

# TRAINING OF MARITIME SPECIALISTS BASED ON THE CONCEPT OF SUSTAINABLE DEVELOPMENT

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The term “Sustainable development” was first introduced into general usage at the UN Conference on Environment and Development (Rio-de-Janeiro 3 – 14 July 1992) as an alternative to former nature-ruining course previously pursued by the Mankind. The principle issue was the transiting of our civilization to the strategy of development which should ensure the survival and further sustainable development of human society. But this requires maintaining of the environment in good order and the preservation of cultural, spiritual and informational resources.

It is absolutely evident that the successful solution of various problems on the way of transition on the course of sustainable development in the frameworks of different industries, state, regions and in the world at large depends first of all on the people, their knowledge, preparedness, motivation and attitude to the above concept. In this connection a prominent place in the national concepts of transition to the sustainable development many countries occupy the issue of educational systems with the purpose of informing the population, training of the specialists in the concerned sphere.

The basis for the above transformation in the educational establishments of different levels is the principal provisions of the international documents adopted at the intergovernmental forums. The UN General Assembly, at its 57th Session (2002), proclaimed a Decade of Education for Sustainable Development (DESD) (2005 - 2014) and designed UNESCO as lead agency for its promotion.

It is evident in the view of all above, that the graduates of maritime educational establishments should join the shipping industry not only professionally competent but also well informed about the purposes and principles of the mankind sustainable development, the place and role of the marine transport operations at sea. In the Odesa National Maritime Academy, engaged in training specialists for the employment on board the ships of the National Fleet and foreign companies, these issues are the matters of high priority in the courses of all professional disciplines.

At the end of last century the world community was imposed with the vital question: What is it necessary to do to prevent the universal catastrophe on the Earth? Scientists of

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different countries, having studied the course of world system of mankind development, have come to distressing conclusions: the growth of the Earth population, accompanied with industrialization and increase of foodstuff demand, alongside with environmental pollution, in the nearest future will reach a certain limiting value, exceeding which will start abrupt diminution of the number of people on the planet, followed by loss of mankind. Altogether with this the concrete reason of the global catastrophe may be different – starvation due to lack of foodstuff, death caused by epidemic, loss of people at wars for resources possession and holding, etc. In other words, the growing pressure of the civilization on the biosphere has reached the border of its adaptative possibilities, on the other side of which lies irreversible degradation. Also, while biological species, inhabiting the Earth, adjust their vital functions in different ways, people adjust the environment to their needs, exposing it to inevitable exhaustion and destruction. From the standpoint of the above, it becomes clear that one of the central directions of the future stable society formation has to be the globally-scaled organization of economical activity, which will not destruct the biosphere, but, on the contrary, preserve it, thus being ecologically permissible. People of the Earth have to transform all the spheres of their vital activities in such a way, as to diminish the pressure on the environment significantly. It is a very complicated task requiring development of new approaches, modern management model, based upon the principles of ecological longevity and reliability. At the International UNO Conference on Environment and Development (Rio de Janeiro, July 3-14, 1992), providing participation of 179 countries' representatives, the concept of sustainable development was proposed, laid down in the form of 27 principles in the final document – the Declaration. Within the latter, in particular, it is stated that for mankind survival and sustainable development environmental protection must become an unalienable part of development process. Of course, all this also refers to maritime transport activities, which serves 80% of international goods transportations. Though maritime transport is one of the least environmental-polluting types of transport, the volumes of shipment of oil and mineral oils are constantly growing, and, consequently, increase the danger of sea vessel-source pollution.

In this connection the role of IMO rule-making activity on implementation the principles of sustainable development in the world maritime industry is becoming more and more important – by means of development, approval and control over putting into practice international agreements and normative documents on safety of shipping and environment protection from pollution. And now work in this direction is one of IMO priorities, which is testified by, in particular, the statement of IMO Secretary-General Mr. E. Mitropoulos in «IMO News» Journal [1]. Expressing his opinion on the way shipping must react on modern society demands, he states that «The earth and its resources do not belong to us and are not ours to squander without thought for the future. Not before time, global society is coming to accept this and, as it does, shipping has to ensure that its activities are sustainable. Sustainability in this context is normally

understood to mean that any negative impact an activity may have on the environment must be reduced to the point where it is clearly outweighed by the positive benefits that the activity brings». It is also symbolic that the topic of the World Day of the Sea in 2007, which is planned to be celebrated in Brazil, will be «IMO`s response to current environmental challenges».

Undoubtedly, the many-sided and fruitful IMO work on advancement ideas and principles of sustainable development in one of the first-rate and most important industries of world economy must receive constant support from the side of maritime administrations, enterprises, institutions and organizations of those countries fulfilling transporting operations at sea. It is also obvious that the successfulness of development of different tasks on the way of transition to sustainable development within the limits of separate fields, states, regions and in world scale depends in the first place upon people – their awareness, preparedness, motivation, attitude. That is, finally upon the level of knowledge and education of all strata of population in matters of sustainable development of civilization, which has no alternatives.

- Integration of sustainable development in the system of education at all levels;

- Assistance to development of education as the base of sustainable society;

- Improvement of international cooperation for development of innovatory policy, programs and practice of education for sustainable development.

It is considered that for the specialists, involved in the sphere of education, the input into realization of the Decade can be: inclusion of the ideas of sustainable development in educational disciplines and courses, elaboration of separate courses of education for sustainable development, preparation of educational guidelines in this area, retraining of staff according to the concept of sustainable development.

The essential contribution into international coordination of actions in the sphere of education for sustainable development was done at the 54th conference «Environment for Europe» (Kyiv, May 21 – 23, 2003), gathered at the initiative of European Economic Commission of UNO. The ministers of environment of 55 countries of regions of Europe, North America and Central Asia signed the Statement of enlightenment with the aims of sustainable development achievement.

The Statement read about the decision, adopted by the ministers, to develop regional strategy in the sphere of sustainable development to 2005, that is for the beginning of the Decade. The ministers also summoned the states to «integrate the sustainable development within the systems of education of all levels, starting from pre-school and up to higher, including informal education, education in non-governmental sector, with the aim of education becoming the key factor of changes». The project of regional strategy of European Economic Commission of UNO in the sphere of education for sustainable development was elaborated earlier during the preparatory stage of the conference and later submitted as an annex to the Statement of ministers under the title «Basic elements of EEC UNO strategy on enlightenment in the interests of sustainable

development». This project has become the case for further work over the document under the patronage of the Committee on ecological policy of UNO and with participation of different interested organizations and parties of society. In October 2004 at the 11th session of this Committee new provisions of the strategy, which fulfillment start was estimated for March 2005, were considered.

This strategy was developed with consideration of experience, accumulated at the region and at global level. Its base was formed with the help of more than 40 documents, among those known documents of Bologna process. It is planned that for 2010 every country must take the decision of adaptation of its legislation, policy and institutional mechanisms with consideration of needs of education in the interests of sustainable development.

In February 2005 at mutual meeting of the highest level the strategy of the Decade of education in the interests of sustainable development of EEC UNO was approved.

Finally, in August 2005 in Paris at the 72th session of Executive Council of UNESCO the «Project of international plan of measures and activities within the limits of the Decade of education in the interests of sustainable development of UNO (2005 – 2014)», which was drawn on the base of profound consultations with national governments, organizations of civil society, scientific enterprises, experts and specialists, was considered and approved. The plan of measures and activities is a strategic document, and main attention in it is drawn to revelation of the aims, which the governments are bound to achieve within the limits of their participation in the Decade of education in the interests of sustainable development. It is stated, in particular, that at the national level such aim is the «creation of possibilities for elaboration and popularization of the concept of sustainable development and transition to such development within the limits of all forms of education, enlightening activities and staff training». The partners of UNESCO in realization of the plan at local, national and regional levels will be governmental sector, civil society and private sector. The main role in realization of national plans within the limits of the Decade is given to ministries and institutions of education and science.

Thus, nowadays there exist basic documents at European and international levels, making it possible for countries to work aiming at reorganization of their educational systems in the interests of sustainable development.

The main components of education in the interests of sustainable development, as defined by UNESCO are: education (training), training and retraining of staff, elaboration of skills, definition of systems of values, informing and enlightenment of the population regarding understanding sustainability, upgrading the quality of life and diminution of risks. Among the main directions of education elaboration for sustainable development an important part is taken by re-orientation of existing education at all levels for solving matters of sustainable development. It is recommended to re-orient curricula at the direction of social, ecologic, economic knowledge, perspectives and

formation of skills and values, needed for sustainable development. Re-evaluation and revision of education – from school and up to university – supposes that it will include as much principles, knowledge, opinions and values, connected with provision of sustainability in three spheres: the environment, the society and the economy, as it is possible. In UNESCO documents it is stated that education for sustainable development is interdisciplinary. None of educational discipline can embrace all the aspects of such education, but all of them can make their input in it. There is no universal model of education in the interests of sustainable development that is why every country needs to define its priority tasks and actions in this field.

World leaders in the sphere of education in the interests of sustainable development are Great Britain, Sweden, Australia, the Netherlands, Norway, Russia. In these countries they have not only adopted the necessary official documents and fulfill their realization in the system of education, but also hold serious scientific research at the given problem. In Ukraine there are also certain achievements in this direction. There has been elaborated the Concept of sustainable development of the country, which after the approval by the Supreme Council in the status of the law will become the base for the development of the corresponding strategy. In December 2001 the Collegium of the Ministry of education and science of Ukraine approved the Concept of ecologic education in Ukraine, in which, in particular, it is stated that one of the main tasks of ecologic education is the «development of personal responsibility for the condition of the environment at local, regional, national and international levels, the ability to forecast personal activities and other people and collectives actions» [2]. The conditions of the Concept realization presuppose formation of ecologic culture of specialists and inclusion of the section on environmental protection and rational usage of nature into diploma thesis of graduates of higher technical educational institutions.

In this connection it seems expedient to note that at ONMA, which trains specialists for work on board vessels of national fleet and foreign companies, the matters of environmental protection from pollution, practical usage of international documents and standards, acting in this sphere, conscientious and responsible attitude of future ship officers towards these responsibilities occupy priority part of the programs of special disciplines. Alongside with this, as a rule they are interconnected with the matters of provision of shipping safety, which makes training of ship officers at this base corresponding to the spirit and the principles of the concept of sustainable development of world society.

Really, sustainable development and general safety of mankind are interrelated: this was pointed out by UNO Secretary-General C. Annan in 1999 in his report of UNO work [3]. He stated that «equitable and sustainable development is one of the necessary conditions of safety provision, but provision of minimum safety standards, in its turn, is one of the preconditions of development. The strive to solve one task in isolation from another does not have much sense». Later this matter was repeatedly considered at

different conferences, in materials of scientific institutions, publications. As the summarized total of their results it may be considered that sustainable development, that is preservation of human culture and biosphere, is impossible without provision of their mutual safety. It is obvious that sustainable development of world maritime transport, in the interests of all mankind, has to be fulfilled with minimum negative influence upon the environment, which can be achieved only with the high level of ships operation safety.

Starting from these prerequisites, acting on international and national documents with the aim of concentration in one place and systematization of knowledge on safety and environmental protection during the operations at sea, effective fulfillment of the requirements of STCW Convention and Code regarding maritime specialists' professional knowledge, development of scientific elaborations, by the Scientific Council of ONMA it was decided to create in the year 2003 the department «Safety and security at sea». Nowadays the chair has elaborated a number of educational disciplines which totally cover all main aspects of safety shipping provision and prevention of maritime and air environmental pollution while ships' operation. (see fig. 1)

These disciplines, including lectures, practice and seminar studies are provided with the necessary educational and methodical materials which are taught at the senior courses of the academy faculties in order graduates start their carrier not only professionally trained, but also enriched with knowledge regarding aims and principles of sustainable development of humanity, places and roles of maritime transport in their practical realization, necessity and possibilities of environmental prevention in process of transport operations at sea.

Big attention is paid to foster cadets' careful attitude towards people, nature, culture values, cultivation of the elements of ecological culture and culture of safety. The cycle of interrelated disciplines is oriented on achieving these aims, the statement of which is fulfilled in accordance with principle « from general to particular» and «from simple to complicated». It is considered to be necessary to give the students the characteristics of ecological, economical and social part of sustainable development, the interrelation with safety as in theoretical plane, as so to apply to conditions of industrial activity of marine transport. In particular, regarding the role of «human» element in provision of safety at sea, on the base of minimization of risks for people, property and negative influence on environment.

The methodical maintenance of educational process at the department is constantly improved by the way of working abstract lecture, educational and practical allowance, experiment-graphical and other materials are based on various information, getting from native and foreign sources, the results implementing by scientific-research of elaboration. In addition to lecture materials and for individual study by cadets of separate questions, the department has prepared and published a number of books on safety and environmental protection, in particular, «The lessons of the sea», «Management



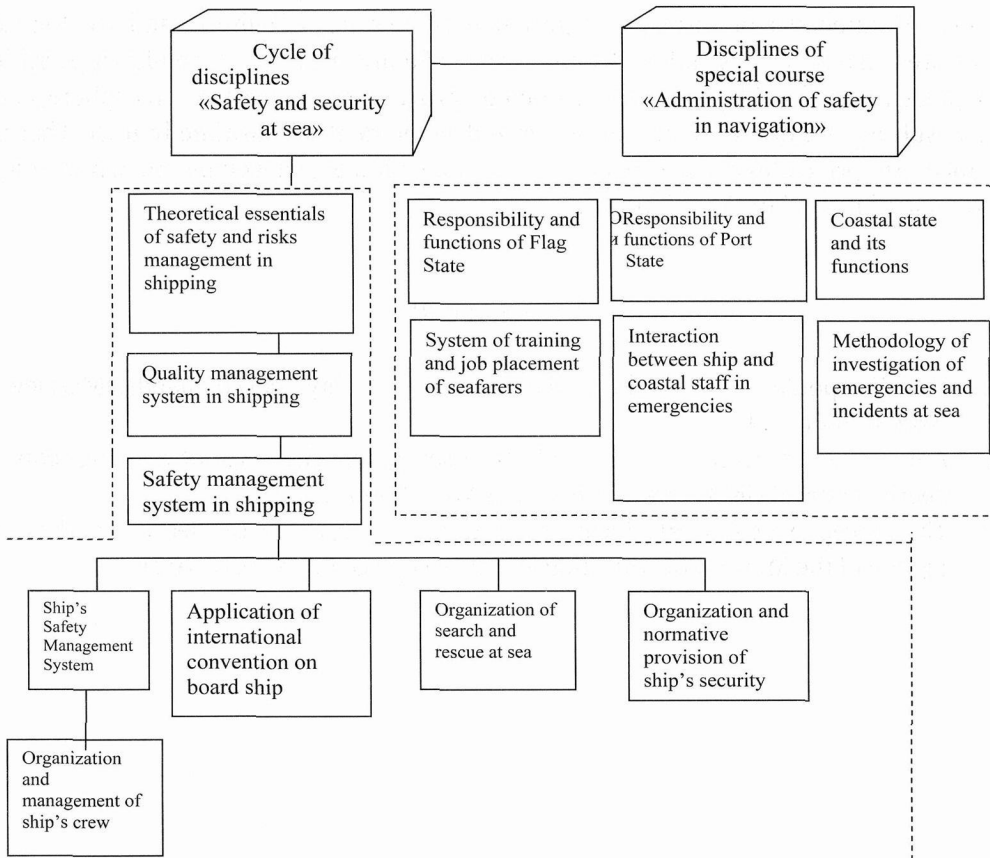


Figure 1. Structural-functional scheme of educational disciplines of Safety and Security at Sea Chair of ONMA

of crews», «Application of international conventions on board vessel», «Ship safety management system», «IMO and ILO maritime conventions, codes and recommendations», «Risks in shipping » and a number of others. Naturally, that all doesn't mean, that created on the chair of safety and security on sea is structure-functional scheme of cycle safety of navigation is in full of measure fit with modern aims and problems of training for the future ships officers, including interest settled development. Still many things have to be done and collective of department is working about this, following the principle of UNESCO: «Teach and study for the sake of sustainable future». Obviously, a big attention should be paid to education of academy graduates «ecological cultural» transport production, which should be taken as the unity of ways activities, national and spiritual valuable repelling the state of maritime interaction of association and nature. The purpose of this is to show the necessity of ecological evaluation of all decision making in process of ships operation and ensuring of safety natural environ-

ment. Maintenance of norm and requirements «the safety of culture» and «ecological culture» on board ships and on the enterprises of maritime transport makes it possible to present like dirigible balance development, providing preservation of biosphere, and also subsequent existence and progressive development of maritime branch. That is replying to principles of the Convention of sustainable stable development of humanity, was stated in Declaration of Rio 92.

## LITERATURE

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