

INLAND AQUACULTURE FROM A CENTRAL AND EASTERN EUROPEAN PERSPECTIVE

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Central and Eastern Europe (20 countries of the former socialist countries) is a diverse region, which constitutes 63% of the territory and 36% of the population of Europe. Eight of these countries are members of the EU, two are in accession to EU and ten are non-EU countries. There are significant economic differences between Eastern and Western Europe. The GDP per capita is 9 942 USD in CEE countries, while it is 26 900 in Western Europe. The share of agriculture from the total GDP is 10.8 % in the CEE region, while it is only 2.2 % in Western European region, which indicates the importance of agriculture (including aquaculture) in the socio-economy.

There are also significant differences in marine aquaculture production between the two regions. Marine aquaculture production is 1 761 389 tonnes in Western Europe, while it is only 9,632 t in Central and Eastern Europe (FishStat 2005). However, freshwater aquaculture production is very similar in both regions, 225 208 tonnes in Western and 242 572 tonnes in Central and Eastern Europe. Rainbow trout is a dominant species in inland aquaculture in Western Europe (78%), while common carp in Central and Eastern Europe (81%). The dominant technology in inland aquaculture in Central and Eastern Europe is the extensive and semi-intensive pond production of carps. The six top producers in CEE are Russian Federation, Poland, Ukraine, Czech Republic, Hungary and Romania. There was a significant drop in inland aquaculture production in Central and Eastern Europe after the political and economic changes in the region in the early nineties, however, there has been a gradual increase since then. Fish consumption is much lower in the CEE region than in Western Europe. The average consumption per capita in Western Europe was higher than 25 kg in 2003, while it was below 10 kg in Central and Eastern Europe.

Trends in aquaculture development in Central and Eastern Europe are summarised in the followings:

- There has been a gradual increase in aquaculture production since 1996, which will be likely to continue;
- Aquaculture will remain an important supplier of healthy food for local population, however, export activity (especially niche market segments) will offer new opportunities;
- It's a great challenge to satisfy the increasing demand for fish and seafood with local products;
- Aquaculture will continue to be an important contributor to rural development (food production and services);
- Aquaculture is important for recovery of the species diversity in natural water bodies;
- There is a scope for marine aquaculture development in some countries where good conditions are available;
- There is a need for research, technology development and investment to improve sustainability of farming systems;
- There is a need for training (including language);

- There is a need for better collaboration among farmers, and between science and practice;
- There is a need for international collaboration (within the region and with institutions and organisations outside the region).

There are specific issues in inland aquaculture, which require special attention during the development of sustainable inland aquaculture in Central and Eastern Europe. These issues can be grouped around two major areas such as natural resources/environment and market according to the following:

Natural resources/environment:

- Competition for inland water resources will continue;
- Marine areas will have increasing importance in aquaculture;
- Fishponds can be integrated well into the ecosystem and the socio-economic environment;
- The application of new type inland aquaculture systems (Recirculation Aquaculture System, Partitioned Aquaculture System, Combined Intensive-Extensive System) may contribute to development of inland aquaculture.

Market:

- Increasing local fish consumption is a main driving force of inland aquaculture development;
- There is a great challenge how to compete with import products and compensate the dominance of large retail chains;
- There is a need for the development of processing technologies and marketing infrastructure;
- There is a need for better collaboration among producers.