

UNIVERSITIES AND EDUCATION FOR OCEAN AND COASTAL MANAGEMENT

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It is indeed a great honour to have been asked to deliver the key-note address at a conference as important as the present one. Let me add that it is also a great pleasure, particularly because the two organising Universities, the University of Malta and Dalhousie University, are my favoured Universities, with which I have had long and fruitful associations, and that on a theme, the oceans, which is my favoured theme.

And one of the things that both these Universities have in common is that they are hosts to operational centres of the International Ocean Institute. Let me mention here that among the participants in this conference there are 5 other Universities which are hosts to IOI Operational Centres, and I shall come back to these later: All of us are trying, and have been doing some hard thinking, to respond to the challenge of the theme you have invited me to deal with, namely: the role of Universities in advancing the peaceful uses and sustainable development of the oceans and solving the daunting and mounting problems of overdevelopment on the one hand and poverty on the other, in coastal areas which interact with the seas and oceans -- and that in a time of upheaval that is shaking the social order to the core.

Add to this that, within this general upheaval, the University itself is in a deep crisis, burdened as it is with antiquated structures that correspond to the needs of centuries gone by, based on departmentalization, catering to specialization; crippled by dwindling public support and faced with a generation of young people who either cannot enter because the costs are too high or find no jobs after they get their degrees and join the skin-heads.

And yet, we all know that education is the key to the kind of new social, economic and political order we need for the 21st century, nationally and internationally. We all know that Universities, traditionally, have led the process of change. Students have been agents of progress and inspired the advance of democracy. Where are they today?

Now, along with, and part of all this turmoil and crisis, comes something that has been called the Blue Revolution, or the penetration of the industrial revolution into the oceans, with all its inherent dangers, its challenges, and its potential for the future.

I need not spend any time stressing the basic importance of the world ocean in the development of human society, the maintenance of peace, and the health of the biosphere, because we are all aware of that. What we sometimes forget is that two of the world's largest industries: tourism and trade are very largely ocean-dependent. Another interesting figure, which came out of our recent hearings on the oceans in China, is that over sixty percent of China's rapidly growing GNP is contributed by its coastal areas.

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I need not spend any time either on the point that we must ensure that this sort of ocean-dependent, ocean-related development must be made sustainable.

What I do want to stress here in the context of our University theme is that working with the oceans have forced us to think differently, to behave differently, from the ways we have been thinking and behaving on land for a few thousand years. It is in the seas and oceans that the new concepts of "the transparency of boundaries," of horizontal integration, of interdependence and interaction, whether between states, regions and "the global neighbourhood" or between sectors and disciplines becomes palpable, hits us between the eyes. We try to carry our hoary, terrestrial principles of boundaries and sovereignty into the oceans, and look what happens! Talk to the fish! Talk to the winds! They laugh at our boundaries; they ignore our sovereignty. The Law of the Land cannot swim. We need the Law of the Sea.

And the Law of the Sea, though still burdened with remnants of terrestrial thinking and political compromise is different in kind and bears the seeds for genuinely new order, based on the concept of the ocean as the common heritage of mankind and the concept of the close interrelatedness of problems which must be considered as a whole. Both concepts, lest we forget, were introduced at UNCLOS III by Malta through our great friend, Ambassador Arvid Pardo.

These principles have vast legal, institutional, managerial, and educational implications which are bound to affect the philosophy, the structure, the function and the role of the University: the contribution it can make to the emerging new social order: which is the yardstick to measure the "relevance" of the University.

And is it not fascinating -- though not surprising -- to note that it is the ocean university -- a totally new phenomenon -- or the ocean-related part of the University -- that is at the vanguard of this change, this transformation, which then will affect the University and the educational system as a whole?

We need to educate, to evolve, a new type of political leader and decision-maker; a new type of civil servant; a new type of scientist; a new type of businessman; a new type of citizen who not only "knows," but lives and breathes the new principles. We need profound attitudinal and behavioural changes.

Since our ocean-based and ocean-related activities may affect the health of the ocean, alter the status of the oceans, which, in turn may have profound social and economic effects on coastal communities, states, on continents and the global neighbourhood, we need more and better science, everywhere, but especially in developing countries, to understand these interactions and interdependencies and provide a basis for decision making.

To produce this science, Universities need more public support, not less. Governments which cut their educational budgets and reduce their contributions to universities are cutting their noses to spite their faces. Ten years, twenty years down the road, they will pay dearly for the money not spent today. From first-rate powers they will be degraded to a second or third-rate status while the Governments that support science and technology will rapidly move up.

Public education is the basis of democratic government. The retreat of government from its educational responsibilities, the "privatisation" of education, is a retreat from democracy.

To produce this science and ensure its relevance to the process of governance, and citizenship, new partnerships are needed between universities, governments, industry and what is now called "the civil society," including the sector of nongovernmental organisations.

These partnerships may be productive: they may also be fraught with problems that may become a real threat to the independence of the University and the freedom of scientific research, especially where industry is very powerful and universities, weakened by defaulting Governments, become dependent on industry contracts and instruments of industry enrichment. In a real and productive partnership between the University, the Government, industry and the civil society, Government maintains its support and extends it to applied research and research and development. Industrial technology, developed with public funding, is a common heritage of mankind, which must be made available to those who need it. This, of course, applies in particular to environmentally and socially sustainable technologies which need to be "transferred" to poor countries through processes which cannot be left to market forces. North-South and South-South cooperation among Universities, in partnership with industries and governments, in the joint development of sustainable technologies is essential if we want to overcome the development gap and move in the direction of eliminating poverty.

The Law of the Sea Convention provides the legal framework for this kind of cooperation both at regional and global levels. The provisions of Articles 276 and 277 need to be elaborated, developed, and implemented.

Malta, once more, has pioneered with a proposal for the establishment of a Mediterranean Centre for Research and Development in Marine Industrial Technology, MEDITECH, which, although not yet implemented in the Mediterranean, has, in the meantime been taken up also in the Caribbean and in the Indian Ocean.

Meetings like the present one, could strengthen the role of Universities in this development.

I can see two more challenges and opportunities arising for the University from the needs of ocean and coastal management.

Education for ocean and coastal management must be interdisciplinary. The manager and decision-maker in the oceans must be at home both in the social and in the natural sciences if he is to be able to generate what is broadly called "integrated coastal and ocean management."

Ocean management, if it is to work, must be "participational," from bottom up, not from top down; it must include, in its decision-making processes, local communities, municipal governments, fishermen's cooperatives, port managers, scientific institutions, indigenous people, and NGOs. All this, in accordance with the Brundtland Report and the vast literature on the subject that derives from the Brundtland Report.

Both the interdisciplinacy and the participational requirements of ocean and coastal management challenge the traditional organisation of Universities and require structural changes and new partnerships.

Different Universities will find different solutions.

Our International Ocean Institute has developed, over the past 10, 15 years, one sort of solution to these problems, which I would like to briefly explain as a case study, in conclusion of my remarks.

Our formula is: partnership between a University and an NGO. The NGO, in our case, the International Ocean Institute, with the support and cooperation of the University, is nevertheless free to develop a curriculum that is truly interdisciplinary, drawing on all competent departments and faculties in the University and outside of the University, including industry, governments and intergovernmental organisations. Not as if it were easy for the NGO to develop such a curriculum. It has taken us years, and it is a process that is for ever unfinished and must be updated and adjusted every year. We keep learning. The world is changing so rapidly, and we have to educate ourselves as well as our course participants for change. But in developing such programmes or curricula, the NGO has a much freer hand than the departmentalized University.

It is then, of course, desirable, that the programme gets full recognition, including credit towards an academic degree and that it be utilized, perhaps, as a foundation course for a degree programme.

As for the participational requirement: Universities, at least in many countries in the "North," are rigid in their entrance requirements; candidates have to produce records, grades, degrees which often are difficult or impossible to attain in developing countries, especially those that have been or are in turmoil, civil wars, etc.

The NGO is free to accept into its programmes candidates who do not have the necessary university qualifications, but where native intelligence plus working experience may well compensate for the lack of formal education.

In our training programme at Dalhousie we combine degree students and working participants in one and the same course. Most are working participants who return to their work in their developing country with a certificate issued by the International Ocean Institute. Others continue their University education, with due credit for the work done in the IOI course which is extremely intensive. Our programme at Dalhousie comprises, in ten weeks, three hundred classroom hours, plus field trips and the writing of a research paper.

The NGO also has far more flexibility in instituting networking mechanisms than a big, established University.

The IOI has very much utilised this flexibility. Having developed its training programme at Dalhousie and in Malta, it has carried it all over the world. Supported by a grant of the Global Environment Facility (GEF) we established 4 new Operational Centres, as we call them, in cooperation with prestigious institutions, in India, at the Indian Institute of Technology, in Fiji, at the University of the South Pacific, in Costa Rica, at the National University of Costa Rica, and in Senegal at the Centre for Oceanographic Research. Two more Centres have been established most recently on the initiative of the host institutions and the host governments: the IOI Operational Centre at the National Ocean Data Centre in Tianjin, China, and the IOI Operational Centre at Yokohama University in Japan. More are coming during the next two years.

The contributions each one of our partner institutions have made to the development and implementation of the programme is beyond belief, and the networking among all of them, IOI Operational Centres and partner Universities has been, and is, exciting, inspirational and mutually beneficial.

Let me say one thing in conclusion: There must be an explanation for this rather unique experience. What is it that keeps it going?

I think it is the spirit and purpose of the whole undertaking -- often lacking nowadays in traditional universities.

In spite of the tragic situation prevailing in so many parts of the world today, in spite of the forces of disintegration and destruction at work almost everywhere, we feel inspired and moved by the Great Sea Change, by the new thinking and the new hopes that the goal of sustainable ocean development, ocean governance, the Law of the Sea, converging with the goals and the hopes of the Rio Conference on Environment and Development have put before us. We see in it the beginning of a new, more equitable, more cooperative social order, including a restructured United Nations system. We share with our course participants and with our partner institutions this underlying philosophy, and I think that is the secret of our success.