

Maritime clusters as a tool to reach sustainability and prosperity in the Baltic Sea region

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What we're going to prove: How Baltic states governments can use maritime cluster structure to create a vivid interlinked chain of economical ecosystems working together to reach the sustainability goals and creating jobs and innovations at once.

Who: To act on an adequate scale, we believe that the government is the only social actor who has the appropriate tools at its disposal to make a real difference. Nonetheless the structure of clusters is based on trust between the parties, hence the role of governments is to create the favorable conditions for clusters to thrive (grants, changes in law, public investments, round panels, boosting local efforts, subsidies tailored to specific needs) without dominating the other actors.

Why do we need undertake such action:

- Sea doesn't recognise any political or cultural boundaries.
- Ecological challenges are exerting equal influence on every coastal state i.e if one country keeps polluting it tarnishing the ecological efforts of the others. Therefore only full cooperation can guarantee success.
- The aforementioned challenges are a serious threat to upholding the Baltic sea system in balance. Without bold and multifaceted action, the whole ecosystem may collapse on account of eutrophication, overfishing and other human-made pressures.
- Multitudes of social actors from a range of countries and technological branches are stressing the Baltic sea ecosystem.
- Social actors differ within every country (for example: local fisheries companies, yachting marinas, huge terminals and harbours, the agricultural sector, local authorities, central governments ect) and on the next layer are divergent interests between the countries themselves. The conflict of interests occurs frequently and must be taken into account during looking for solutions.

Conclusion is that we have urgent challenges that are crossing the political borders, and a great number of various stakeholders for numerous countries. Setting a common frame based on sustainability-orientated priorities for their all actions is crucial. However, maybe even more important is to encourage the actors to act on their own behalf more in an ecological manner in broader cooperation with stakeholders from their area, country and region and just such a role is appointed to clusters in our model - a great accelerator of cooperation by setting a friendly

environment and delivering incentives. The idea is to bound stakeholders in a web of multitude of multilateral connections to create the local economical microcosms which will benefit from the effect of the synergy.

What is a maritime cluster - there's no one rigid and precise definition of maritime cluster. Depending on the region, needs, political and cultural traditions the clusters differ from each other. The core idea is to create a platform/ favorable environment for greater cooperation between social actors whose work-targets are similar or the linkages between them makes cooperation possible and beneficial. One typology points 3 basic types of clusters in regard to their operational area and social background: a) agglomeration of interlinked industries, b) industrial complex c) community-based network, other states that 4 models can be distinguished when it comes to their spatial locus and bindings: micro, industrial, regional and mega clusters.

Speaking very broadly we can deliver an illustrative example of a maritime cluster which gathers under one umbrella local fishing fleet, sea food processors, restaurants, harbour administration, unit devoted to maritime research from regional university and municipal authorities. The main goal is to coordinate the efforts of members, create communication channels to exchange views, information and generate innovations based on common sources/experiences, optimize their work to cut unnecessary spendings and optionally run collaborative venture. Principally it's scrutiny of assets and prospects to coin a joint policy for future including an input of all stakeholders.

This flexibility is a great virtue of clusters when it comes to their application to concrete problems which varies immensely from region to region. The government with local authorities and community can ascertain what kind of structure would serve the best for their unique needs and then build the cluster tailored perfectly for them.

General characteristics of the cluster in our model :

1. **Flexibility** - as mentioned above, the differentiation of regions laying upon the Baltic coast makes it impossible to use one standard form of clusters. Each of these should be constructed by most suitable components after in-depth analysis and consultations with communities.

2. **Key role of government** - clusters are only an administrative abstract idea of creating a working frame. This box must be filled by initiatives undertaken by social actors who have to be encouraged by the government by a range of grants, subsidies, changes in law and institutional support. Adding stick to a carrot embodied by the subsidies - the government support must be conditional on compliance with environmental standards. Moreover the local ventures conducted by clusters should be written in a broader nationwide policy (i.e energy transformation, fisheries and aquaculture programme).
3. **Community based** - the clusters should reflect local needs and social structure as much as possible and the community should participate in sketching policy for years to come. Inclusion of the whole range of social groups allows to fully optimize the management processes and usage of resources of every kind (from human capital to wastes). The mass participation increases the social control over the cluster and aims to fulfill sustainable development goals connected with eradication of inequalities and providing decent work for everyone.
4. **Oriented towards international cooperation** - as discussed issues concerning sea environment, the transnational joint action is essential. Regarding this segment, the role of government is crucial to remove any obstacles that inhibit such partnerships and introduce a set of incentives promoting cooperation between clusters from different countries. It's a rational concept since the neighbouring regions located in different countries have more in common with each other than with some remote province from their homeland. + budowa zaufania/małe kroczki (raczej na koniec)
5. **Pyramidal structure** - in best case scenario after establishment of local clusters they should cooperate on higher degree connected in aforementioned mega-size clusters to handle cross-regional challenges. If so, local communities would be represented by clusters to which they contribute and whose stakeholders share similar problems regardless of national affiliation.
6. **Widespread** - to exert impact on a sufficient level the action of establishing new clusters and governmental support of considerable size must be conducted in the majority of Baltic sea states.

How maritime clusters bring us closer to making Baltic sea region sustainable and prosperous?

- In the proposed model the clusters would be incentivised by the government to act only and only in harmony with ecological guidelines and reaching consecutive sustainable development goals.
- Clusters favour local development over cooperation with remote companies. Hence such an approach should considerably limit the expenditures for supplies and therefore reduce pollution generated by transportation.
- Public subsidies, concentration of local potential, alliance between practice and knowledge, inclusion of all stakeholders within the community would boost local economies and generate vital thriving communities.
- scale effect: broad and closer coalition with larger budget (additionally subsidized by the government agendas) supported by science might risk investments in cutting-edge blue technologies (i.e aquaculture, underwater energy turbines) in turn generating new jobs, revenues and attributing to reaching sustainability.

Exemplifying hypothetical activities of proposed cluster

- The local fishery is dependent on abundance of baltic cod in coastal waters. Due to eutrophication, prior overfishing and quotas imposed by European Commission the vessels are forced to remain idle in harbour. In the current situation any additional catch would be ruinous.
- Analysis of needs and possibilities by cluster stakeholders: work in neighbourhood for former vessel crews, limitation of catches and production of fish. After consultation with local research units, fish processors, proper ministry and existing aquacultures in the region, the consensus was reached on the promising opportunities for aquaculture development locally.
- Local authorities enact an amendment to the local spatial plan to secure a possibility to launch a new aquaculture which could hire fishmens.
- Government subsidies allow joint venture created by local entrepreneurs, fishman's working associations and local authorities to launch a modern sustainable aquaculture equipped according to expertise delivered by local research units.

- Local research units monitor the development of the entity and simultaneously do research aiming to introduce technological improvements. Regional technical schools and students are undertaking internships in the facility.
- In the meantime the fishing port is used by local water sport associations and experimental shellfish culture is established on one side of the harbour.
- local restaurants and hotels buy fishes from aquaculture and sell them as local delicacy
- enterprise governing the aquaculture submit an application to grant a produced fishes a label of regional and ecological product. Municipality authorities support their effort and promote fishes from aquaculture on annual international maritime fairs.
- The rest of fishermans are hired by the government to extract fishing nets from the sea bed which then further are transported to local producers of sportswear, glasses and toys who recycle nets into their products significantly lowering prices.
- a local water sport association bought one of the old vessels to organize short cruises for tourists.
- to minimise growing prices of energy (generated by the fossil fuels) and fulfill sustainability goals, cluster stakeholder after discussion and conduction of an analysis by local research unit decide to construct local sources of renewable energy from sun, winter and water. Moreover to build their own system of storage and distribution of energy encompassing entities of the stakeholders and major part of the operational region. Cluster received a financial grant from the central government and the municipal authorities organized a citizen's assembly to discuss the issue of creating local cooperatives ruled by inhabitants which might participate as members in cluster to benefit from the new renewable energy system. To additionally lower the costs of investment, they made a deal with a regional cluster from neighborhooding country just 20 km away and shared the project between themselves etc.etc (...).

Conclusions: The list of possible activities might be completely different as different needs of various societies living on the Baltic coast. The very aim of these examples is to capture a general model: a dense web of connections between local actors both public and private, supported on a strategic and financial level by the central government. Cluster is a gap-filling device which harvests the data about current states of stakeholders and tries to link them in the most beneficial way, frequently turning obstacles into opportunities (like in example about idle fishmens). It also allows to accomplish bigger investments by joint efforts which otherwise

would be never realized. Cluster is like a hive: well-organised multilevel structure of cooperation to solve problems shaped to serve all the bees inside.

Summary:

Model depicted in the above paper, properly applied, may be a vehicle to new quality of socio-economic life on Baltic sea coast. We believe that benefits arising from maritime clusters in the proposed model should be considered much more broadly than only in the economic spectrum. It would unleash a tremendous energy of local cooperation and change the structure of the decision making process towards a more democratic, science-based and local manner. The side effect would be a rise of mutual trust between social actors working as close as never before and a shift in perspective of what is a final target - common good of the whole community. It is also the most effective way to address the threats caused by climate change and other ecosystemic issues, especially that in the proposed model the fulfilment of sustainable development goals would be a priority to grant financial and administrative subsidies. Wide range of issues, only to mention the most important, transformation of energy sector, changes in chains of supply, hydrogen revolution in maritime transport, water management, fishery and aquaculture, fight with eutrophication have to be undertaken and clusters give a chance to do it better and on appropriate scales. It is going to happen on account of including everybody on the board, merging forces and creating the most efficient and innovative environment on a local scale as possible.

References:

1. Peter J. Stavroulakis, Stratos Papadimitriou, The strategic factors shaping competitiveness for maritime clusters, *Research in Transportation Business & Management*, Volume 19, 2016, Pages 34-41, ISSN 2210-5395.
2. Armand Djoumessi, Shu-Ling Chen, Stephen Cahoon, Factors influencing innovation in maritime clusters: An empirical study from Australia, *Marine Policy*, Volume 108,2019,103558, ISSN 0308-597X.
3. Peter J. Stavroulakis & Stratos Papadimitriou (2017) Situation analysis forecasting: the case of European maritime clusters, *Maritime Policy & Management*, 44:6, 779-789, DOI: 10.1080/03088839.2017.1330560.
4. Ioannis G. Koliouisis, Stratos Papadimitriou, Elena Riza, Peter J. Stavroulakis, Vangelis Tsioumas, Scarcity theory and maritime clusters: From paradox to modelling, *Marine Policy*, Volume 93, 2018, Pages 40-46, ISSN 0308-597X.
5. David Doloreux, What is a maritime cluster?, *Marine Policy*, Volume 83, 2017, Pages 215-220, ISSN 0308-597X.
6. Hugo Pinto, Ana Rita Cruz, Colin Combe, Cooperation and the emergence of maritime clusters in the Atlantic: Analysis and implications of innovation and human capital for blue growth, *Marine Policy*, Volume 57,2015, Pages 167-177, ISSN 0308-597X.
7. Eini Laaksonen & Hanna Mäkinen (2013) The Competitiveness of the Maritime Clusters in the Baltic Sea Region: Key Challenges from the Finnish Perspective, *Journal of East-West Business*, 19:1-2, 91-104, DOI.
8. Savitri Jetoo, Nina Tynkkynen, Marko Joas, Magnus Hellström, Conny Sjöqvist & Anna Törnroos (2021): Climate change and the governance of the Baltic Sea environment, *Journal of Baltic Studies*.