MUNICIPAL COASTAL GOVERNANCE SYSTEM DEVELOPMENT: TRIPLE GOVERNANCE DIMENSIONS PRINCIPLE

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Abstract. Integrated coastal governance (ICG) is becoming increasingly important nowadays, since the problems at coastal territories are continuously growing. The coastal zone, however, is a complex socio-ecological system which is extremely difficult to govern because it is very dynamic territory that is also very sensitive to various anthropogenic influences, as well as a lot of conflicts of interest occur there. Coastal area is characterized by a unique and diverse natural and cultural heritage as is the case with Jurmala municipality in Latvia. An integrated approach is important in the governance of such a complex socio-ecological system, but disciplinary/branch approaches are also necessary. The aim of the research was to study and evaluate the complex situation of the coastal governance at the local level, as well as to develop policy proposals for the chosen target territory – Jurmala municipality – and its main target groups. These studies included the analysis of the legislative acts and planning documents, interviews with all the main target groups in the municipality, observation studies, as well as the initial assessment of the coastal governance situation in the Jurmala municipality by using the model of three environmental governance dimensions: (1) coastal governance sectors; (2) coastal governance segments (stakeholders); and (3) coastal governance instruments.

Key words: integrated coastal management, governance dimensions, socio-ecological system, coastal sectors, coastal stakeholders, coastal governance instruments.

JEL codes: Q20, Q57, Q58

1. Introduction

Latvian coastal municipalities have a special and important responsibility – they should manage one of the largest values of Latvia – the **coastal area** of the Baltic Sea. The coastal territory of Latvia is defined as an area of national interest where the preservation of **natural and cultural heritage** should be balanced with the promotion of **economic development** (Sustainable Development Strategy of Latvia, 2010). Nowadays, however, a lot of contradictions and conflicts of interest develop in many parts of the coastal area. These conflicts arise for objective reasons and occur mainly between the economic development interests and the natural and cultural heritage preservation interests (Ernsteins, Jurmalietis, 2008). The coastal zone is considered to be among the most complicated **socio-ecological systems** (SES). In order to successfully govern such a complex system, a special and cross-sectoral approach is needed (Ernsteins et al., 2015). As the main and most important approach for the coastal governance is considered to be the **integrated coastal management** (ICM). ICM is a dynamic, multi-disciplinary and iterative process in order to promote sustainable governance of coastal areas (European Commission, 2000). One of the advantages of the ICM approach is that it does not highlight the importance of a single sector in coastal governance, but offers a holistic view of the coastal zone (Clark, 1996; Ernoul, Wardell-Johnson, 2013).

The **basic problem** of the coastal governance in Latvia is the lack of all kinds of capacity at the local (municipal) level in coastal assessment, policy, planning, monitoring and management. Thus, it leads to the situation that the coastal socio-ecological resources in Latvia are not sufficiently identified and evaluated. So, it can be assumed that at the moment the coastal zone in Latvia is not sustainably governed, as well as that the ICM approach is not being applied entirely. **The aim** of the study is to investigate the existing coastal governance situation in the municipality of Jurmala, as well as to develop the recommendations for the coastal governance development for this municipality. The **tasks** of the study

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are: (1) to analyse the coastal governance sectors and the mutual complementarity between them; (2) to analyse the coastal governance segments and their role in the governance processes; (3) to analyse the coastal governance instruments and to assess whether they are applied complementary; (4) to assess the daily practices of the ICM of the coastal governance in Latvia; and (5) to prepare the recommendations for the development of the coastal governance in the chosen municipality and in Latvia in general.

2. International and local practice in coastal governance

In 2000, the European Commission adopted a document called "Integrated Coastal Zone Management: A Strategy for Europe" (European Commission, 2000), but in 2002 the Commission adopted "*A proposal for a European Parliament and Council Recommendation concerning the implementation of Integrated Coastal Zone Management in Europe*" (European Commission, 2002). ICM practices can be found in most regions of the world, however the success of ICM implementation among different coastal countries is very variable (Forrest, 2006). For example, there are different opinions among European countries regarding the legislation of ICM. Quite a lot of countries have no specific legislation relating to ICM because the existing laws and regulation are being used to support ICM. The positive thing, however, is that in many coastal countries the ICM strategies are currently being prepared (Burbridge, 2004; Thetis, 2011).

Furthermore, it has been shown that ICM works best where a broad body of public participates in the ICM process. Nevertheless, in a lot of coastal countries very low attention has been given to effective stakeholder involvement at regional and local levels (Thetis, 2011). Another point is that the experience of many Baltic Sea Region EU countries with ICM is often limited to small-scale projects with a nature conservation focus – for example, the basis of an ICM is usually formed by habitat and species protection while other issues (e.g., human health, employment, restructuring of agriculture) are neglected. So overall, the problem is that ICM is being seen as a green initiative that fails to take adequate account of socio-economic conditions (Burbridge, 2004; O'Hagan, 2009).

There are two main problems in the development of ICM in Latvia – the lack of understanding and the lack of cooperation. Local interest groups are insufficiently informed about the overall coastal situation, as well as about the possibilities of solving coastal problems (Kudrenickis et al. 2016; Ernsteins et al., 2017b). For the full development of ICM it would require an interdisciplinary understanding of sustainable coastal governance for all key stakeholders (Ernsteins et al., 2015). In addition, the principles of mutual cooperation and communication also play an important role here – research shows that, in fact, one of the most important instruments for the development of ICM is coastal communication and cooperation (Ernsteins et al., 2017a).

3. Research methodology

Within the present study the coastal governance in the target municipality was assessed through three basic environmental governance dimensions: (1) Coastal governance sectors (resources); (2) Coastal governance segments (stakeholders); (3) Coastal governance process and instruments (Ernsteins, 2017c). The main reason why this three-dimension approach of the coastal governance was used, is because such a system is easy-to-use and very easy-to-understand, since it answers to the three key questions of the coastal governance in the particular local municipality, namely: (1) What exactly the municipality needs to govern (i.e., which sectors?); (2) Who will govern all these environmental resources that are available to the municipality (i.e., which departments and stakeholders?); (3) How exactly will the local municipality govern all the available resources (i.e., by which instruments does the coastal governance function in the municipality?).

The main study method within the present investigation was the case study research of the municipality of Jurmala. The case study included several complementary methods: (1) municipal document studies; (2) stakeholder interviews; and (3) observational field studies. In addition, we also conducted interviews with experts (i.e., specialists in coastal/environmental governance issues).

Document studies. During these studies, a very large variety of different municipal documents were investigated, including the following ones: all three mandatory planning documents, the annual public report, municipal regulations, the voluntary thematic planning documents, as well as various other documents (including some unpublished materials of Jurmala municipality).

Interviews. In addition to document studies, 25 interviews were conducted with the main local stakeholder groups which are more or less involved in the coastal governance in the Jurmala city. Also, seven interviews in a selective manner were conducted with inhabitants of the municipality. Therefore, overall, we interviewed the representatives of all five main governance segments: (1) Municipality / City council; (2) State administration; (3) Mediators; (4) Corporative (business) segment; and (5) Households. In addition, five experts were interviewed during the study.

Observational studies. Observations in the municipality were conducted during the summer season and they included: (1) a visit to seven different beaches of Jurmala and their visual assessment; (2) the study and comparison of two specially protected nature territories in Jurmala; (3) the inspection of two museums of Jurmala and the assessment of their exhibitions.

4. Research results: three governance dimensions

The target territory of the present study was the municipality of Jurmala. Jurmala by its area as well as by the number of its inhabitants is the largest resort city on the coast of the Baltic Sea. The Jurmala city is visited by more than a hundred thousand tourists every year (Development Program of Jurmala, 2013). The city of Jurmala is characterized by a long (25 km) and wide beach, which is famous because of the fact that it is one of the few white sand beaches in Europe (Spatial Plan of Jurmala, 2012). Unique resources of Jurmala are also the sulphide-containing mineral waters and sludge, which is one of the few deposits of these resources in the temperate zone (Development Program of Jurmala, 2013). However, the problem is that in the course of time the large inflow of tourists in the Jurmala city may lead to depletion or even to the loss of natural diversity and cultural-historical resources of the coastal zone of Jurmala. Nevertheless, despite of all the above-mentioned facts, the municipality of Jurmala has not yet prepared neither any thematic coastal planning document, which could serve as guidelines for coastal governance, management and protection, nor it has adequately integrated the coastal issues into its mandatory or voluntary planning documents. Moreover, there are no any employee in the municipality of Jurmala which could be called an expert of the coast and which would be fully responsible for the coastal zone of Jurmala (Ernsteins et al., 2020). Since the Jurmala city is one of the most popular destinations for tourists in Latvia, the municipality of Jurmala must very seriously consider and promote the appropriate and adequate governance of its coastal territory.

4.1. Coastal governance in Jurmala: thematic governance sectors

Nature environment. The total area of Jurmala city is 100 km². The major part of the territory of Jurmala is located on a narrow stretch of land between the river Lielupe and the Gulf of Riga, and as a result the city has a distinctly elongated shape. In the narrowest place of the city (in Dubulti), the distance between the sea and the river Lielupe is only 300 m. The length of the sea border is 25 km. The city is also

characterized by a relatively wide beach – at the mouth of the river Lielupe and in the middle of the city the beach is 25-50 m wide.

Nature territories in Jurmala occupy almost 64 % of the total area. The nature territories consist mainly of forests (48 %), inland waters (10 %) and floodplain meadows (5.6 %). Six specially protected nature territories have been established in the territory of Jurmala city, which in total occupy about 38 % or 37.5 km² of the total area of the city. The largest area is occupied by Kemeris National Park – it occupies 32.6 km² of the territory of Jurmala, which is about one third of the total area of Jurmala city. This park, however, is much larger – only about 8 % of the park is located in Jurmala. Kemeris National Park was established to preserve natural, cultural-historical and curortological resources, to protect the mineral water and medicinal sludge formation processes, as well as to promote nature tourism and ecological education. Others specially protected nature territories in the city of Jurmala include: (1) the nature park "Ragakapa", which was established to preserve dunes overgrown with old pine forests; (2) nature reserve "Lielupe estuary meadows", which was established to protect the most biologically valuable floodplain meadows of the river Lielupe; (3) nature reserve "Darmstate pine grove", which was established in a unique pine grove on the bank of the river Lielupe; (4) specially protected geological-morphological object "White dune"; as well as (5) one micro-reserve. In addition to the mentioned terrestrial areas, there is also one marine protected area in Jurmala – the "Western Coast of the Gulf of Riga", which has been established for the protection of underwater reefs and habitats, protection of bird species.

The municipality of Jurmala has described and evaluated their nature environment and resources quite satisfactorily. In the planning documents the special emphasis has been put on those resources which are unique in the municipality – mineral waters, sludge etc. At the same time, however, there are also some problems in the context of preserving the nature environment in this particular municipality. The most important problem is considered to be the house-building in the coastal dunes. This is the main reason why the natural values in Jurmala are increasingly being destroyed and nature environment becomes more and more damaged. Another problem is that the green areas in Jurmala are decreasing every year, and that all plans intended to protect natural resources are formal. Unfortunately, the existence of the protected habitat "Wooded coastal dunes" is not always taken into account. In some cases, the risks of erosion and flooding are also a problem in Jurmala. Furthermore, in summer season there is a problem with excessive beach area rent in Majori, Dzintari and Bulduri, because then the beach is crowded with various infrastructure objects (such as tents), and thus the beach loses its aesthetics. Besides, this also creates a significant anthropogenic pressure on nature, especially on dunes which are located next to the most popular beaches. Another problem in Jurmala is the spread of invasive plant species on the coastal area. The most widespread invasive plant on the beach of Jurmala is the dwarf serviceberry (*Amelanchier spicata*). Some other invasive species that are also found along the coast of Jurmala include: the beach rose (*Rosa rugosa*), the silverberry (*Elaeagnus commutata*), the sycamore maple (*Acer pseudoplatanus*) and the blue lettuce (*Lactuca tatarica*), but luckily these plants do not form large areas and do not take over the coastal area. Overall, this problem with invasive plants is not being solved, because the municipality does not have the financial resources to cut out these plants.

Despite the mentioned shortcomings, in general it must be concluded that Jurmala municipality copes quite well with the protection of the nature environment and Jurmala is a relatively good example in the context of nature and beach protection compare even with many European coasts. More than a half of the territory of Jurmala is occupied by the protected nature territories. There are also many valuable and unique cultural and historical heritage elements in Jurmala. The municipality has relatively well appreciated these natural and cultural values in its territory and deals with their management quite satisfactory, even some

disagreement between the natural environment preservation goals and the economic development in the municipality could be seen.

4.2. Coastal governance in Jurmala: governance segments (stakeholders)

To evaluate the target groups in Jurmala municipality, we used a model where four basic segments (target groups) plus fifth mediator group are distinguished, namely: (1) State administration; (2) Municipality (city council); (3) Households/Inhabitants; (4) Corporative (business) segment; and (5) Mediative segment.

State administration. There are quite a lot of regional state administration structural units located in the municipality of Jurmala, including services that are related with: (1) nature protection; (2) environment protection; (3) forest protection; (4) land resources; (5) firefighting etc. Of all the state administration institutions, the municipality of Jurmala collaborates mainly with the Ministry of Environmental Protection and Regional Development. Cooperation with this ministry is related to binding regulations, the use of public waters, and the regulation of algae in the urban environment. It can be concluded that Jurmala is very rich in various state-level services that are related to environment which means that it is a serious capacity and these are serious resources that the municipality could use for the protection of its territory, but unfortunately the municipality does not use this opportunity.

Municipality / City council. The municipality as a target group is not homogeneous – it consists of four governance levels: (1) Legislative institutions (committees, commissions, advisory councils); (2) Executive institutions (divisions, boards, departments etc.); (3) Subordinate institutions (museums, libraries, information centres etc.); (4) Capital companies (municipal enterprises). Within the municipality a relatively successful cooperation exists between the structural units of different sectors that are on the same governance level. Moreover, if, for example, there are issues that affect several different departments, then the working groups are being formed and people from several departments come together and work in these groups. For instance, the Environmental Department works mainly with the Urban Planning Department, the Urban Economy and Improvement Department, the Property Board, the Municipal police and with a few others. At the same time, however, the situation is much worse with cooperation between structures of different governance levels – the problem is that the lower governance levels have difficulties in communicating with the higher levels, because in most cases it is restricted or even not allowed. Overall, it can be concluded that there is relatively good horizontal cooperation in the municipality, as each structure has its own competencies and they regularly and successfully cooperate with each other, but at the same time the situation with vertical cooperation is much worse, since the communication between different municipal levels is quite limited.

Households / Inhabitants. Jurmala is a very diverse area with various types of buildings – from old private houses to modern villas. There are also apartment buildings in the city, besides in some city residential territories the only buildings are the block of flats (such as in Kauguri and Sloka). In addition, households are located in a narrow land band, because the city of Jurmala has an elongated shape, and in the middle of the city there is a railroad. Thus, most of the houses are located nearby water – either sea or river – and because of that there are also flood risks (especially from the river Lielupe). The inhabitants are the most diverse target group in Jurmala, because very different social and age groups live here, who have very different income levels. However, this target group is quite inactive and is not very interested to get involved in municipal processes, i.e., the inhabitants do not read the planning documents, do not come to public consultations, do not participate in municipal events etc. Considering that household forms are so different in Jurmala, it can be concluded that inhabitants need very different services. Besides, the resource

provision of the inhabitants of Jurmala is also very different. Thus, the municipality must be very selectively adapted to such a diverse building style and households.

Corporate (business) segment. The leading business sector in Jurmala is the provision of different services. Since Jurmala is the resort city, the main service companies that are available here are hotels, sanatoriums, catering companies etc. The vast majority of these companies are closely related with tourism. It should be emphasized that Jurmala has the widest offer of SPA hotels in Latvia. Besides, within Jurmala we can also find one of the largest water parks in the Northern Europe – "Livu Aquapark", which is also the most visited object in Jurmala. Furthermore, Jurmala municipality wish to attract to the city some of the most famous world brands of resort hotels and SPAs which are the global market leaders. The support from the municipality for entrepreneurs is not sufficient and entrepreneurs wish this to be more beyond the tourism information and rights to rent space for the coastal cafes on the beach etc. and, particularly, to be heard more.

Mediative segment. Within the mediative segment four different mediator groups were analysed: (1) mass media; (2) public organizations; (3) educational organizations; (4) science/technologies.

Mass media. An important medium in the city of Jurmala is the informative newspaper "Jurmala Avīze", which is published by the Jurmala city council. The municipality also provides information to its inhabitants through its official website as well as through the Jurmala tourism website, which contains information that is mainly important for tourists. In addition, municipality also maintains the city profiles on social networks – Facebook and Twitter. A very positive aspect is that the inhabitants of Jurmala also have an access to a newspaper which is independent of the city council – "Jurmala Vārds". Overall, the cooperation between the Jurmala municipality and the mass media occurs through the Public Relations Department. We can conclude that Jurmala municipality has a wide range of different mass media available in the city to inform their residents about everything, including newspapers, websites and social networks. It is important to mention that one of the two newspapers that are available to inhabitants, is independent of the municipality.

Public organizations. Public organizations are an important mediator between the local administration and the inhabitants, and represent various interest groups. There is a Public Council in Jurmala municipality, in which 44 non-governmental organizations (NGOs) are represented. This council includes NGOs that have expressed a voluntary desire to submit proposals to the municipality on important issues of the city. The two most active environmental NGOs in Jurmala are the "Jurmala Protection Society" (JPS) and the "Environmental Protection Club" (EPC). Especially active is JPS – it participates in all public consultations, including the discussions of local plans, detailed spatial plans and all other municipal planning documents, and offers concrete suggestions to both the city council and the inhabitants of the municipality. Overall, it can be concluded that there are many different non-governmental organizations (NGOs) in Jurmala, including both environmental and other types of NGOs, however in reality only one is active – the Jurmala Protection Society which intensively fights with the problems of the natural environment.

Educational organizations. It is important to mention that an important instrument for environmental/coastal education at the local level is the Eco-School program, which is one of the most popular models of environmental education in the world. Overall, there are eight eco-schools in Jurmala. Eco-schools are those that provide the formal coastal education. However, the municipality neither control the eco-schools nor it involves in their work, so the school are free to decide on their own activities. In addition, there are also a couple of important educational organizations that provide non-formal coastal education in Jurmala. Overall, the main non-formal educators that directly or indirectly educate inhabitants and visitors about coastal issues, are two museums – Jurmala City Museum and Jurmala Open-Air Museum.

This education is more about the coastal cultural heritage and less about the natural environment. It can be concluded that in Jurmala we can find both types of educators – formal educators (i.e., eco-schools), as well as some non-formal educators (i.e., museums) that educate people about the coastal natural or cultural heritage, respectively. Our study also revealed that eco-schools and museums would like to have more support from the municipality, because at the moment the municipality does not really cooperate neither with one nor the other. Therefore, it can be concluded that currently the potential of the educational organizations is not fully utilized in Jurmala.

Science and technologies. The number of higher education institutions in Jurmala is relatively small – there are only three of them. Sometimes the municipality collaborates with scientists to carry out some research – for example, from time to time, some kind of monitoring is being carried out in the coastal area that is ordered by the municipality, including the research on coastal erosion and the mapping of coastal habitats. In addition, a description of recommended measures to stabilize the dunes and increase the recreational potential of the coastal zone was also prepared. Overall, however, the collaboration between the municipality and scientists is not performed too regularly, but rather in some exceptional cases. Furthermore, it should also be emphasized that one of the most significant and ambitious education/science projects that is currently being implemented in the city of Jurmala is the creation of the Kemeru Nature Education Centre, which is currently under construction and is expected to be completed by the end of 2022. It is planned to be an educational, interactive and multifunctional nature tourism centre, where students will be able to learn natural sciences in an innovative way, and which will serve as a scientific base for students and nature researchers. In general, however, the potential of this target group – science and technologies – is not used fully at the moment, because the local government uses scientists and university specialists relatively little.

In summary, the study revealed that not all target groups are involved in the municipal processes and coastal governance in Jurmala. Besides, there are problems in both directions – in the Top-down involvement, as well as in the Bottom-up involvement. The main problem with the Top-down approach is that although the municipality ensures the public involvement required by law, this involvement is quite formal and even if the municipality listens to the public opinion, it does not take it into consideration. Meanwhile, the most important problem with the Bottom-up approach is the inertness of the society – people do not want to involve in the governance processes. In Jurmala, the Bottom-up governance is provided mainly only by the NGOs.

4.3. Coastal governance in Jurmala: governance instruments

To describe how the municipality governs its coastal resources, we chose a model with six instrument groups: (1) Political and legislative instruments; (2) Planning instruments; (3) Administrative and institutional instruments; (4) Economic and financial instruments; (5) Infrastructural instruments; and (6) Communication instruments.

Political and legislative instruments. One of the basic instruments in the municipality is the binding regulations. The municipality accurately follows to all requirements of the normative acts, and the coastal area is appropriately maintained. The binding regulations that are mostly related with the coastal zone is regulations No. 3 "On the use of Jurmala city beach and swimming areas". The municipality also has binding regulations No. 27 "On the use of the river Lielupe in the administrative territory of the city of Jurmala". It should be emphasized that Jurmala is one of the few municipalities in Latvia that has such specific regulations. The municipality also takes into account the law "On specially protected nature territories", "Law of protection of species and habitats", as well as some other laws. Overall, however, the most

important legislative instrument in the context of the coastal zone is the Protection Zone Law, which stands above everything and is carefully fulfilled. Although the legislative instrument is important in Jurmala, there are also some shortcomings in the daily work of the municipality. Using the existing laws, the municipality tries to justify everything that is being done in the city, but it is not always aimed of preserving the natural and cultural values in the coastal zone.

Planning instruments. There is no a separate planning document in Jurmala that is dedicated to the coast. However, the coastal zone is indirectly covered in a number of tourism planning documents developed by the municipality, such as the "Tourism Development Strategy" and the "Resort Concept". In general, these documents are tended to business development in the resort sector in Jurmala. The coast is also partially covered in the voluntary planning document "Water Resources Protection Action Plan of the Jurmala City" in which one section is devoted specifically to coastal waters and their quality. However, the most important planning document, by which the municipality guides in the context of coastal governance, is the Spatial (territorial) Plan of the city of Jurmala. In addition, it should be emphasized that one good initiative has been implemented in the municipality, namely, a "work plan" for each department, which is developed regardless of employee job descriptions and department regulations. This "work plan" is developed by taking into account the budget and the Action Plan of the Development Program, as well as various other documents, for example, Ministerial regulations, normative acts, instructions etc. There are a large number of thematic planning documents in Jurmala, and a large part of them is dedicated to tourism and resort. Overall, the most important planning instrument for the coastal zone governance is the Spatial Plan of Jurmala.

Administrative and institutional instruments. In general, there are three city council committees that deal with the coastal issues most of all, namely: (1) the Committee on Development and Environmental issues; (2) the Committee on Urban Economy and Security; and (3) the Committee on Tourism and Resortology. The first committee addresses issues on building and its impact on the coastal environment; the second committee looks at everything related to beach cleaning and similar works; while the third committee examines issues and draft decisions on tourism and resortology infrastructure in the city of Jurmala and provides opinions on them. Of all municipality commissions, only two are mostly related with the coast: (1) the Administrative Commission; and (2) the Real estate renting and leasing commission. The first one examines and makes decisions on administrative violation cases on the beaches, while the second one organizes auctions of lease rights for beach areas in the city of Jurmala, thus it has a direct relation with the development of cafes and everything else on the beach area. With coastal issues mostly work the following executive institutions of the municipality: (1) Urban Planning Department – works with coastal planning; (2) Urban Economy and Improvement Department – works with coastal infrastructure, improvement and management; (3) Environmental Department – works with environmental protection issues on the coast; (4) Municipal Property Department – works with properties and rents on the coastal zone; (5) Municipal Police – works with the control of fulfilment of the binding regulations on the coast.

An important administrative instrument in the context of coastal management in Jurmala is the Beach Management Commission. This commission was created because the Blue Flag program determined that there should be such a commission. The commission is made up of representatives of various departments, which carry out off-site meetings at least once a month, inspecting the entire beach, including all official bathing zones, and identifying specific actions to prevent problems, improve the situation, etc. This commission still exists, although starting from 2020 the Blue Flags are no longer present in Jurmala beaches. There are also several municipal capital companies that operate on the coastal zone. For example, the water and domestic sewerage services are provided by the limited liability company (Ltd.)

"Jurmala water" while lighting on the beach is provided by Ltd. "Jurmala light". In turn, the waste management in Jurmala is provided by the private company "Clean R".

The city of Jurmala is also a member of the Association of Latvian Coastal Municipalities (ALCM). This association brings together all coastal municipalities to address common coastal problems and promote coastal development. Once a month all the heads of coastal municipalities meet up and solve the coastal problems. This association is considered to be a good instrument for the coastal municipalities so they can defend their interests more effectively at the national level.

Economic and financial instruments. This group of instruments includes, for example, the municipal budget of Jurmala and the natural resources tax. Expenses of the basic budget of Jurmala municipality are summarized by functional categories, among which the section "Environmental protection" is divided separately. Beach management and improvement is allocated as a separate budget position, and more financial and labour resources are spent for this purpose than for the management of other areas. Taking into account the length of the Jurmala beachline, the amount of work is quite large and all this requires significant financial resources, so the municipality regularly participates in various project competitions, thus attracting various external financial resources. Overall, however, the two most important financial instruments on the coastal zone are: (1) the penalties for beach violations; and (2) the auctions by which the business organizations are regulated in the coastal zone.

Infrastructural instruments. The resort infrastructure is especially important in Jurmala, including the resort objects in the coastal zone – rehabilitation centres, resort hotels, swimming institutions, resort clinics, healthy catering companies, camping areas, etc. The most important coastal infrastructure elements in Jurmala are the following ones: pathway to beach, rescue service, rubbish bins, information stands, health trails as well as educational nature trails within the specially protected nature territories. All beaches are very rich in different infrastructure objects, and in some cases it feels like there are even too many of them. Also, an important element of environmentally friendly infrastructure on the coast is the bicycle paths – in Jurmala there is 25.5 km long bicycle path that stretches along the entire beach. In general, however, the bicycle route infrastructure is still poorly developed in Jurmala because the city does not have a unified network of bicycle routes, as well as these routes are not marked. Overall, it can be concluded that the coastal zone in Jurmala is very rich in different kinds of infrastructure elements which are very diverse and in a good condition. Only the cycling infrastructure could be improved within the city.

Communication instruments. Information instruments. Jurmala municipality has a rather wide and diverse range of information channels, including planning documents, official website of the municipality, informative publications, environmental information stands, etc. The information about the coastal zone, however, in the public media is not highlighted among other information, besides it is irregular and superficial. The information that is found on environmental stands that are located in the coastal zone (i.e., beaches) is insufficient because it does not describe what prohibitions exist on the beach. Visitors that come to the Jurmala tourism information centre are mostly interested in beaches and the Kemeris National Park. The main conclusion is that there could be much more information about the coastal zone in the municipal documents, newspapers, environmental information stands etc.

Education instruments. Among the most important educational instruments in Jurmala it could be mentioned schools, eco-schools, museums, libraries and similar institutions. The positive thing is that in Jurmala you can get a unique education – it is possible to acquire such knowledge that is not available elsewhere in Latvia, including hospitality, resort resource management, health promotion, recreation and similar type of knowledge. However, the negative aspect is that the municipality cooperates neither with formal educational institutions (schools, eco-schools) nor with the non-formal educators (museums).

However, it was concluded that in general the environmental education in Jurmala is still underdeveloped, and the knowledge about the coast is not emphasized.

Public participation instruments. Public involvement in Jurmala municipality occurs in accordance with normative acts. The municipality occasionally organizes inhabitant surveys on various topical issues, though the surveys do not address topics related to coastal issues. The municipality also supports many initiatives (cultural and artistic, environmental, health and healthy lifestyle, social integration, infrastructure development and rehabilitation activities) that are encouraged by NGOs and are open for everyone free of charge. Also, inhabitants theoretically have the opportunity to take part in public consultations, but in general it happens not often and citizens only participate in those cases when it affects their property or them personally.

Environmentally friendly behaviour instruments. Among this instrument group, the measures of protection and stabilization of beach dunes should be mentioned. Besides, the municipality has introduced a number of "green solutions" in order to reduce coastal erosion and protect dunes. In the context of environmentally and coastal-friendly behaviour in Jurmala, the waste management system should also be emphasized because Jurmala is the first municipality in Latvia where waste is weighed, and since then waste sorting has greatly improved, as additional sorted waste bins have been created. Overall, however, the Jurmala municipality does not particularly promote environmentally friendly behaviour in the coastal zone, as well as does not show initiative to organize events related to this topic. This kind of events is usually organized by other institutions, for example, the NGO "Foundation for Environmental Education". But generally, the green lifestyle in the municipality is not sufficiently promoted. In addition, it should be also emphasized that since 1998 Jurmala has participated in the Blue Flag program. In 2019 the Blue Flag was awarded to seven Jurmala beaches, which meant high water quality, high security and management standards as well as the realization of environmental education. Until now, Jurmala had more Blue Flags received than the other two Baltic states (Lithuania and Estonia) taken together. Unfortunately, in 2020 Jurmala withdrew from the Blue Flag program.

In summary, the Jurmala municipality possess a rather rich spectrum of different governance instruments that could be used to solve the coastal governance issues, these instruments are not always fully and complementarily used. Particularly serious problems exist with the communication instruments which are used very minimally by the municipality (e.g., public participation instrument, involvement of formal/non-formal educators, popularization of environmentally friendly practices, etc.). Moreover, the coastal governance instruments are distributed among different municipal departments and governance levels, which indicates the problem of fragmentation and non-systemic manner. However, there are also some positive things, for example, the infrastructure instruments have been used very successfully within the municipality – the beach/dunes are extremely rich in various infrastructure elements.

5. Discussion and conclusions

An integrated coastal management approach is an important concept in sustainable coastal governance, as it takes into account all the sectors that may affect the coast and its resources. However, the integrated approach is much more complicated than the traditional single sector approach (sectoral/disciplinary approach) and Latvia has not yet fully mastered the integrated approach, so in practice it is not really happening yet. The disciplinary approach still prevails, when each specialist plans issues that affect his narrow field, and thus there is no one who would see the coast as a single and indivisible socio-ecological system. The municipality of Jurmala has a similar problem – each municipal employee has a narrow specialization and no one knows or is particularly interested in what happens in other fields. Overall, in the

present study the four main conclusions emerged about the coastal governance situation in the municipality of Jurmala:

Governance sectors. Jurmala municipality is very rich in various rare and unique natural and cultural-historical resources. In order to protect the natural environment in Jurmala, several specially protected nature territories have been established in the municipality. At the same time, however, the municipality also has a number of relatively serious problems in the context of nature environment protection, of which the most serious one is the house-building in the coastal dunes.

Governance segments. Within the Jurmala municipality there are a large number of different segments (target groups) that could potentially help to govern the coastal zone in Jurmala. Particularly numerous are regional public administration institutions, households and NGOs in Jurmala. The municipality, however, lacks information on all the target groups in Jurmala, moreover, the known target groups are not particularly involved in the governance processes. The largest segment is households, but this target group is inactive because inhabitants are not interested to get involved in the municipal governance. The most active segment in Jurmala is NGOs, but this activity is mainly based on only one NGO, which actively defends the natural environment in Jurmala – the "Jurmala Protection Society".

Governance instruments. Jurmala municipality has an extremely rich range of various governance instruments. Particularly plentiful are the planning instruments (municipality has developed a lot of different voluntary thematic planning documents), institutional instruments (the municipality has many institutions at all levels of government that successfully complement each other), and infrastructure instruments (there are a large number of very diverse and specific infrastructure elements located on the coastal zone in Jurmala). On the other hand, Jurmala municipality uses certain instruments very minimally – this is especially true for communication instruments, which Jurmala either does not use at all or even abandons them (e.g., the Blue Flag).

When putting all three governance dimensions complementary together we are getting **triple governance dimensions' principle for coastal governance**. Jurmala municipality has many different instruments with the help of which it could successfully manage the unique natural and cultural heritage of the coastal zone of Jurmala, but they are not fully used in a complementary way yet. There are also potential with different target groups in the city of Jurmala, which could contribute to the governance and protection of the coastal resources, but unfortunately, the target groups are not fully and successfully involved in management processes and *Bottom-up* approach potential to govern the coastal zone could be actively promoted.

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