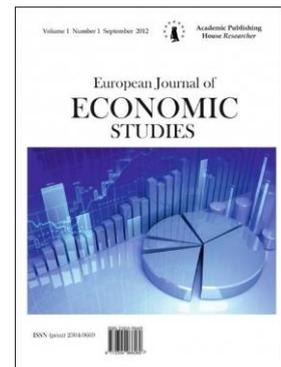


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Strategy of Coastal Marine Territories Development (on the Example of the Sochi Coast Region of Russia)

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Abstract

In article, it is shown that management of coastal sea regions has to have, in comparison with traditional management, a number of the specific features connected with broad coverage of the considered problems of natural, anthropogenous, social and economic, cultural and ethical character. In order that coastal management was complex, it has to consider a coastal zone as uniform natural, social and economic system.

Keywords: coastal zone, coastal marine resources, integrated management, sustainable development, quality of environment.

1. Introduction

Sochi represents a large inshore administrative center on the Black Sea coast of Russia. It has capturing territory 3.5 thousand km², and population more than 430 thousand the person. The region territory is divided into 4 administrative areas. The common expansion of a land border of the Sochi resort constitutes more than 133 km with maximum expelling from beaches of the sea - 56 km, sea border – 105 km. The barrier from mountain ridges is one their features of environment. Mountains are covered by wood and wood-bush vegetation. The width of shelf varies to 1 km.

Borders of coastal zone are defined the seas tidal limit. Borders of the sea for management problems are defined by maritime belt of Russia (12 miles from coast).

Greater Sochi is a health resort of Federal significance. City has a developed recreation infrastructure: spa-hotels, boarding houses, rest houses etc. Annually more than 1.5 millions tourists direct in this coastal region in summer. More than 900 thousand person simultaneously lived on the territory of a resort Sochi per separate months of a resort season. At the same time, lump sum holding capacity of existing beaches on a site of the Black Sea coast from the town Tuapse to the river Psou is no more than 350 thousand person.

Four administrative districts a form the Sochi region. Historically, economy of city was developed around of seaport, disposed in Central district; therefore, there are disproportions in district's progressing. The central district is also the center of a spa-hotel complex and tourist industry.

The population is occupied in tourist service, on transport, trade, agriculture and fishery.

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Tourism - annually comes more than 2 million people, in the summer - more than 1.5 million tourists, in separate summer months – to 900 thousand people. The Sanatorium branch switches on about 300 spa-hotels, boarding houses, rest houses.

Restaurant business is developed, but the basic period of its activity is necessary for the period from May till October and is connected with the basic period of tourist activity.

Transport carries out automobile transportations. Trade is connected with sale of foodstuff, clothes, rendering of different service.

The forestry and fishery experience considerable difficulties. Agriculture is in essential depression. Aquaculture is developed a little, but natural conditions are rather favorable for development of this branch.

One of the basic recreational factors in Sochi region is a recreational and medical beach. Near to a beach are located many objects of a cultural and sporting infrastructure: theatres, stadiums, yacht-centers, aqua parks etc.

Natural environments of the Sochi region are characterized by an average and low mountain contours, by lithologic complexes of cretaceous and paleogene, concerning high damp and daily average temperatures, which are stipulating the subtropical nature of vegetation. The seismicity of the Sochi district is evaluated in 9 balls.

It is necessary to point out, that the features and originality of a geological feature of Sochi region (tectonic dissociation, progressing modern downing of beaches, high seismicity, lithologic heterogeneity) promote fissile progressing of sliding processes, destroying of beaches and native born beaches, water logging of the rivers ostium.

One of the basic transport mainlines on coast of Northern Caucasus is the North-Caucasian railway. It is compelled drives near the seacoast on a major extent (about 90 km). Though there are projects of carrying of the railway deep into coasts, they are very problematic, since are interlinked to construction of tunnels, bridges and flyovers on a major extent.

The modern progressing of a coastal zone of the Sochi resort region has transgressed directivity that is stipulated by general upheaval of a sea level. It takes place within last century to an average speed 1.5-2,0 mm/years.

The beach promotes as progressing of alive organisms in the sea, and represents one of the basic recreational resources involving tourists in marine resort site.

The state of beaches (physical and ecological) defines the amount of visits in a health resort.

The common necessity in recreational beaches for all districts of the Russian Black Sea coast constitutes 410 ha.

The Russian sanitary-hygienic norms define the following performances of a beach on 1 person – 0,2m lengths of a beach shoreline at its width 25 m. It ensures, in the long term till 2010 year, lump sum holding capacity of 820 thousand resting. Thus, the common expansion of beaches should constitute about 160 km. Now the total expansion of recreational beaches within the limits of the Black sea districts of Russia does not exceed 130 km, and their total floor space is about 354 ha.

This floor space powers up a back part of beaches, which one will defend from a water boundary of the sea more than on 25 m, foreseen sanitary-hygienic norms, and closed part, disposed on foreseen spacing interval till both parties from finding here engineering objects (tunnels, marine berths, buffer beaches, building polygons etc.). If to exclude from the common floor space of a beaches it's back and closed parts, the recreational floor space of existing beaches will make all about 259 ha.

As demonstrate introduced data's, the expansion of offshore coastal strip in the Sochi region constitutes 113,5 km. About 40 km it is subject to landslide phenomena and up to 20 km is subject of the downfall phenomena.

In favorable conditions, there are beaches on overall length on miscellaneous sites of 40 km, where their width constitutes more than 25 m. On remaining 73 km width of a beach is less than 25 m and does not ensure clearing storm waves. It calls destroying beaches and strains of engineering structures finding in a zone of shock effect of sea waves.

Even after accomplishment of measures on recovering natural beaches for the purposes of the wave breaking, their recreational floor space will be augmented all on 65 ha and will constitute about 63% from the indispensable floor space. For today the total deficit of beaches approximately constitutes: on an expansion - 31 km; on the floor space - 87 ha. The deficit of beaches in borders of Sochi region constitutes 8,8 km on an expansion and 31 ha on the recreational floor space.

Reduced above data on state of the art of offshore coastal strip testify that the existing beaches do not safeguard beach from shattering effect of surges on a considerable extent. The surplus of recreational beaches is tracked only on rather small sites of considered coast of a health resort within the limits of Sochi region.

The rough necessities of the recreational floor space of beaches on the Sochi site for the term of till 2010 are indicated below:

- on an expansion: recreational beaches - 88 km, closed - 12 km, sum - 100 km, expansion of beaches indispensable for recreation - 96 km, beach's deficit - 8,8 km;

- on the recreational floor space of beaches: the existing floor space of a beach - 224 ha, floor space of a beach indispensable on wave breaking - 320 ha, floor space of a beach, indispensable for recreation, 250 ha, magnitude of a beach deficit - 31 ha.

Therefore, basic engineering decision of this problem is the creation or magnification of existing beaches up to the sizes providing complete wave clearing at passing of the whole gales.

In the created situation, taking into account justified and all increasing draft of the tourists to the Black Sea coast, necessity:

1) keeping of the acting sanitary-hygienic norms of their accommodation,

2) preservation of unique coastal landscapes the demanded recreational progressing of the Sochi site can be provided only at native-born variation of adding up practice of resort development of territories.

It is necessary to create along a coast band shareware in width not less than 100 m (apart from beaches). This band everywhere should be used for green plantings, quays, parkways and squares, automobile and foot entrances and approaches to this band. To it should flank all coastal protective and hydraulic engineering structures located in an inshore dock space of the sea.

In each concrete case of recreational usage of a maritime belt of the sea it is necessary to take into account a depth of water, geology of bottom, parameters of rocks, composing it, alongshore and cross-cut removal of beach detrital deposits existing or anticipated transshipment of a beach band by the tourists over the established specifications etc.

It is necessary to consider the extension and creation of beaches within the limits of the Caucasian coast of the Black sea, construction of hydraulic engineering recreational complexes as the basic nature protection measures. With their help, the possibility of fluid wash of beaches is eliminated.

The hydrological conditions of the Black sea for coast of Russia are those, that the impurities hitting in the coastal zone, are not distributed in a central part of the sea. It concentrates alongshore. The absence of dodges of impurities carrying by currents can result in to formation of hold-up spots with a high pollutant concentration. The small intensity of water exchange in half-closed coastal dock spaces with the sea, plenty of impurities acting at a coastal zone, makes an inshore dock space by area of a high ecological load.

The unfavorable ecological situation is supervised, basically, in narrow 3 km band from the seacoast.

Sanatorium complex. There are more 250 recreational establishments in Sochi region, more 120 year-round, remaining seasonal. Only 4 % have own refining structures. 60 % have own boiler-houses, 50 % of boiler-houses is disposed near to recreational zones. The security resting by beaches constitutes - for 55 % of the recreational enterprises a load on a beach less than 5 m²/person, for 45 % more than 5 m²/person (request of World tourist organization - 5-25 m²/person).

Load on urban beaches are consist 1 m²/person.

Water resources. There are more than 30 rivers of length from 4 up to 90 km in Sochi region. The average modulus of a drain consist 60-70 l/sec with 1 km². The level of contamination of the sea coastal zone is interlinked to a level of contamination of the rivers and grounds of site. In Sochi is present 7 «so-called deep water » water issue (depth 8-34 m), which one are in district of water use. This spacing interval constitutes less than 2 miles from beaches. The impurities concentrate near to beaches and are distributed alongshore and to it, do not leave on depth. The high bacterial impurity is permanently scored. The coastal waters in district of Sochi and river frequently do not correspond to international and Russian norms.

Wave damping wall there are on length of 81 km, beach protective groins - 40 km, wave breaking moles - 11 km and berm - 4,5 km. Thus in a complex these hydraulic engineering structures are executed on an extent only 56 km.

As it is visible from stated, the coast of the Sochi site by 1990 was rather saturated with coastal protective structures. It is explained by necessity of protection a resort infrastructure and railway.

However, system of coastal protective structures, adding up by 1990, did not ensure reliable fulfillment of coastal protective functions on a considerable extent of beaches. On data of the Sochi Geo-ecological center, average width of beaches in region was reduced since 1914 on 8-10 m.

The analysis of construction and operation of coastal protective structures allows marking their following negative consequences for the coastal zone:

- submerged breakwaters do not ensure deduction of beaches without crosscut structures by the way groins. They conduct to deterioration of their stability and worsen conditions of water exchange in summer and reduction of capacity of self-wiping of waters of the coastal zone sharply;

- construction of the groin system practiced frequently without filling with an inert material of bays between groins. It results lined to interception of detrital deposits from an alongshore current by groins and to progressing of disastrous low fluid washes;

- blocking a dock space by groins also worsens a water exchange and self-cleaning of water in bays between groins;

- fulfillment of coastal protective measures in a contingency plan (the outburst on beach of building wastes, concrete blocks of the different sizes and bulk, cross ties etc.) gives void effect. But it also disastrously reduces aesthetic and recreational qualities of coast;

- rigid regulation of beds of the rivers in an ostium part (the construction of concrete beds) conducts to sharp reduction of a solid drain;

- erection close set of wave breaking walls has reduced receipt of detrital deposits in an alongshore current at the expense of a coastal decline abrasion;

- the structure of wave breaking walls without beach retaining structures and artificial addition of detrital deposits speeds up fluid wash of a beach band.

The basic problems of regional government are connected with erosion of soils, of water quality. The state of environment can be considered in separate parts of region and in coastal zone of the sea as crisis.

Anthropogenous pollution of considerable part of region near to coastal zone of the sea is considerable. First of all, it is called by dump not enough the cleared sewage as in pools of the rivers, and is direct in the sea. In region it is not enough modern objects for clearing of industrial and municipal drains.

Port and yacht harbor activity makes adverse impact on condition of coastal waters. The water area of port's harbor is polluted even more. The basic components of pollution are mineral oil and heavy metals. Seawater releases which are used for dump in the sea sewer and storm sewage demand repair.

The general conclusions on integrated coastal zone management (ICZM) in the Black Sea region of Russia

The modern control system in coastal zones in Russia should be created within the limits of government structure. Reconstruction of existing control systems according to the purposes and problems of Program ICZM is necessary.

Introduction of new operating structures in the Coastal zone is limited by absence of legislative base on ICZM. The special universal law of Russia on ICZM is developed, but its acceptance - future question. The separate statutory acts quite entered in concept ICZM are accepted. Managerial process by wildlife management becomes complicated absence of the accurate legislation on the property.

The current state of standard base not quite corresponds to requirements of the international standards on wildlife management.

Table 1. Characterisation of the region

Name	Physical characteristics	Human characteristics	Land / sea uses	Length of the coast	Landward boundaries for management issues	Seaward boundaries for management issues	Management issues	Scales to be taken into account
Sochi region	Region territory - 3500 km ² . It is divided into 4 administrative areas. The barrier from mountain ridges is one their features of environment. Mountains are covered by wood vegetation	The population – more than 430 thousand people. The population is occupied in tourist service, on transport, in trade, services, restaurant business, agriculture, fishery	Tourism restaurant business, trade, transport prevails	Extent of coastal line – 113 km. The area of beaches – about 220 ha. The width of shelf varies to 1 km	Tidal limit	Territorial waters (12 miles)	Erosion control, water quality. State of environment crisis. Anthropogenous pollution is considerable (dumps not enough pure sewage in pools of the rivers and in the sea)	Local Local/regional Local/regional/global

There are base preconditions and comprehension of necessity of serious efforts on reconstruction of legislative and executive system of Russia for carrying out of coordinated regional policy ICZM. Their essence consists in the following:

1. Adaptation of existing control systems to principles ICZM is necessary.
2. There is no legislative base on ICZM.
3. Incomplete conformity of legislatively standard base to modern ecological standards.
4. Considerable contradictions between the purposes of development and preservation of the environment.
5. Insufficiently developed base of scientifically well-founded limits of resources consumption and norms of wildlife management of coastal zones.
6. Imperfection of the mechanism of settlement of contradictions.
7. There is requirement for the national and regional policy of sustainable development of the coastal zones developed with participation of controls, experts and the public.

Problems of environment and development of region, the reason of their occurrence and existence, and also possible means of the permission of these problems.

2. Materials and methods

It was used materials published in the works of modern Russian and foreign research scientists in the management of coastal regions. Information was collected in scientific

publications, as well as in open Internet resources such as [A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management: ICAM Dossier, 2006](#); Center of complex researches of the British Council. [Integrated management of a coastal zone: from the theory to practice, 1996](#); Materials of the youth scientific and practical conference «Environmental Problems of the Azov-Black sea Region and Integrated Management of a Coastal Zone», 2014; The agenda for the 21st century (Agenda 21) accepted by Conference of the UN on environment and development on June 3-14, 1992. Analyzed reporting metrics provided in the published literature.

The materials for publication are the works of [Avdeeva, 2015](#); [Aybulatov et al., 1996](#); [Dreizis et al., 2011a](#); [Dreizis et al., 2011b](#); [Dreizis, 2015](#); [Dreyzis et al., 2012](#); [Goryachkin et al., 2014](#); [Kosyan et al., 2014](#); [Kosyan, 2014](#); [Kropinova, Afanasyeva, 2014](#); [Mikhaylichenko, 2004](#); [Nazarova, 2011](#); [Nikonorova, 2015](#); [Plink, 1999](#).

This article was used scientific methods, such as the principle of comparison, analysis and synthesis of the results. The article is also based on the principles of objectivity and systematic. This article was used scientific methods, such as the principle of comparison, analysis and synthesis of the results. The article is also based on the principles of objectivity and systematic.

3. Results

Main problems of the ICZM in region are:

I. Imperfection of system of the legislation in management of Coastal Zones

The reasons:

- Incomplete conformity of national legislations to modern ecological standards;
- Legislative discrepancies in property questions;
- Absence of the obligatory status of territorial plans for development.

Decision means:

- Entering of corrective amendments into the legislation.

II. Organizational imperfection of control system of Coastal zones

The reasons:

- Long-term traditions of the sectoral management;
- Incompleteness of system of local government.

Decision means:

- Improvement of executive control system;
- Improvement of professional skill of heads of region in the field of ICZM.

III. Absence of practical experience ICZM

The reasons:

- Absence of the prepared experts in the field of ICZM;
- Insufficient attraction of the public in managerial process;
- Impreparation of public opinion to essential reconstruction of control system.

Decision means:

- Improvement of professional skill of experts and the personnel of controls;
- Realization of pilot projects on ICZM;
- Public involving in decision-making process;
- Purposeful propagation of benefits from system ICZM introduction.

IV. Absence of regional coordination of actions

The reasons:

- Backwardness of regional intergovernmental structures;
- Backwardness of regional non-governmental structures;
- Insufficient quantity of joint projects;
- Absence of regional system of gathering and information distribution on problems ICZM.

Decision means:

- Creation of regional body ICZM;
- Activization of a job of a Non-governmental organization of the Black Sea Forum in the field of ICZM;

- The organization of constantly functioning of the regional GIS;
- Development of cooperation of the governmental and national non-governmental structures.

V. The Lack of financial support of joint projects

The reasons:

- Insufficient involvement of an international organizations and donors into process ICZM of Black sea;

- Absence of regional coordination body ICZM;
- Absence of properly prepared pilot and investment projects.

Decision means:

- Inclusion of articles on financing of projects in the ICZM in national plans for development of region;

- Active involving of the international organization and donors in realization of joint projects in the ICZM of Black Sea;

- Special efforts of regional coordination body of the ICZM;
- Preparation of design offers.

As consequence of absence of decisions of the main problems, there is presence of following regional problems

1. Anthropogenous pollution of the sea from land sources and the rivers

The reasons:

- Imperfection and insufficient capacity of systems of clearing of industrial, agricultural and municipal drains;

- Superficial washout of ground owing to out-of-date technologies in rural and forestry;

- Dumps of firm industrial and household waste; low power of manufactures on processing and recycling of waste;

- Emergency floods of mineral oil from land constructions and sea-crafts;
- Absence of uniform system of monitoring;
- Incomplete conformity of national legislations to modern ecological standards;
- Absence of the common regional program of actions.

Decision means:

- Presence of perfect systems of clearing;
- Monitoring;
- Restriction of ecologically harmful manufactures;
- New technologies with use of the closed cycle of water consumption;
- The program of joint regional actions;
- Legislation improvement.

2. Degradation of unique ecosystems

The reasons:

- The insufficient area of especially protected territories and water areas;

- The absence of decisions of the property of individual questions in coastal zone and question of public access to shore;

- The high security of protection of valuable ecosystems does not suffice;

- Negative influence of unorganized tourism;

- Withdrawal of valuable territories under construction of roads, habitation and summer residences owing to absence of obligatory plans for execution of territorial development;

- Deficiency of investments into nature protection actions.

Decision means:

- System ICZM introduction;

- Rational territorial planning;

- Improvement of legislative base;

- Strict observance of mode of existing especially protected territories (the Sochi national park)

- Increase in the area of especially protected territories;

- Investments into preservation of the environment.

3. Erosion of coast

The reasons:

- Natural processes;
- Absence of obligatory plans for execution of territorial development;
- Absence of uniform system of monitoring;

- Lack of target investments in a coastal protective actions;
- Absence of the regional program of joint actions and regional standards of coastal protective actions.

Decision means:

- Monitoring;
- Working out of regional standards of coastal protective actions;
- The program of coastal protective actions in coordination with plans of territorial development;
- Investments.

4. Degradation and deficiency of sources of potable water

The reasons:

- Irrational mode of water consumption for industrial and household needs;
- Anthropogenous pollution;
- Out-of-date systems of water supply;
- Unfairly low tariffs for water of drinking quality;
- Absence of the regional program of radical improvement of water supply;
- Lack of investments into modern systems of water supply.

Decision means:

- The introduction of the ICZM;
- Reduction of pollution;
- Introduction of optimum tariffs for use of water resources;
- Rational the agricultural technician and forestry;
- The regional program of joint actions;
- Monitoring;
- Investments into water supply systems.

5. Emergency situations of natural and anthropogenous origin

The reasons:

- Irrational territorial planning with arrangement of inhabited and industrial constructions in dangerous zones;
- Technogenic failures and accidents;
- Natural processes of erosion of coast, hillsides, long-term climate changes, earthquakes, landslips;
- Absence of the regional plan of the general actions and regional system of adequate reaction;
- Lack of investments into preventive actions.

Decision means:

- The introduction of the ICZM;
- Rational territorial planning with giving of the obligatory status to plans of territorial development;
- Working out of regional standards and the regional program of joint actions;
- Restriction of development of potentially dangerous manufactures and activity kinds;
- Investments into perfection national and regional systems of adequate reaction and the prevention of emergency situations.

6. Crisis and incompleteness of structural reorganization in national economy

The reasons:

- Uncertainty of questions of the property;
- Incompleteness of the legislation;
- Absence of results of the long period of reforms;
- Obsolete technologies and the equipment;
- Lack of investments into manufacture;
- unemployed considerable part of the population.

Decision means:

- Working out and acceptance of national plans of sustainable development;
- Priority to development of tourism, fishery and aquaculture in coastal zone;
- Investments;
- End of structural reorganization;

- Optimum territorial planning.

7. Recession of economy of tourist branch

The reasons:

- Insufficient development of infrastructure;
- Non-use in the past of the world standards;
- Legislative problems in property questions;
- Fall of appeal of the Black Sea resorts for local and foreign tourists, owing to occurrence of possibilities of comparison with the world resort centers;
- Unsatisfactory condition of nature sanctuaries and history.

Decision means:

- Investments into development;
- Optimum territorial planning;
- Support and development of small and average business in tourism and service sphere;
- Use of modern world experience;
- Maintenance of advantages of tourist branch in coastal zone;
- Development of modern communication systems;
- Informing of the public on real ecological condition of coastal zone of sea.

8. Crisis in fishery and backwardness of manufacture of the aquaculture

The reasons:

- Overexploitation of fish stocks in the past;
- Insufficient coordination of trade policy between the Black Sea countries;
- Pollution of the sea environment and degradation of places of spawning;
- Old years of fishing fleet and coastal infrastructure;
- Lack of investments into development and updating;
- It is insignificant the small area of especially protected water areas;
- Absence of the regional program of joint actions;
- Absence of advantages to fishery and to aquaculture, along with tourism, before other kinds of activity in coastal zone of Black sea.

Decision means:

- The co-ordinate improvement of national legislations in the field of use of fish stocks;
- Regional coordination of trade activity;
- Investments into updating of the equipment and new technologies of processing;
- Maintenance of real advantages to fishery and to aquaculture before other kinds of activity in coastal zone (along with tourism);
- Joint programs on reproduction of valuable kinds.

The main using of coastal zone. Possible contradictions between branches of economy of region from the point of view of use of natural resources

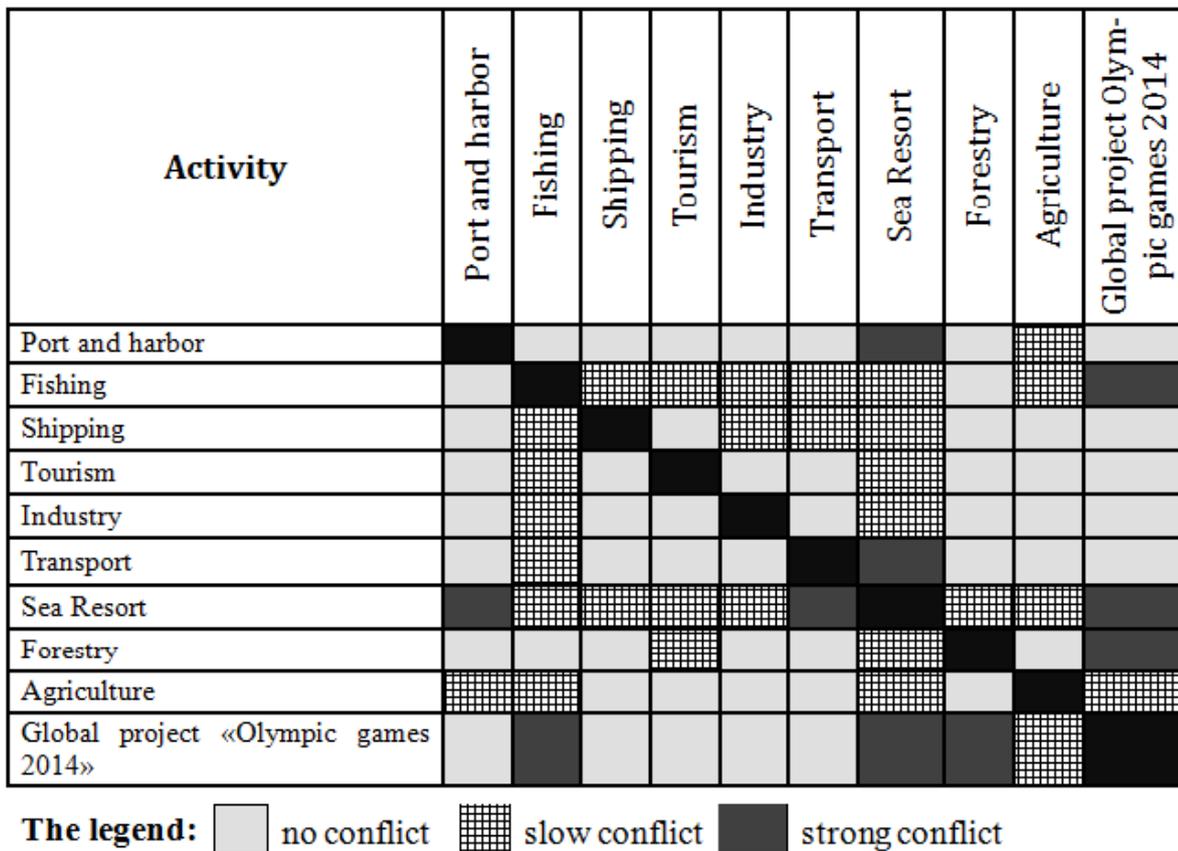


Fig. 1. Conflict matrix

Comments:

A. Port and harbor – Sea resort

The construction of the existing Sochi sea port resulted the close to complete lose of the central city beaches, the planned development of the Sochi sea passenger port, as well as construction of the new cargo port can result the sufficient problems with the beach stability.

B. Fishing – Sea resort

Fishing in the region is not very active, but can pollute the coastal area.

C. Industry – Sea Resort

The local industry is the sources of pollution of the seawaters throw the water discharges, pollution of the rivers and underground waters, as well as the deposition of waste.

D. Transport – Sea Resort

Transport (railway and cars) results the sufficient damage of the coastal area recreational resources like coastal beaches and fresh air. Car transportation is the main source of the air pollution in the region.

E. Global project «Olympic games 2014» – Fishing

The development of the new coastal infrastructure of 2014 Olympic Games can destroy the existing local fishing industry.

F. Global project «Olympic games 2014» – Sea Resort

The conflict is the reflection of the next global conflict in general development of the region. Does Sochi region developed as the bossiness, sport, and tourist region or like the sea and coastal resort? And that conflict is specific one for the region.

G. Port and harbor – Agriculture

Through seaport are carried out deliveries of cheaper agricultural production from other countries. It disturbs to development of regional agriculture.

1. Preliminary list of stakeholders to be involved in the project and their role

Table 2. Stakeholder list

Stakeholder	Category	Role in coastal zone management	Contact established or to be established	To be included or not in the governance platform
Committee on wildlife management and preservation of the environment of Sochi city administration	municipal authority	instruction, control	should be established	yes
Department of biological resources and preservation of the environment of the Krasnodar region Administration	regional authority	instruction, control	should be established	yes
Department of natural resources & the state ecological control of the Krasnodar region Administration	regional authority	instruction, control	should be established	yes
The Sochi department of the Ministry of natural resources of RF	federal authority	instruction, control	should be established	yes
The Sochi department of the Main state expert appraisal	federal authority	instruction, control	should be established	yes
The Sochi center of science of the Russian Academy of Sciences	federal authority	recommendation	established	yes
Scientific research institute of mountain forestry and wood ecology	federal authority	recommendation	established	yes
The Research centre «Sea coast»	federal authority	recommendation	established	yes

2. Existing official documents on ICZM. Their functions

The Bucharest convention (1992), the Odessa Declaration (1993) and Strategic Plan of action across Black sea (1996), approved by the Black Sea countries, call for immediate introduction of the ICZM process. The Black Sea Ecological Program (BSEP) has been founded by Global Fund on Environment (GEF) as the program.

Performance of the Bucharest Convention which have defined among priorities activity, connected with инициацией process ICZM.

During the first phase BSEP (1993-1996), working out of component ICZM also was supported by the World Bank. This period was characterized initial by stages – beginning process of the ICZM. Have been organized National and Regional networks ICZM, are defined borders of the Coastal Zone, the ICZM-CENTER in Krasnodar is created, the analysis is carried out and problems of coastal zones are revealed, Reports on ICZM are presented 6 National and Regional, series of training seminars is spent, National Pilot Projects on ICZM are formulated. The Great number of experts of the entire Black Sea region is involved in process ICZM.

Within the limits of the Working plan for 1997 it was provided, except other activity, preparation of the Black Sea National documents on the Politician and Strategy ICZM which should be harmonized and integrated into National Strategic Plans of action, and also the Black Sea Regional Policy and Strategy of ICZM.

3. Existing establishments for ICZM. Their functions

The International Centre of Activity ICZM functions in Krasnodar. Centre is properly equipped, it supporting the continuous communication with advisers and the national experts. Centre properly acquired experience of coordination of work of experts from different countries. The centre has support from outside governmental bodies.

At its participation Regional network ICZM is organised, borders of the Coastal Zone are defined, the analysis is carried out and problems of coastal zones are revealed, Reports on ICZM are presented 6 National and Regional, series of training seminars is spent, National Pilot Projects on ICZM are formulated.

The Black Sea National document is prepared on the Policy and Strategy of the ICZM.

The special regional document on necessity and benefits of giving of force of the law to plans is prepared.

Territorial development based on principles ICZM, for its use as argument at national and local levels.

Separate scientific researches in which methodology ICZM is used are carried out.

Over the last years the following have been done:

- assessments of Russian coastal resource potential and situation in its use;
- study of international experience in development and realization of national and local ICZM programs;
- a series of conceptual and methodological papers on the ICZM has been worked out and published;
- an article-by-article structure of several versions of federal draft law on ICZM has been worked out;
- a first steps towards introducing ICZM principles and approaches into the process of elaboration of local programs for coastal development and use of coastal resources have been made by means of coordination of efforts of federal and international projects.

4. Existing projects and programs ICZM in region. Their problems and methods of solving.

There are separate research projects on engineering problems in coastal zone of region. These projects are connected with the decision of problems of coastal protection of separate sites of sea coastal zone, with building of hydraulic engineering constructions (yacht-harbours, marinas), with problem of water quality.

The approaches accepted in methodology of the ICZM are used at this project.

5. Accessible data at local, regional and national level

Table 3. Data availability

Data description	Typology	Temporal series	Spatial resolution
Employment (per tourism, agriculture, transport, trade)	Census, review	From 1985 to 2008	Coverage: municipality and region
Sea bottom	Geographical atlas, maps, topographical shooting of relief	From 1985 to 2008	Coverage: municipality, region and national level (include remote sensing images)
Land	Geographical atlas, maps, topographical shooting of relief, General plan of city developing	From 1985 to 2008	Coverage: municipality, region and national level (include remote sensing images)

Environmental contaminations	Census, review, maps	From 1985 to 2008	Coverage: municipality and region
Data of a sanitary-ecological monitoring of water, air and soil	Review, maps	From 1985 to 2008	Coverage: municipality and region

4. Conclusion

Management of coastal sea regions in comparison with traditional management has a number of specific features. They are connected with need of broad coverage of problems of natural, anthropogenous, social and economic, cultural and ethical character. In order that coastal management was complex, it has to consider a coastal zone as uniform natural, social, and economic system.

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