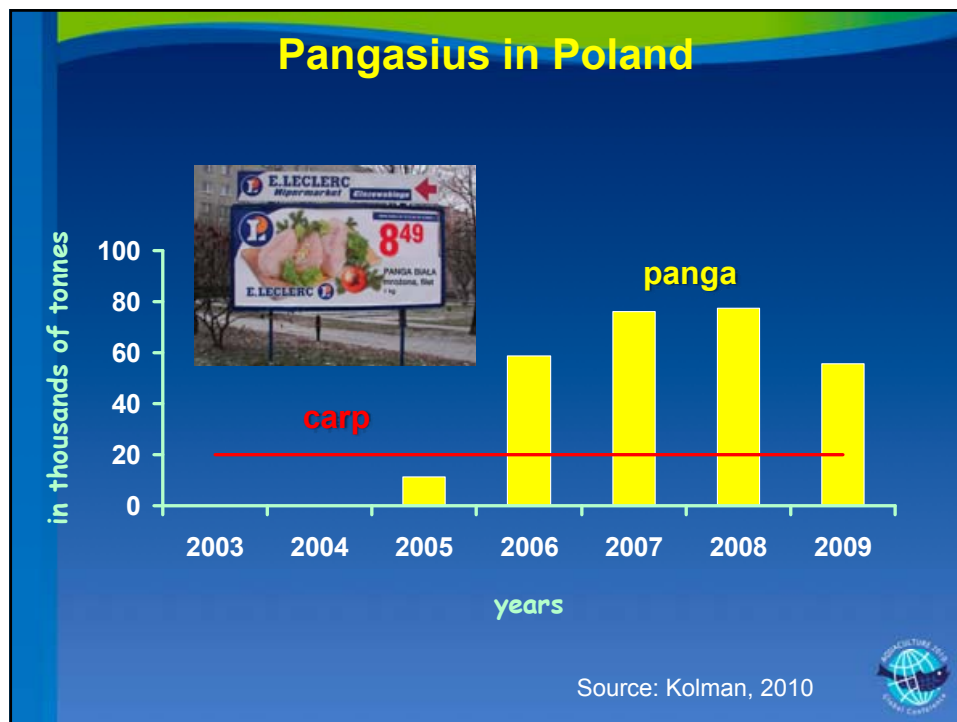
Main fish importers, 2009 (Lem, 2010)



Total world: 98.5 billion USD

65% of the consumed seafood is imported

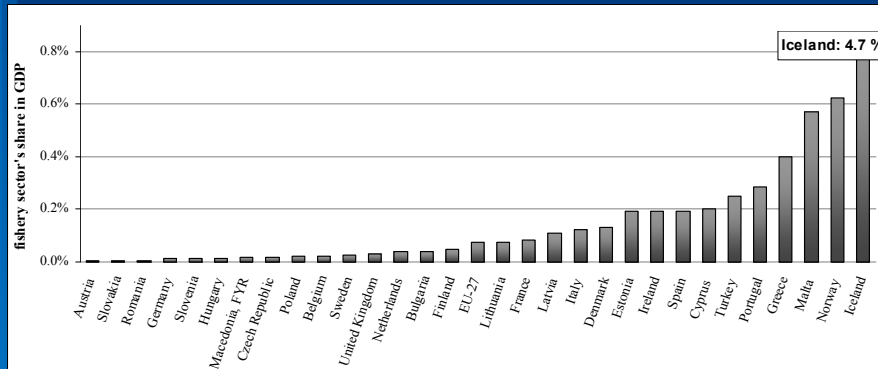




## Contribution to food security, social and economic development

- Food security an issue in some CEE countries
- Social sustainability issues in coastal and rural areas
  - concentration, automation and increasing labour productivity
- Gender and generation challenge
  - mostly men, share of women is high in the Russian Federation
- Share of aquaculture in national economies is low, aquaculture reaches 0.1% of GDP only in Norway, Malta, Greece and Faroe Islands

## Share of fisheries and aquaculture in national economies (Eurostat, 2009)



## External pressures on the sector (I)

- **Environment factors**
  - climate change
  - changing weather patterns
  - pollution
- **Variations in inputs**
  - seed stock
  - fish meal and oil
  - energy costs
  - labour costs





## External pressure on the sector (II)

- **Government policy** (regulatory framework)
- **Trade** (changes to trade policy and tariffs)
- **Financial factors**
  - investments, exchange/interest rates
  - taxation, insurance
- **Competitive factors** (new species and products, new producers)
- **Economic crises**
  - changes in consumer preferences
  - purchasing power



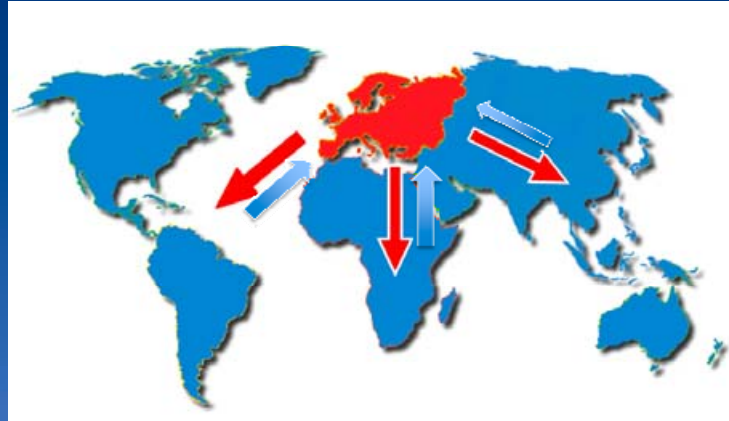
## Shared information, research, training, extension and networking

- **Public and private institutions** (fragmented)
- **European Research Area (ERA) since 2000**
- **EU Framework Programs**
- **Research in other regions** (Norway, Turkey, CEE)
- **Research networks: EFARO and NACEE**
- **Education network: AQUA-TNET**
- **Interregional cooperation** (within Europe and with other regions)
- **The European Aquaculture Technology and Innovation Platform (EATIP)**





## Europe contributes to global aquaculture development through knowledge and technology partnerships



EU programmes: AQUASEM; SARNISSA



## European Aquaculture Technology and Innovation Platform (EATIP)

- **Assure European aquaculture as a sustainable industry**
  - Identify the innovation challenges of the collective interest of European aquaculture
  - Prepare an over-arching Strategic Research & Innovation Agenda relative to the Vision for European Aquaculture
- **Consolidate the role of aquaculture in the society**
  - Establish a strong relationship between aquaculture and the consumers



## Governance and management

- **Aquaculture strategies** (EU 2002; 2009)
- **Regulatory frameworks** (WFD and many others)
- **Economic incentives** (EFF in the EU)
- **Stakeholder interaction** (e.g. ACFA, CONSENSUS)
- **Sector self-governance** (FEAP CoC, 2000)
- **Data collection and management**



## III. The way forward



## The way forward 1/3

- The responsible use of resources and the protection of the environment will remain key challenges (licensing, EIA)
- Legislative framework should be simplified and consolidated. The sector needs a level playing field
- There is a need for specific data collection for aquaculture and fishery products to support policy.



## The way forward 2/3

- The consequences of global climate change and potential scenarios have to be assessed by all stakeholders
- The success of modern, professional aquaculture sector is dependent on the availability of high quality services
- New aquaculture technologies provide opportunities for development



## The way forward 3/3

- Eliminating negative public perception of consumers and policy makers
- Development of an „ecolabel” that can certify environmentally friendly aquaculture practices in Europe
- Better communication within the value chain and towards consumers



## MAIN MESSAGES

The challenge for European aquaculture is to achieve innovative and **ECONOMIC GROWTH**.

European aquaculture needs strong **POLITICAL WILL** and a **LEVEL PLAYING FIELD** to be competitive.

European aquaculture must be perceived as an environmentally, economically and socially sustainable activity, based on scientific evidences and consumer confidence.



