















Integrated Coastal Zone Management:

Putting Theory into Practice

"Coastal zone". What does it mean?

The concept of the "coastal zone" has been widely used in the world community for a long time. However, it is important to note that debates about the definition of the "coastal zone" continue. Plenty of definitions are provided. Notwithstanding the variety of these definitions, they are linked together by one common and very important thought: the coastal zone is an area where interaction between man and environment is especially intensive.

The significance of the coastal zone in the context of the territorial development of Ukraine was first mentioned more than ten years ago. However, up to now, the concept of the "coastal zone" has not been accepted in Ukraine. It is not referred to in legislative or standard acts although it has global acceptance. Nonetheless, the authors of the Draft Act of Ukraine "On the coastal zone" suggest the following definition:

The **coastal zone** crosses the land-sea divide to include shore and contiguous water areas. It should be an area where natural systems remain in environmental balance and where coastal landscapes and seascapes and ecosystems are protected and where destruction, development and contamination are limited and economic activity controlled.

In our opinion, the best definition of the "coastal zone" is that proposed by the European Commission:

"The coastal zone is defined as a strip of land and sea of varying width depending on the nature of the environment and management needs. It seldom corresponds to existing administrative or planning units. The natural coastal systems and the areas in which human activities involve the use of coastal resources may therefore extend well beyond the limit of territorial waters, and many kilometres inland".

Does the coastal zone need to be managed?

The participants of the International Conference on Coastal Zone Management (1993) mentioned that: "Coastal zones typically involve multiple environments, including beaches, wetlands, coastal waters, estuaries, lagoons, agricultural land and urban and industrial areas. These zones provide multiple resources and opportunities for a wide variety of human activities. However, the rapid growth of traditional activities and the development of new activities have led to the overexploitation and degradation of many of these coastal environments". According to the estimates of

World Bank specialists, half of the population of coastal countries lives in the coastal zone and the migration of population from inland areas to the coastal zone has been increasing.

Why is there a need for coastal zone management?

To answer this question, let us once again turn to the materials of the International Conference on Coastal Zone Management (1993) where the main driving force was denoted as "the multiple demands of society and by the conflicts and opportunities that arise in the utilisation of coastal resources". Misallocation of the resources of the coastal zone and a lack of competent and scientifically grounded management methods often result in such negative (also for human) consequences as:

- loss of economically valuable land resources;
- · loss of properties;
- loss of naturally and aesthetically valuable lands;
- loss of marine and land species;
- loss of historically, culturally and archaeologically valuable objects;
- limits on free public access to the coast;
- noise pollution;
- air pollution.

The participants of the International Conference on Coastal Zone Management (1993) identified the lack of data, technology and financial resources as key reasons for the misuse of coastal resources. However, it is increasingly being recognised that to a large extent the degradation and over-utilisation of coastal resources are the result of deficiencies in the management arrangements or the structure of governance.

FOR THESE REASONS COASTAL ZONE SHOULD BE SUBJECT TO MANAGEMENT.

This can be achieved through coastal zone management which was defined by the World Bank as "essentially a "production function" that combines "inputs" (labour, natural resources, capital, time) to produce desired outputs, e.g. public beaches for recreation, navigation facilities, a specified level of water quality, mean annual fish harvests, the preservation of a marine sanctuary, or to reduce vulnerability to sea level rise and other potential impacts of climate change" 5

¹ The Situation in Europe's Coastal Zones. // http://europa.eu.int/comm/environment/iczm/situation.htm

²Management Arrangements for the Development and Implementation of Coastal Zone Management Programmes. International Conference on Coastal Zone Management. – 1993. – P. V.

³ Guidelines for Integrated Coastal Zone Management. / Ed. by Jan C. Post and Carl G. Lundin. - Environmentally Sustainable Development Studies and Monographs Series No. 9. The World Bank. - 1996. - P. 3.

Based on: The programme on distance learning in the field of complex coastal zone management «CoastLearn» http://www.biodiversity.ru/coastlearn/index.html

Management is the continuous activity, or process, of rational decision making and the implementation of those decisions to ensure the best use of resources to meet identified needs. (Jones and Westmacott, 1993) This includes five elements:

- I. Strategic planning of management activities
- II. Designing of detailed management measures
- III. Establishing an organisational framework, including financial arrangements
- IV. Operating and adapting the management measures
- V. Monitoring and evaluating outcomes

What does Integrated Coastal Zone Management mean?

Integrated, or complex, approaches to coastal management were introduced to try to achieve a balanced combination of human activity and environmental protection and the wise use of natural resources. Integrated Coastal Zone Management (ICZM) is now being more widely used to ensure the sustainable development of coastal regions.

Sustainable development is defined as development which meets the needs of the present generation without limiting future generation's opportunities to meet their needs. Or "a better life quality today and for future generations" ("Strategy for Sustainable Development of Great Britain").

So what does Integrated Coastal Zone Management imply?

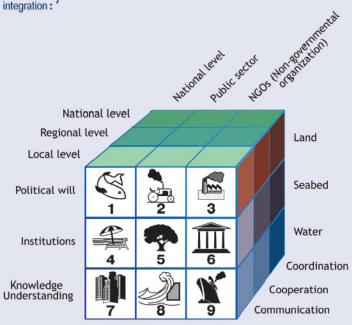
The authors of the Draft Act of Ukraine "On the coastal zone" suggest that *Integrated Coastal Zone Management* should be regarded as a complex and balanced approach to the management and use of coastal resources aimed at coastal ecosystem and landscape conservation for present and future generations while taking into account environmental, economic and social interests.

We should remember that ICZM IS CONTINUOUS PROCESS...

Therefore:

Integrated coastal zone management is viewed as a "dynamic process in which a coordinated strategy is developed and implemented for the allocation of environmental, socio-cultural and institutional resources to achieve the conservation and sustainable multiple use of the coastal zone" (CAMPNET).⁶

A Rubik cube idea is used to demonstrate the nature and complexity of integration: 7



Kevs:

- 1- fisheries; 2 agriculture; 3 ports and industry;
- 4 recreation; 5 nature and landscape conservation;
- 6 architecture, historical and cultural heritage; 7 residential area; 8 coastal defence; 9 shipping, navigation, safety & communications.

This shows the need for integration between sectors, levels and organisations, the pre-requisites for integration (political will, institutional frameworks, knowledge, conceptions) and the ways to move towards integration through coordination, cooperation and communication.

What challenges should Integrated Coastal Zone Management meet?

It is often hard to identify the advantages of integrated coastal zone management because of the multidimensional nature and the time duration of the process itself. However, the problems which arise if such an approach is not adopted are much easier to describe. They include:

- "Unnecessarily reactive management (responding after the fact to problems which should have been anticipated and avoided);
- «Cumulative effect (where the many small decisions made by different levels and sectors of government add up to major problems for the coastal environment);
- Transfer of problems from one sector to another;
- Predominance of short-term economic interests (often at the expense of nature and the environment and, in many cases, having a negative long-term economic or social impact);
- Fragmented geographical planning (lack of co-ordination between managers of land and marine areas, managers of different economic activities, or neighbouring communities bordering a single coastal ecosystem)".

⁵ Guidelines for Integrated Coastal Zone Management. P. 3.

⁶ Taussik J., Gubbay S. Networking in Integrated Coastal Zone Management. / Partnership in Coastal Zone Management. - Ed. by Jane Taussik & Julian Mitchell. - Samara Publishing Ltd. - Cardigan. - 1996. - P. 57.

⁷ Chua T.-E. Essential Elements of Integrated Coastal Zone Management. / Ocean and Coastal Management. – 1993. – P.P. 81-108.

[®] European Code of Conduct for Coastal Zones. / Model Law on Sustainable Management of Coastal Zones and European Code of Conduct for Coastal Zones. - P. 99, 98.

ICZM must try to achieve the following objectives:

- To promote sustainable use;
- To balance demand for coastal zone resources;
- To resolve conflicts of use;
- To promote environmentally sensitive use of the coastal zone;
- To promote strategic planning for coasts.

What should be done to put ICZM into practice?

Achieving ICZM means applying the "Four C's":

- Communication
- Coordination
- Cooperation
- Collaboration

Using all four of these "C's" is necessary to put ICZM theory into practice.

Putting ICZM theory into practice is not simple! It requires careful consideration as to how the different forms of integration can operate in the context of people's day-to-day working activities.

The integration principle for coastal zone management requires that the following types of integration are achieved:

- Horizontal intra-sectoral, intersectoral. Across the land-sea divide and international;
- Vertical between decision making levels;
- Geographical recognising scale and distance problems;
- Temporal recognising the different time frames of different activities;
- Inter-disciplinary

What steps should be made for approaching of ICZM in practice?

Ukraine's experience in ICZM is still very limited. Such countries as the UK, the USA Canada and Japan are much more experienced. Each of these countries has its particular features in ICZM implementation due to their existing management systems and national traditions. This suggests that Ukraine, in developing an integrated approach to coastal zone management, shouldn't just adopt experience from abroad. Good practice in ICZM should be examined and adapted to Ukraine's specific context.

Nevertheless, ten fundamental steps exist without which ICZM cannot be implemented. We will use our experience from the joint UK-Ukrainian project "Introducing ICZM for Strengthening Local Community Involvement in Sustainable Development", implemented in Ovidiopol District, Odessa Region, to try to describe these steps.

Step 1: Preparing the plan/strategy

A plan/strategy for coastal management which shows how economic activity should be balanced with environmental protection should be a concrete output of the strategic planning process. It should be based on sound science and relate to the long term. However, the process of preparing the plan/strategy is as important as the plan/strategy itself. This is particularly because the plan/strategy can be prepared in a number of ways: by one organisation; by a group of organisations; by hired consultants; or by one specialist or a group of specialists under the supervision of the main stakeholders. Choosing how the plan/strategy is prepared is, therefore, an important step as many stakeholders and organisations should be involved in the process, and communication and coordination between them is critical. But the plan/strategy is not the end itself. It is a staging point, the starting point for the implementation of ICZM. The strategy (plan) shows the way forward.

The report "The State and Problems of the Coastal Zone of Ovidiopol District and Opportunities for its Sustainable Development" and the "Framework Management-plan for the Coastal Zone of Ovidiopol District" were produced by the interdisciplinary expert team within the project to assist local government in the strategic planning of their coastal zone.

Step 2: Know your geography

Creation of a map of the coastal area is essential for understanding the general characteristics of the environment and natural processes in it.

The coastline adjacent to your area will be of primary interest. Don't get too 'hung-up' about where the 'coastal zone' is any activity/interest which influences the coast is included in ICZM. Strict boundaries for a coastal zone are therefore not recommended. Physical/geomorphological units based on natural processes are a useful starting point for defining the limits of a coastal/estuary/liman management plan but it is important to show neighbouring administrative areas that are likely to influence coastal management in the area of interest.

GIS-based maps of the Ovidiopol District Coastal Zone were produced for the project "Introducing ICZM for Strengthening Local Community Involvement in Sustainable Development".

Step 3: "Who is who?" in the coastal zone

Understanding who does what is essential to understanding how decisions are made about resource use and management. Therefore, the map of the coastal area should include an overlay of the boundaries of administrative areas to help identify which organisations are responsible for planning & management of resources. Related to this, the compilation of a Who's Who Directory can be very useful, making it simpler and easier for people to communicate and share information.





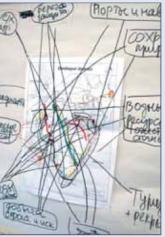
Step 4: Identifying issues: problems and opportunities

The first step in considering current and future management options is to consider thoroughly the activities, uses and pressures on the coastal resource. Listing 'problems' and 'opportunities' in a workshop is a simple and good way of identifying all the relevant issues.

The list of issues should be made available to a wide variety of stakeholders and local people so that they can flagup their concerns. The more open this process is and the more people that are involved, the better will be the long-term 'ownership' and acceptance of the coastal plan/strategy. It is also an important and valuable part of the process to encourage people to get to know each other better.

The tradition of centralisation rooted in the Soviet past of Ukraine does not always encourage open discussion and wide stakeholder involvement in coastal zone management. Nevertheless, the project, "Introducing ICZM for Strengthening Local Community Involvement in Sustainable Development", made concrete steps to change this tradition in the Ovidiopol District Coastal Zone: for example, workshop discussions between various stakeholders have taken place and there has been cooperative working on the report, "The State and Problems of the Ovidiopol District Coastal Zone and Opportunities for its Sustainable Development", which was subsequently published.







THE PROBLEMS THAT WERE IDENTIFIED FOR THE OVIDIOPOL DISTRICT COASTAL ZONE INCLUDED:

Biodiversity and landscapes:

 The degradation of natural landscapes (slopes, beaches) as a result of rapid development in the coastal zone without consideration of natural characteristics





- High level of land reclamation and an extensive area of ploughland, including ploughing of the water protection zone;
- Increase of anthropogenic pressure on natural ecosystems as a result of unregulated tourism (trampling of vegetation, disturbance of animals);
- Misuse of natural resources (poaching, unapproved sand recovery etc.)

Dangerous processes:

 Increasing landslides, ravine forming and slope failure;





- Intensification of erosion of slopes as a result of the disregard of land management regulations, cutting down of planned woodlands and overgrazing by cattle;
- Underlogging as a result of irrigation;
- · Change in the hydrological regime and an increase in water salinity of the

Pollution:

 Pollution of the small rivers, the Dniestrovskiy Liman and the Black Sea has resulted from the absence, or inadequate operation of, sewage systems and water treatment plants, from nutrients washing away from fields and from improper storage and use of pesticides;



- Ad hoc household waste dumps have been created and slopes and beaches have been contaminated;
- Air pollution from the increased use of motorcars in the coastal zone (especially during the holiday season)

Loss of historical, cultural and archaeologica heritage:

- Destruction of cultural heritage (tumuli, remains of ancient settlements) as a result of the privatisation of land without any agreement from the public authorities responsible for the protection of cultural and historical heritage;
- · Illegal excavations ('black' archaeology);

Socio-economic problems:

- Limitation of public access to the coast as a result of illegal and chaotic development;
- Loss of tourist attractiveness as a result of the degradation of natural landscapes, the decrease of biodiversity, pollution and the rapid
 - development in the coastal zone;
 - Conflicts of use in the coastal zone.
 - Economic losses and social problems expected in the longer term as a result of misuse of coastal resources today because of the lack of implementation of a plan/strategy for the coastal zone.



The value of the Ovidiopol District Coastal Zone for local community development includes:

Economic value:

 A natural resource for tourism and recreation and related economic activities and businesses.

Social value:

- Place for fun and recreation for local people and visitors from the City of Odessa, the Odessa Region and other regions of Ukraine;
- Source of income for the local economy;
- Providing scope for job creation due to the development of the leisure industry providing fun, entertainment, recreation and related services;
- · Improving local people's livelihoods.

Environmental value:

• the coastal zone is a valuable natural site. The variety of coastal (marine and terrestrial) habitats support high biodiversity including rare species registered in the Red Book. The Ovidiopol District is included in international, national and regional eco-nets: the 4th latitude, "the Azov-Black Sea Northern Coast", and the 2nd meridian, "the Dniester", international natural corridors pass through its territory. The district is included in the 11th national natural area, "the Lower Dniester", the 4th, the Azov-Black Sea Coast and the 5th, the Black Sea Coast the Dniester eco-corridors, and the 14th regional eco-corridor, "the Black Sea Coast". There is great potential for the creation of a local eco-net.

Archaeological, historical and cultural value:

there are 50 sites and objects of historical and cultural heritage located in the
coastal zone of the five local communities and the borough of Ovidiopol,
including: the remains of the ancient settlement of Roksolany (Nikonios) (VI
BC IV AD), recognised as a historic site of national value; 38 historical and
cultural sites and objects of local value, including ruins of the Adjider fortress
constructed in 1793 under the direction of Alexander Suvorov, the famous



Russian commander; and 11 newly discovered objects. It should be mentioned that the Ovidiopol District has the biggest number of discovered archaeological objects in Ukraine.¹⁰

Value for local and regional development:

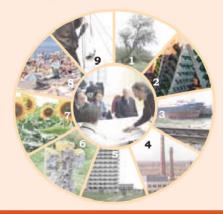
 As Ovidiopol District's Coastal Zone is part of the Odessa Region's Coastal Zone and the Ukrainian Black Sea Coastal Zone, it is valuable in environmental terms and for its potential for local socio-economic development. This should be considered when local and regional development strategies and programmes are produced.

Step 5: Understanding your sectors.

Everyone, people working in ports, fisheries, conservation, tourism or other activities in the coastal area, has their own interests and perspectives. Because the coast is so popular and fragile, it is essential that people work together to achieve sustainable development. Recognising the range of sectors can be done through a simple list or diagram. It is useful to use this illustration as a 'platform' to bring people together at meetings & conferences and to recognise we are all viewing the coast from different perspectives and need to listen to others to understand the whole range of issues.

The main sectors in the Ovidiopol District Coastal Zone:

- 1 conservation
- 2 wine-growing and wine production
- 3 transport
- 4 industry
- 5 construction
- 6 historical, cultural and archaeological heritage
- 7 agriculture
- 8 recreation
- 9 fishery



Step 6: Working together.

Meetings, conferences and seminars are an essential part of the ICZM process. Make sure they are open, that information about them is freely available and publicised and that the media are invited to take part in events.

In the long term (beyond the plan-making process), a structure for ongoing co-ordination, meetings & conferences and leadership of the ICZM process needs to be established. An annual forum can be a great way of encouraging coastal users and the community to hear about progress on issues (problems, opportunities) and plans and to provide them with information to help inform the decision-making process.

It is good to work towards formal endorsement of the ICZM process. This might be achieved by key organisations/decision-makers signing up to a Memorandum of Understanding or Partnership Agreement, illustrating their commitment to preparing the coastal plan/strategy, to the plan/strategy when it is prepared & to its implementation.

Within the project, "Introducing ICZM for Strengthening Local Community Involvement in Sustainable Development", this process was started through the working meeting which gathered together 22 representatives of various coastal uses, the workshop, "Introducing ICZM in the Ovidiopol District: objectives and opportunities", the international conference, "Integrated Coastal Zone Management: experience, prospects and its importance for the sustainable development of local communities" (June, 14th, 2007, Ovidiopol), and the training of local specialists and representatives of NGOs, "Models for co-operation and partnership building between stakeholders in the process of introducing ICZM" (June, 15th, 2007, Gribovka, Ovidiopol District). Collectively, these events brought together more than 100 representatives of local government, coastal uses, scientists and spe-cialists from Ukraine, the UK and Russia and they allowed discussion of the problems of the Ovidiopol District Coastal Zone. They also showed that open dialogue between public authorities and the community is possible.



Step 7: Pooling information supporting document.

Before progressing to plan preparation, information on issues (step 4) must be consolidated. It is important that the plan-making process is not based entirely on people's perspectives but is informed by scientific knowledge and data. A 'state of the coastal zone' report can be prepared as a supporting document to the management plan/strategy before or alongside the management plan. People from all sectors, interests and perspectives should be asked to contribute their knowledge. It is often best if the report is prepared by a neutral co-ordinator, to ensure that there is a balanced range of information for each sectoral interest and that all sectors are included.

For the Ovidiopol District Coastal Zone, a multidisciplinary expert team was created involving scientists, researchers and consultants from the Odessa Branch of the Institute of Biology of Southern Seas, the Institute of Market Studies and Economics & Ecology of the Ukrainian National Academy of Sciences, the Odessa National Mechnikov University, the Odessa State University of Ecology, the Centre for Regional Studies, the Centre for Development of Recreation Areas of the Ovidiopol District, and the Ovidiopol District Council. It produced the report, "The State and Problems of Coastal Zone of Ovidiopol District and Opportunities for its Sustainable Development". Much of this information is best conveyed on maps. The use of Geographic Information Systems (GIS) is an excellent way to present a lot of information. Pictures in a report and reference lists are valuable. This information can be presented as a supporting document to a management plan/strategy or form part of it.

Step 8: Preparing the plan (strategy).

Based on the identification of issues (step 4) and the supporting information, detailed analysis needs to be undertaken of options for managing the issues. Through research and consultation, a range of policies should be established. The practical actions by which these policies can be implemented should be identified. The involvement of all the stakeholders in this process is important, to ensure that policies and actions are agreed and that commitment is made to working towards their achievement. It is helpful to identify who will be responsible for each action and to provide a timescale for their completion.

The plan/strategy itself should have an overall time-span, typically 5-10 years. However, a longer timescale may be more appropriate in some circumstance. Whatever the time scale, commitment should be made to monitoring and to the review of the plan.

Step 9: Implementing the plan/strategy

The plan/strategy should be formally agreed between all authorities involved in the management of the coastal zone. This is important because their management decisions represent the way that the plan/strategy is implemented though it should be noted that the plan/strategy may involve concrete projects as well as day to day management.

The Centre for Development of Recreation Areas of the Ovidiopol District is a public company belonging to the Ovidiopol District Council. It was founded in 1992 to improve the management of the recreation areas of Ovidiopol District (Odessa Region).

Address: 169, Lenin St., Ovidiopol, Odessa Region, Ukraine 67801. Tel.: +38 (04851) 328 06.

Step 10: Maintain ICZM services a neutral platform

The plan/strategy is not the end of the process but a good launch pad! During the preparation of the plan, people should have started working together and gained ownership of the need for, and value of, a coastal plan/strategy. How can the momentum be kept up so that the plan/strategy does not just sit on the shelf?

Services to keep people working together are needed. Their provision is often best led by a person/organisation that has gained the respect of all stakeholders and who can provide a neutral platform for future co-ordination.

The services should be maintained for the long term. Projects to assist individual sectors may emerge. For these, different groups of people may work together. These projects should be seen as an extra benefit, whilst the provision of neutral co-ordination services is maintained for all. Care should be taken to avoid concentrating resources on one or two major issues or significant projects at the expense of maintaining overall co-ordination services.

The following services could be provided by a neutral co-ordinator:

- Holding an annual forum to maintain contacts between stakeholders, share information and revise the strategy/plan;
- Holding stakeholder and expert working meetings;
- Maintaining a website;
- Publishing information bulletins and a Who's Who Directory;
- Fundraising and grant-writing.

To facilitate long-term co-operation and maintain the momentum for implementing the coastal plan/strategy, it can be very useful to establish a partnership initiative where partners can sign up to long term collaboration (see step 6).

Now, in the Ovidiopol District, some of these services could be provided by the Centre for Development of Recreation Areas of the Ovidiopol District and the local

"Fortuna" is a local NGO founded in 2000. It deals with environmental education, helps with providing public access to information about the state of the environment in the area and supports community involvement in environmental protection. Its mission is the conservation of biodiversity. To this end, it provides assistance in recognising protected areas, monitors the environment and holds public hearings, workshops and seminars.

Address: 97, Lenin St., Ovidiopol, Odessa Region, Ukraine 67801. Tel.: + 38 (04851) 328 49.

THE COASTAL ZONE IS OUR COMMON RESOURCE. LOOKING AFTER OUR COAST, WE CAN PROVIDE A BETTER QUALITY OF LIFE FOR OURSELVES AND OUR CHILDREN!

Useful information on ICZM in English, Russian and Ukrainian:

Agenda 21 adopted at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janerio, Brazil, 3 to 14 June 1992:

http://www.un.org/esa/sustdev/documents/agenda 21/english/agenda 21chapter 17.htm

 $\textbf{CoastLearn-A} \ \text{multimedia distance training package on Integrated Coastal Zone Management: http://www.coastlearn.org/index2.html}$

Report "The State and Problems of the Odessa Coastal Zone" / Ed. by: N. Barker, O. Dyakov, I. Studennikov, J. Taussik. Odessa 2002:

http://www.crs.org.ua/index.php?page=publications&cmd=read&id=15

Studennikov I., Dyakov O.. Integrated Coastal Zone Management: Concepts, Principles and the Value for Sustainable Development in Ukraine (Published in: The Strategic Panorama. A quarterly magazine of the Council of National Security and Defence of Ukraine. Kiev, 2005. No 3. P. 107-116): http://www.niisp.gov.ua/vydanna/panorama/issue.php?s=epol2&issue=2005_3

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