



NEW PRODUCT PRODUCTION AS TOOL IN POSSIBLE INCOME INEQUALITIES REDUCTION

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Introduction



- **Incomes** of coastal fishermen - lower than in other industries
- Fish consumption varies depending on national economic development
- The European Union is creating favourable market conditions for industries which are based on **sustainable and smart growth**
- **Marketing** - important aspect to realize future trends and to compete in global market
- **Knowledge and innovation** – the EU drivers
- **Blue economy** – to achieve smart and sustainable growth in Europe

Aim of research



Develop practical recommendations for income inequalities reduction taking into account tendencies in development of new innovative products in Latvia and best experience in other countries around the Baltic Sea

Methodology



- Theoretical findings
- Analysis of policy documents
- Analysis of survey results in Baltic Sea region countries and comparison with other countries



Empirical research



- Experts from Baltic Sea Region countries (Germany, Denmark, Sweden, Finland, Estonia, Latvia)
- Experts from public administration, entrepreneurs, researchers
- The survey was conducted by Zaiga Ozolina
- Survey answers were allocated by age, gender, representing field, country, education etc.
- 467 invited experts

Theoretical findings



- Consumers' demand for healthy and ecological food has increased the sales volume in organic sector. Organic food market has rapidly increased in last decade (Cottingham, 2014; Marian et al., 2014). It has affected the demand for fish and fish products
- Catchments where environmental conditions are adequate, mussel farming can be cost-effective, however it depends on market and environmental conditions (Filippelli, R., Termansen, M., Hasler, B., Timmermann, K., Petersen, J. K. (2020))
- Roddy and her colleagues' research paper (1996) highlighted the consumers' negative attitude regarding organic products due to lack of availability, price and lack of promotion. Mussel farming has not been well presented on webpages and social networks (Ozolina, Sloka, 2018) and promotion activities might stimulate customer interest to buy the product. Mussel is marine product and marine products are one of the most traded food items in the world (FAO, 2018)



Theoretical findings



- The carbon implications of income inequality in households lead to both indirect and direct emissions rising when income increases (Golley and Meng, 2012; Sun et al., 2022; Duarte et al., 2016; Sommer and Kratena, 2017)
- When carbon costs increase sharply, it pays off to import lime regardless the distance, as concluded by Stork, M., Meindertsmā, W., Overgaag, M., Neelis, M. (2014)
- The increasement of efforts to reduce the pollution loads in the sea, both nationally and in cooperation with other countries that share the Baltic Sea coastline, because improving the state of the Baltic Sea and the coastal areas is a prerequisite for the future success of blue tourism in the area (Hyytiäinen et al., 2022)



Results of analysis of variance (ANOVA) on expert evaluations on factors affecting development of mussel farming – the Baltic Sea Region countries expert survey results by expert's age groups



Analysed aspects		Sum of Squares	df	Mean Square	F	Sig.
Labour force /Human resource	Between Groups	27,983	4	6,996	1,043	0,396
	Within Groups	308,644	46	6,710		
	Total	336,627	50			
Financing (subsidies, loans)	Between Groups	4,292	4	1,073	0,195	0,940
	Within Groups	252,689	46	5,493		
	Total	256,980	50			
Formal, also informal education	Between Groups	2,844	4	0,711	0,103	0,981
	Within Groups	317,744	46	6,907		
	Total	320,588	50			
Climate change	Between Groups	17,728	4	4,432	0,657	0,625
	Within Groups	310,311	46	6,746		
	Total	328,039	50			

Source: Zaiga Ozoliņa conducted survey, n = 50

Results of analysis of variance (ANOVA) on expert evaluations on factors affecting development of mussel farming – the Baltic Sea Region countries expert survey results by expert's age groups



Analysed aspects		Sum of Squares	df	Mean Square	F	Sig.
Taxes	Between Groups	41,275	4	10,319	1,646	0,179
	Within Groups	288,411	46	6,270		
	Total	329,686	50			
End-use market	Between Groups	9,542	4	2,385	0,415	0,797
	Within Groups	264,144	46	5,742		
	Total	273,686	50			
Government support	Between Groups	7,056	4	1,764	0,460	0,765
	Within Groups	176,356	46	3,834		
	Total	183,412	50			
Environmental pollution	Between Groups	8,265	4	2,066	0,312	0,868
	Within Groups	304,244	46	6,614		
	Total	312,510	50			

Results of analysis of variance (ANOVA)



To analyse tax aspect more detailed, the Mean analysis was applied. For experts in age group 35-44 and 55-64 the tax as factor affecting development of mussel farming in the Baltic Sea Region is more important (mean 7,2) than for experts in age group of 25-34 and 45-54 (mean 5,4) for experts in age group of 65-74 (mean 7)

Conclusions



- By involving elderly inhabitants in fishery activities due to their knowledge in fishery and fish gear it is possible to return them in active life
- By involving elderly inhabitants due to their local knowledge of environmental and climate conditions it is possible to increase their wealth
- Educational events should increase interest in young people about fishery or such new fields as mussel farming in the Baltic Sea. Elderly people improves social communication with young individuals
- Elderly inhabitants' knowledge might be lost. For example, in Finland – reed roofs



Conclusions



- Combining scientists' research, observations and expertising of locals the quality of knowledge increases:
 - Experiments
 - Observing (for mussel farming the Baltic Sea is evaluated - ocean conditions)
 - Climate and environmental changes
 - Change in social behavior



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Thank you for your attention!

