Zivju audzēšanas projektu ieviešanas iespējas Baltijas valstīs. Vides aizsardzības aspekti.
The possibilities of implementation of aquaculture projects in Baltic countries. Environmental concerns.

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Development of aquaculture is constantly increasing in the world. Nevertheless nowadays aquaculture projects are not popular in Baltic countries now, notwithstanding Baltic countries have plenty of marine water of Baltic see, which is very good for rearing of fish and also fresh water in many comparatively clean rivers and lakes. The main reason is people don't have enough knowledge about aquaculture, no scholastic institution, where people could learn how to develop a fish farm and how to make it profitable. One of the most successful at it in Europe is Norway, which can be explained by using newest technologies. A very good experience has also fish farmers in Iceland, Scotland, and Ireland.

The main thing, which should be considered before starting aquaculture project, is economic viability. In Baltic countries socially oriented aquaculture can expect governmental support in the form of easy loans and grants, subsidies and free technical advice and assistance. Such support is generally time-bound and intended to improve socio-economic and nutritional conditions of communities. Such support is generally time-bound and intended to improve socio-economic and nutritional conditions of communities. Although under certain circumstances it may be maintained on a prolonged basis, it is expected that the improvements will be eventually achieved and the assistance can be phased out. On a somewhat similar basis, incentives may be offered to commercial enterprises for initial periods in the form of tax rebates and exemption, concessional loans, etc. In both cases, economic viability will be essential for continued operation and future expansion.

Whether it is a small-scale farmer, or an entrepreneur involved in a large-scale production, the attractiveness of aquaculture depends to a very great extent on the economic benefits. The social benefits are often closely intermingled with economic benefits.

Taking into account commercial risk, considering implementation of aquaculture projects in Baltic region, experienced consultants should be involved.

Also should be considered energy requirements heating of rearing water. Common fish species, which don't need relatively high water temperature, are: brook trout, brown trout, and rainbow trout. It cane be reared at the temperature 12-17 ^{0}C. Common warm fish are: grass carp, silver carp, goldfish, channel catfish, mrigal, largemouth bass and others. Required temperature is in range of 23-30 ^{0}C. The data, which are based on Icelandic research shows that salmon parr grow to a weight of 90 grams in 1 year at a temperature of 12 ^{0}C. When kept in 5 ^{0}C water they only grow to a weight of 5 grams during the same period.

For heating the rearing water in Europe successfully are used heat pumps, which are working sometimes using geothermal water. The temperature of these in most of the places in Baltic countries is higher than temperature of the ground waters. So, using that way, fish farmers could get additional energy, which would be economically more profitable and environmentally friendly, taking into account fuel, could be saved.

In Latvia and in Lithuania geothermal water is widespread in West and in South part.
Experience in the development of large-scale aquaculture ventures during the last years has showed that the key to success is not just adequate technology, but also efficient farm management. According to Huguenin and Colt (1986) the ability to organize and implement an aquaculture technology, which is a complex combination of technical, economic, marketing, social and political elements towards some specific goals, is a managerial process.
For Baltic countries, like for Northern Europe, most perspective would be, probably intensive aquaculture projects, when the fish farmer takes the fish through all stages of development from egg to adult size, using modern rearing techniques and artificial feed. Using this method by our Western European neighbours successfully are reared salmon, rainbow trout, arctic charr, eel, turbot, catfish and sea bass. However extensive aquaculture and ranching projects also can be quite profitable.
Before coming forward with an aquaculture project, environmental consequences should be considered. These are of course highly variable depending on the area, the species used as well as the type and quantity of feed used in the operations (Isaksson, 2001). Here are some general concerns related to aquaculture:

- pollution of inland and coastal waters
- transmission of diseases and parasites to wild fish populations
- genetic effects on wild populations
- ecologic effects on populations
- escape of transgenic organisms into the environment
- overharvest of wild populations (in ranching operations)
- conflicts with shipping (in coastal areas)
- conflict with landowners (land value and aesthetic viewpoints)
- conflict with fishermen (reduced price for naturally caught fish)
- conflict with animal rights groups

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