



PLENARY SESSION

Theme 2

INVOLVEMENT OF WOMEN AND YOUTH WITHIN THE MILLENNIUM DEVELOPMENT GOALS STRATEGIES: OPTIONS AND CHALLENGES RELATED TO THE OCEAN PROTECTION

Wednesday 7 November 2007

09.00-10.30

Chameleon Suite

Corinthia Palace Hotel, Attard, Malta

This theme deals with the ways in which women and youth may become more fully engaged in advancing the MDGs and promoting the UN Decade of Education for Sustainable Development. Women and youth have a focal role to play in the sustainable use of ocean resources, with a commitment to protect the marine environment, and targeting an equitable sharing of benefits between peoples in support of the eradication of poverty. The sessions emphasise the need for curriculum development, teacher training and capacity building, through global training partnerships towards the creation of appropriate employment in maritime and related services. They also seek to find the most appropriate language for reaching all youth through the utilization of the new media as well as advanced tools for communication, public awareness and action. A Youth Ocean Parliament and a Women's Ocean Caucus organized under this theme indicate ways of facilitating the advancement of these objectives, and help to frame the way forward.

Chair: Hon. Louis Galea, Minister of Education, Youth & Employment

Rapporteur: Sumia Magnoui



Furthering the Role of Women and Youth in the Protection and Development of the Marine and Coastal Environments and their Resources

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Abstract

The present article underscores the environmental, social and economic importance of the marine and coastal environments and their resources. It further stresses the urgent actions needed at all levels to protect these resources, being under increasing threats of ecological collapse due to mismanagement and over-exploitation, in addition to other emerging and challenging problems.

The role of the civil societies in protecting and developing these resources in a sustainable manner is emphasized. As the women and youth groups of these societies form together more than two-thirds of the population, they have a key role to play in establishing and maintaining sustainable lifestyles in their communities. There is, however, a pressing need to boost this role. To this effect, concrete actions by these two major groups are highlighted and recommended, with a view to achieving the full, equal and beneficial integration of women and youth in the development activities in general, and in particular, in local initiatives aiming at the protection and sustainable development of the marine and coastal environments and their resources. The main thrust of the recommended actions is to improve the environment and the welfare of the local communities. This could be achieved by getting the concerned communities involved in numerous projects and initiatives to keep their marine and coastal areas clean and healthy, and by furthering their participation in the environmental movements at the local and global levels that will hopefully attain sustainability and shape the future of this planet.

Introduction

Social and Economic Importance of Oceans and Coastal Areas and their Resources

Our planet 'Earth' could actually be called our planet 'Ocean', since more than 70 percent of the Earth's surface is covered by oceans. This is a well-known fact. It is also known that at least 4 billion people of the World's population depend on the ocean for their primary source of food, and more than half of this population lives within 60 kilometres from the coastline, a figure which could rise to three-quarters by the year 2020 (UNEP, 1995).

Oceans are the home for more than 120 species of mammals, as well as numerous types of other forms of life. They attract tourists to their shores for various recreational activities, thus providing a substantial source of income to many countries.

The oceans also have become a network of shipping lanes and a supplier of energy, minerals and medicines. These contributions will certainly grow as technology advances and the resources of land become more scarce.

The coastal areas are as important as the oceans. They host diverse and productive habitats important for human settlements, development and local subsistence. The coastal resources are vital for many local communities and indigenous people. The Exclusive Economic Zone (EEZ), which extends 320 kilometres out to sea, is an important marine area where countries are responsible for managing the development and conservation of natural resources in water and beneath the bottom for the present and future benefit of their people.

Marine and Coastal Environments and Resources under Threat

According to significant and growing evidences, oceans and especially coastal areas are now under threat of ecological collapse due to mismanagement, abuse and overexploitation of resources.



It is rather alarming that most of the damage that is happening in the marine and coastal environments is a direct result of human insult to the environment. Most of the human wastes created on land end up in the sea. Oceans and coastlines around the world are littered by plastics and debris, including both buoyant and persistent materials such as plastics, fishing nets and lines, wooden fishing boxes, packing bands and shopping bags. All tend to choke or strangle marine organisms through ingestion or entanglement.

Unfortunately, humans are treating the oceans as a giant trash receptacle. Organic chemicals, such as DDT and PCBs, and other Persistent Organic Pollutants (POPs), are now common contaminants in marine waters everywhere. Furthermore, the discharge of largely untreated municipal sewage, containing both human and industrial wastes, is one of the largest sources of contamination in coastal waters, and, unless urgent interventions are introduced and stringent regulations are enforced, this will probably increase as population in coastal regions continue to grow.

Accidental oil spills from oil tankers and other forms of maritime transport, and oil spills that often result from armed conflicts, such as the Gulf oil spill in 1991 and the Lebanese oil spill in 2006, are major sources of long-term marine and coastal pollution by oil. These oil spills devastate marine habitats and kill fish, mammals and birds. More oil finds its way to the marine environment from street runoffs, industrial facilities' effluents and from ships illegally flushing their tanks at sea. An estimated 21 million barrels of oil enter the seas annually this way.

Overexploitation is another real threat to the living resources in the ocean that has long supplied humanity with food. According to the UN Food and Agricultural Organization (FAO), 70 % of the world's commercial fishing grounds are depleted, fully exploited or just started to recover from previous over-fishing.

It is also alarming that development activities and large investments are taking place mainly in the coastal areas. The coastal zones, worldwide, provide sites for human habitation, recreation and tourism, agriculture, waste disposal, and are taken as a base for industrial, trade and transport systems.

Aside from these problems that have existed for several decades, the future of the planet's oceans and coasts are confronted with other challenges and emerging problems.

The phenomena of global warming, climate change and the associated sea level rise have already manifested their effects on marine ecosystems and have shown evidence of negative impacts on the coastal areas, particularly in low-lying areas and small islands in many parts of the world. Several studies and analyses indicate clearly that oceans and coastal areas and their ecosystems are subject to several impacts of climate change. These studies confirm, beyond any doubt, that we are destined for a temperature increase and rising sea levels, no matter what we do. The questions are: by how much, and where will the worst affected areas be?

The potential impacts, likely to be associated with such temperature increase and sea level rise that would adversely affect marine and coastal ecosystems in many oceanic areas, have been extensively reviewed by UNEP (1992) and Gerges (1994, 2004).

Significance of Protection and Development of Oceans and Coastal Areas

Recognizing the vital role of the world's oceans and coastal areas in sustaining life on Earth, 184 of the world's governments, convened at the highest political level in Rio in June 1992 at the first Earth Summit (The UN Conference on Environment and Development, UNCED), have reiterated collectively in Agenda 21, the United Nations Programme of Action for Sustainable Development, that the marine environment, including the oceans and coastal areas, form an integral whole that is an essential component of the global life support system. They further noted that the world's oceans and coastal areas, and the communities that depend on them, are under threat, and declared that the world needs "new approaches to marine and coastal area management and development, at the national, sub-regional and global levels." (United Nations, 1993)



Ten years after Rio, in September 2002, at the World Summit on Sustainable Development (WSSD), the leaders of the world reconvened and agreed to an agenda to achieve sustainable development of, *inter alia*, oceans, coasts and small island developing states (SIDS). The Agenda included specific targets and timetables for action, covering the following areas:

- Integrated ocean and coastal management
- Fisheries
- Conservation and Biodiversity
- Protection from marine pollution
- Implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States (SIDS).

What is Sustainable Development?

The World Commission on Environment and Development of 1987 declared that development is sustainable only if it “meets the needs of the present, without compromising the ability of future generations to meet their own needs.”

In the global context of the sustainable development process, oceans, coasts and small islands form an integral part of the process since they support a diverse array of activities yielding enormous economic and social benefits.

Role of Civil Society in Achieving Sustainable Development of Oceans and Coasts

The Rio Declaration of the 1992 Earth Summit, in its Article 10 stated that, “Environmental issues are best handled with the participation of all concerned citizens, at the relevant level”

The Agenda 21, adopted by the Earth Summit in Rio, identifies nine primary sectors of civil (human) society. These sectors are called “major groups”. On the top of these major groups come the two main groups of society: “Women” and “Children and Youth”, followed by other 7 groups: indigenous people, NGOs, local administrators, workers and trade unions, business and industry, scientists and academics, farmers, fisher folk and rural agriculturists.

In Rio, more than 100,000 community environmental organizations that have been formed since the Stockholm Conference in 1972, were given a significant boost, which was reflected in the unprecedented level of participation in government affairs from the Non-Governmental Organizations’ (NGO) community. Following Rio, Agenda 21 also called on all governments to participate fully with community organizations in the search for sustainable solutions to the planet’s environment and development crises. In the years since, a new era of partnership has been established between civil society and governments, with the aim to facilitate the implementation of Agenda 21.

In order to help in establishing channels of cooperation between the different sectors of civil society, and empower their respective communities to mobilize and care for the environment, Agenda 21 stresses that each group, in its own unique way, can make an important contribution to the processes of achieving sustainability and preserving the environment. This is particularly the case for the two major groups of women and youth, representing together more than two-thirds of society.

It may seem that achieving sustainability while preserving the environment is so huge and daunting a task that there is no way that one person or one organization in civil society could make a difference. For example, one might think that reusing a plastic bag or recycling a newspaper is so trivial that it would not change anything. The fact of the matter is that: every person can make a difference, and collectively, an organization of individuals can make a significant difference.

The citizen groups can indeed take actions to ensure that at least the activities of their respective communities do not jeopardize the wellbeing of the planet’s present and future generations.



Now we turn specifically to the role that the two major groups of women and youth can play in environmental protection and towards achieving sustainable development.

Enhancing the Role of Women and Youth in Sustainable Development

Women, forming the majority of the population in many communities, are important managers of resources: they can restore, sustain and create productive living environment. It is generally acknowledged that women have considerable experience and insight when it comes to managing and conserving natural resources.

Women's skills, experience and perspective are, therefore, essential for sustainability. Yet in most countries, particularly in the developing and underdeveloped world, women have limited access to and control over income, credit, land, education, training, health care and information; and they suffer the worst effects of poverty and environmental degradation. Their ability to participate in decision-making processes is, therefore, often not in par with their male counterpart.

As a consequence, many women lack the opportunity for self-fulfillment, and their potential contributions to the community are lost. Efforts should, therefore, be made at all levels for serious improvement in the status of women in their respective societies, and for enhancing their role in the community at large.

To this effect, four major actions could, and should be initiated at the national and community levels. These are:

- Educate women by providing them with proper knowledge and information relevant to their local environment, in this case the marine and coastal environments and their resources;
- Educate society to change attitude towards women's role in everyday life;
- Empower: first, through the recognition and respect of the important role that women could play in caring for and managing the environment; and second, through giving women a full voice in decision making, especially in matters that might affect their livelihood;
- Encourage: through increasing economic opportunities for women, for example, by helping women to set up their own business if possible, and providing means for business sustainability through, for instance, training in business management, and facilitating small-business loans.

Likewise, the active involvement of youth, comprising roughly 30 percent of the world's population in the decision making process, is critical to the long-term success and sustainability of any environmental and development activity.

Of the objectives concerning youth, the governments of the world agreed at the Earth Summit that each country should, in consultation with its youth communities, establish a process to promote dialogue between the youth community and government at all levels and to establish mechanisms that permit youth access to information and provide them with the opportunity to present their perspectives on government decisions that are likely to affect their wellbeing.

Five major actions need to be taken, to ensure active involvement of youth in various environmental initiatives at both the national and community levels:

- Promote among youth primary environmental care activities that address the basic needs of communities;
- Improve the environment for youth at the household and community levels;
- Encourage the participation of local youth in activities aiming at integrated community-based management of resources;
- Expand educational opportunities for youth, and
- Work through schools to promote environmental awareness among young people.



Recommendations for Actions by Women and Youth Communities to Protect and Sustain the Marine and Coastal Environments

It is true that governments and their concerned authorities have so much to do to prevent further deterioration of the marine and coastal environments in their respective countries, and to ensure the sustainability of their resources. However, efforts at the community level should go hand in hand with governments' efforts, if sustainable changes have to occur.

Recommended Actions:

Some recommendations are suggested for concrete actions to be taken at the community level, particularly by women and youth communities, in order to help preserve the sustainability of ocean and coastal resources.

Help reduce or prevent marine pollution from land-based sources

Oceans and coastal areas should be protected against all kinds of pollution from all sources. As indicated earlier, about 80% of marine pollution originates from land-based sources. A great deal of attention should, therefore, be given to reducing or, if possible, eliminating the pollution from these sources. Community efforts could be very effective in monitoring, controlling and halting marine pollution from land-based sources. Individuals or a group of individuals can work together to gather and document information on existing or potential sources of pollution by locating the pollution (for example, toxic industrial wastes, hazardous domestic wastes, sewage sludge, and the like) and tracing it to its source. Official authorities should then be notified of such sources in order to take necessary action.

Cooperate with other environmentally-motivated community groups

Consolidating the efforts with other environmentally active and motivated groups of the community might prove useful and necessary to raise the environmental awareness among the public, and to get the environmental message through to the concerned authorities.

Also, cooperation with local government, businesses in the private sector and the industries might be effective in suggesting alternative ways for disposing of the harmful wastes originating from their businesses and industries in an environmentally sound manner.

Create effective partnership with concerned government authorities

Community groups, such as women and youth groups, can easily organize themselves in the so called "Community-Based Organizations" (CBOs), that could establish official links with the government. As such, they can pursue a partnership with the government authorities, responsible for the environmental affairs in the country, and hence enter into constructive dialogue with these authorities on how to contribute to the environmental cause at the national level in an effective manner.

Help educate other individuals or groups of individuals in the community

This could be done most effectively by a CBO through the launching of a community awareness program or campaign to educate the public on various environmental issues. Such program(s) could focus on carefully selected issues, such as "Home Environment" (caring for the environment starts at home!), "Minimizing Pollution around the House and on the nearby Streets", "Environmentally sound management of Solid Wastes in the Household: Reduce, Reuse, Recycle", and possibly others.

Promote good environmental practices

The day-to-day practices of human activities would greatly affect the environment, either positively or negatively. Unfortunately, due to many unwise practices, these effects have shown, in most cases, negative impacts on the environment. It is, therefore, important to promote good environmental practices among the public. Under a general motto such as "Save Energy", "Save Water", "Save the Sea", "Clean up the Beach", "Reduce your Wastes", etc., a set of good practices could be introduced by some motivated youth to the right audience at the right time.



Set an example by discouraging ocean and coastal littering

As an educated member of the community, set a good example to other fellow citizens by stopping and banning the members in your household from littering the sea and coasts near you. The disposal of plastic material, e.g. empty water bottles and plastic bags, on land and from ships at sea would end up on beaches and may seriously damage marine life. Sea mammals, in particular, may get hurt, injured or even killed when trying to eat plastic fragments or get trapped in plastic packing material and fishing gears. Such plastic refuse pollutes the oceans for extended periods of time, reaching over 100 years.

Contribute to the fight against global warming and sea level rise

Global warming, climate change and the expected sea level rise are among the emerging and pressing environmental problems of a global scale that would have serious impacts on oceans and coasts worldwide. The rise in sea level, as estimated by all scenarios, is a problem that is confronting many coastal states, particularly the small islands and low-lying coastal areas. As indicated earlier, the impacts of climate change and sea level rise are putting the marine ecosystems and coastal areas under serious threat. Governments and international organizations have done, and are doing their best to address the concerns related to global warming. However, governments cannot solve problems on their own. While much needs to be accomplished at a policy level, real action must take place at the community level.

Women and youth can certainly play a major role in overcoming the primary hurdle in dealing with these problems, namely the general lack of awareness and insufficient knowledge about these issues among the public. These two major groups of the society should lead the community's efforts to fight global warming. In this fight, every action counts, from issuing and distributing simplified awareness material on climate change that the public can read and understand, to encouraging and organizing campaigns for planting trees that would assist in removing some of the carbon dioxide, the main greenhouse gas, from the atmosphere.

Protect marine biodiversity

There is so much that could be done by civil society and their community-based organizations, especially those of youth, to assist in the preservation of marine biological diversity. Indeed, community efforts will be most effective when implemented in partnership with other organizations, the business community and government.

Such efforts, if they are well-organized, can effectively promote the concept of establishing "Marine Protected Areas" (MPAs) or "Marine Parks", and further explain to the public the benefits thereof, particularly with regard to the protection of the critical marine habitats, such as coral reefs. Community efforts can also stress and ensure that the rules and regulations related to the areas declared as MPAs should be fully respected by their visitors and by the public in general, including the fishers' community, divers and diving clubs and by all the local inhabitants living nearby.

Note

The long-term success of community efforts in relation to any of the above recommendations will largely depend on the level of creativity, motivation and commitment on the part of the individuals involved in a particular environmental community action or in any local initiative.

Conclusions

- The oceans and coastal areas and their resources constitute a vital component of the global life support system on our planet.
- However, massive mismanagement, abuse and over-exploitation hinder the sustainable development of these resources and threaten the livelihood of the many people and societies that continue to depend mainly on such resources.
- The protection of the marine and coastal environments through prudent management and rational utilization of resources is essential for their sustainability and for life on Earth.



- To achieve environmental sustainable development, action is needed at all levels of the society, and every action counts.
- In rich and poor countries alike, there is a new and strong movement of community-based organizations (CBOs). These organizations, whether acting on their own, combining forces with each other or joining with governments must work to ensure a sustainable and healthy planet.
- Other citizen groups around the world are to be persuaded to take positive actions to ensure that, at the least, the activities of their respective communities do not jeopardize the wellbeing of the planet's present and future generations.
- The role of women and youth in this respect is fundamental, as both societies form more than two-thirds of the population in any country of the world.
- Women and youth communities, with all their capacities and energy, are therefore encouraged to get involved in much of the action needed to ensure a global shift to sustainable living.
- Women and youth must also get to realize, and forcefully promote the concept that helping in protecting and sustaining the environment will in return improve their own wellbeing and consequently enhance their quality of life.

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Education, Employment and Empowerment: Opportunities Offered by Oceans and Coasts

Gunnar Kullenberg

Abstract

Universal primary education is one millennium goal. Requirements for achieving the millennium goals of poverty abatement and empowerment also include education and employment. One stimulus to reach the goals for a large part of the population can be found in the resources and services of oceans and coasts. The idea here is to enable the coastal populations, representing about 50% of the global population and increasing, to fight poverty and cope with uncertainties and changing conditions of employment, environment and sustainability through education as regards the assets of the ocean (including energy, water, food, transportation and trade, communication, coastal developments, and ecosystem services) and their proper uses as well as their proper management. This requires that adequate support is given at national level for an educational system, including ensuring that the youth is channelled through a training programme relevant for employment. Such support can be obtained financially by earmarking for the education system and training a certain percentage of the incomes from resources and the related services in the EEZ and the coastal areas.

The EEZ is a "multi-purpose zone" of ocean space. The associated management system also needs to be "multi-purpose". This can be best achieved through an education providing the basis for a system-oriented thinking. Such an approach would be fully in line with the ideas presented by Arvid Pardo in 1967. The present economic system cannot properly address the environmental and ecosystem management needs, in particular since the related resources and services are not internalised in the market-oriented system. The need to change this to a more ecological economics and service oriented system likewise brings out the need to adjust the education system. Furthermore, it appears that policies in many developed and developing countries do not provide for the necessary education and training to meet challenges in a changing world. This situation in particular hits youth and women. Incomes from natural resources as oil, gas, minerals and diamonds sustain these policies and governments in many developing countries, and the globalisation process and market-driven economy sustain them in most developed countries. However, they lead to a high percentage of youth dropouts with associated social unrest. Experiences also show that these policies are vulnerable to fluctuations in prices, in particular of oil and gas, as well as in the markets. Wiser policies would provide for education and training of youth and women to cope with the challenges of globalisation and interdependencies, new technologies and a system-oriented management. We have a strong case for a revised education system, more comprehensive than the present, taking into account the social, cultural and environmental requirements, going beyond formal institutions, and stressing the sustainable development paradigm. This is also brought out through the United Nations Decade of Education for Sustainable Development.

The presentation highlights these aspects in context of the role of the oceans and coasts in generating opportunities of employment and empowerment. This goes together with the need for implementation of related conventions and commitments, thus also working towards the aim of achieving ocean governance and sustainable development. The problem is analysed and specified; specific education and training needs related to UNCLOS and chapter 17 of Agenda 21 are discussed; financial means and opportunities of ocean economics are considered together with possibilities of education and training in partnership with such activities; and finally the dynamics of empowerment through education and training are elucidated. The potential to support this process embedded in the comprehensive view of the ocean space suggested by Arvid Pardo and elaborated by Elisabeth Mann Borgese, remains to be fully utilized.

Introduction: problem identification

The need

'Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues' (Agenda 21, Chapter 36.3). Achieving universal primary education for boys and girls by 2015 is one of the United Nations Millennium Goals. Requirements for achieving the millennium goals of poverty abatement and empowerment, in particular of women, include education and employment. The stimulus to reach these goals for over 50% of the global population living in the coastal areas can be found in the opportunities provided by the resources and services of oceans and coasts; the means can be provided through the opportunities inherent in the related international conventions, in particular UNCLOS of 1982 with the EEZ and the Common Heritage of Mankind as well as other provisions, and



Agenda 21 of UNCED 92, but also in the Convention on Biological Diversity, CITES and the GPA-LBA; and the motivation to take the actions of implementation is the necessity to address overexploitation, depletion and destruction of resources, ecosystem services, and habitats as well as the conditions of poverty, employment and equity. The global climate change scenario gives an additional urgency to the need for actions.

Peace and human security are necessary elements of sustainable development.

The ocean forms a necessary part of our life-supporting system. It is the fly wheel of the climate system and the hydrological cycle, providing most of the water vapour to the atmosphere and maintaining the freshwater balance of the continents. The ocean and the coastal areas influence all sectors of our global economy. They provide the major source of protein for 1-2 billion people of the poorest parts of the Earth. Most natural hazards have their origin in the ocean: tropical cyclones, storm surges and flooding, tsunamis, El Nino, monsoon phenomena, and droughts. Climate variability is closely coupled to the ocean. These phenomena can, as well as many of the other hazards, to a certain extent be forecasted through the combination of ocean observations, dynamic modelling and high power computers. The application and proper use of these tools will increase security, but this needs education of both users and producers. Comprehensive security may be defined as prevention of armed conflict and fulfilment of basic human needs. Achieving human security includes not only protecting people but also empowering them to fend for themselves, with abilities and means to meet basic human needs. A framework towards comprehensive security for the ocean is being developed through the Hiroshima Initiative (UNITAR 2007).

The current situation

Despite the clear need, it seems that many rich, developed countries are not providing for the necessary education and empowerment of their populations to handle the current challenges. Likewise, nations rich in natural resources such as oil, gas, metals and diamonds do not set aside adequate parts of their incomes from these resources to provide for sufficient education of their youth. Agenda 21 of UNCED recognizes the link of education to all basic needs, and that the ability of a country to follow sustainable development paths is determined to a large extent by the capacity of its people and its institutions as well as its ecological and geographical conditions (Chapters 36 and 37). It is stressed that skills, knowledge and technical know-how at the individual and institutional levels are necessary to achieve the required capacity. Accordingly, importance should be given to technical and professional human resources development together with related development of institutional capacities. Technical cooperation should be adjusted to meet the needs of integrating environment and development (Chapter 37).

Poverty abatement, unemployment and inequity are main challenges globally. Significant investments in education and training are necessary to develop the skills required to meet these challenges. Education is a key. However, the current education system is not providing the required skills; many available jobs cannot be filled due to lack of competent, skilled people. The governments are not investing sufficiently in the education system or the R and D sectors. European governments in general need provide much more resources for higher education and research in order to maintain, not to say enhance, the European performance. On average 1-2% of the GDP is invested in higher education in Europe, compared to 2-3% in the USA. India invested 4% of its GDP in education in 2005. There is a strong correlation between skill levels and economic growth. In developed countries one additional year of education adds an estimated 3-6% of economic output.

Turning the problem into opportunity

There may now exist a window of opportunity to address many aspects of these problems in that realism and idealism appear to coincide: the global climate change problem with associated potential consequences seems to have been accepted as realism by several governments and industries and populations. It now enters the political agenda and influences policy shaping and ethical discussions and choices in some businesses. The idealism of the sustainable development vision provides for the guidance which, when implemented, will also address problems of climate



change through abatement, or mitigation, adjustments and adaptations. Long-term policies are required, including catering for education and training. Achievement of the goals need a revised education system: resting on an outdated system which was mainly stimulated by the first and second industrializations does not work. Experiences show that a discipline-oriented thinking trained through traditional education has great difficulties to change towards a system-oriented thinking. The revised education system needs be comprehensive, interdisciplinary, multipurpose and system-oriented, with cultural and ethical elements. This requires much more support than presently provided in most countries, as well as enhanced status for both teachers and education. A new type of decision maker is required to deal with the challenges, at national, regional and global level. This postulates a revised, adjusted education and training, not only for the generalist but also for the specialist (E. Mann Borgese 1994).

The role of oceans and coasts

Having identified the problem: that we are in need of a revised education and training system, more comprehensive than at present, the question is how to achieve this? Here oceans and coasts enter. The importance of these for our development is clear. The ocean was and is the means through which transportation of goods, exchange of ideas and empowerment was and is achieved. The role of the ocean in generating power, wealth and inequity, and supporting globalization, cannot be denied. The entering into force of UNCLOS of 1982 in November 1994 provides for a different paradigm with respect to ocean management as well as interests. This was further strengthened and enlarged through the UNCED 92 agreements with Agenda 21 and the related conventions.

Opportunities from UNCLOS and UNCED Agenda 21

Specific education and training needs

Through UNCLOS the EEZ was established implying a monumental transfer of resources, opportunities and responsibilities to national sovereignty (Kullenberg 1999). The EEZ area now covers almost half of the ocean (Terashima 2004). Furthermore, part of the ocean beyond the national jurisdiction was designated as the Common Heritage of Mankind, the resources of which could be utilized in supporting developing nations, although the specified resources only include the metals at the deep sea bed. Through the Agreement for the Implementation of UNCLOS of 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 1995 the concept is in the process of becoming adopted also for the living resources. However, the potentials of these provisions are not yet properly utilized. The EEZ is a 'multipurpose zone' of ocean space. The associated user information and management also need be 'multipurpose'. This can best be achieved through an adapted education.

The other basic idea included in UNCLOS, also formulated by Arvid Pardo in 1967, is that "the problems of ocean space are closely interrelated and should be considered as a whole." This calls for an interdisciplinary approach in development and management of resources and services. The foundation for an interdisciplinary understanding is best achieved through an educational system taking such needs into account. The ocean and the coastal areas constitute a complex system which need be represented as a whole. Recently published research results as regards the human influence on the ocean demonstrate this point: the human touch is documented in the whole ocean, and a bit over 40% are subject to pollution, over-fishing and other impacts. The main question to address scientifically and technically is how that system is organised and functioning. The coastal area is a good example of this need. Apart from human behaviour, many of its problems are related to what happens inland or far away in the coastal seas or the open ocean. This situation needs be taken into account in development and management. The system-oriented approach also needs to include cooperation and understanding across jurisdictions as well as disciplines and sectors.

In the context of education this can be generalised to give focus to how the systems we are living in are organised: the economic, the ecosystem and life-support system, the social system, leading to adaptive learning and management.



Any one ocean use is related to all other uses of ocean and coastal spaces, since these are all interrelated: fishing, aquaculture, oil drilling, mineral resources and mining, energy extraction, obtaining freshwater through desalination, development of tourism, transportation, ports, dredging, many related land-based activities, security issues such as piracy and illegal fishing or migration, hazards, accidents leading to pollution incidents. Most of these are also influenced by climate variability and change.

Chapter 36 of Agenda 21 identifies the need for reorienting education towards sustainable development. It notes that environmental and development education: (i) needs be incorporated with basic education as an essential part of learning; (ii) to be effective needs deal with the dynamics of both the physical/biological and socioeconomic environment and human development; and (iii) should be integrated in all disciplines, employing formal and non-formal methods.

Chapter 17 of Agenda 21 is sectoral through its seven programme areas addressing issues and uses of the marine environment, taken to include the oceans and all seas and adjacent coastal areas. However, it is also noted in the introduction that the marine environment thus defined “forms an integrated whole that is an essential component of the global life-support system and a positive asset that presents opportunities for sustainable development”. The need for comprehensiveness in ocean and coastal management is thus recognized. This is in particular brought out in programme area A: “Integrated management and sustainable development of coastal and marine areas, including Exclusive Economic Zones.” There it is stated with respect to human resource development in paragraph 17.15 that: “Coastal States should promote and facilitate the organization of education and training in integrated coastal and marine management and sustainable development for scientists, technologists, managers (including community-based managers) and users, leaders, indigenous peoples, fisher-folk, women and youth, among others. Management and development, as well as environmental protection concerns and local planning issues, should be incorporated in educational curricula and public awareness campaigns, with due regard to traditional ecological knowledge and socio-cultural values.” Also, in other programme areas education and cooperation in human resources development and capacity building is stressed. There are many identified specific needs and tasks including practical socioeconomic matters as regards education and training, all related to resources of oceans and coasts. The actions can also be directly related to communities and development of their structures and opportunities in urban and rural areas. Besides people’s willingness to participate, the implementation, however, largely rests on political will, commitment, availability of necessary skills and financial means. These latter could be obtained from the use of the resources and services of the coastal and ocean areas, the revenues and employment opportunities they provide, given the political will and commitment. The education and training needed to develop the necessary skills should form an integral part of the process. The sciences (natural and social) and engineering professions have very important roles to play in this context.

Financial means: opportunities from ocean economics

The enormous importance of the ocean economics for the global and national developments and socio-economy, reinforces the proposal that parts of the revenues from ocean economics be used to provide for developing countries with the financial means for the specific education and training needs at the local, national, regional and global levels. As has been pointed out by Mann Borgese (1998), to be sustainable ocean and coastal management need to contribute to solving the most stressing problems in the coastal areas, namely employment and poverty alleviation. Using the soft law provisions of UNCLOS and the UNCED 92 process, ocean economics can, with the necessary political will, be made to provide the financial means to achieve the goals. A very large part of resources, goods and services are dependent on oceans and coasts. Mann Borgese (1998) estimated these dependencies to be of the order of 7-8 trillion USD annually. Globally, the education ‘industry’ has been estimated to be worth 2-3 trillion USD. Many countries now compete to obtain internationally recognized education institutions. A rich country like Sweden sets aside about 7 billion USD annually for higher education. A 10% levy on the ocean economics value would provide for a similar amount to 100 developing nations.



Besides the market-oriented resources and services, oceans and coasts provide very substantial ecosystem goods and services which are difficult to quantify in monetary terms. They are not internalised in our present economic system. There is a strong need for an insurance mechanism that can help ensure protection of these ecosystem services, which will require that they can be internalised. There is also a need for enhancing possibilities of providing insurance protection for the poorest parts of populations. For this both financial means, collaterals, and education and awareness creation are needed. The insurance industry could play a large role in this context, possibly broadened to include a public-private partnership supporting education-related activities and other enabling initiatives so as to decrease vulnerabilities and risks, thus increasing insurability. Education and empowerment will also decrease social risks which are related to poverty, lack of access to services and economic opportunities.

Education and training in partnership with ocean economics

The education, training and awareness required for implementation of UNCLOS as well as specific needs identified through Agenda 21, often coupled to practical matters, can all be related to the requirements for achieving, developing and benefiting from activities associated with ocean economics. Any one part of ocean economics is related to most other parts, just as any one ocean use is to all other uses, as pointed out by Mann Borgese (1994). Thus the system-oriented and interdisciplinary education needs can be met in an education and training system related to needs of ocean economics. Since most of the uses such as fishing, coastal development, energy extraction, oil and gas drilling, and dredging also have been shown to impact the ecosystem if the activities do not take adequately into account the sensitivities and responses of the ecosystem, the services provided by the ecosystem also need be included in the ocean economic applications. This should lead to internalising the values of the ecosystem services in the economy. Achieving this should in turn lead to broadening the concept of 'economic growth' to include quality of life, or valuation of quality of life, and not only quantity. The system-oriented education will provide an understanding for how activities can influence each other, the resources, the social system and the ecosystem. This may also lead to realising the need for impact and risk assessments, risk management and risk reduction. The insurance mechanism will then have a much improved basis for being applied. Options to achieve an adequate insurance coverage will in turn enhance possibilities to obtain financial means for continued education and development.

The programme areas in chapter 17 are tied to various uses and thus economics. Programme area A relates basically to all uses in the coastal seas and the EEZ; other programme areas to fishing, oil and gas exploitation, transportation, exploration, extraction of energy and other non-living resources, and science and observations addressing critical uncertainties for management of the marine environment and climate change. All the programme areas are coupled to functioning ecosystems and ecosystem services. Many of these education and training, or capacity development needs, are also coupled to local development opportunities which can be related to one or more particular activities. The requirement to take into account the interdependencies remains. The employment opportunities are, however, coupled to the specifics of the locality and the province. This is also the case with cultural and other social activities, giving involvement and employment together with identity.

The experiences of PEMSEA in East Asia show the importance of the political will and leadership at local level; the stimulating role of regional and sub-regional cooperation; the use of demonstration sites to convince local managers and politicians that results of socioeconomic importance can be achieved through local actions that can support economic development; that quality of life can be much enhanced at local sites and in provinces; that willingness to pay can result. The public-private partnerships with integration of part-time work in the education system can thus be extended to the education system for the benefit of all.

The experiences also show the significance of involving local educational facilities and women in the training and awareness creating activities. In that way, the basic, primary education system becomes a partner and a gradual adjustment can take place to meet the system-oriented needs. The education process can in this way also include the very important intergenerational interactions, which were lost during development over the last decades.



Investments in rural areas can provide a two-fold return to national economic growth and a matching contribution to poverty reduction. Rural developments involving coasts and the inland call for infrastructure, credit-investments and technical inputs. All these require human resources and their development, that is, education and empowerment. In view of the projected population development in many regions, the rural development model seems very attractive. The population densities in coastal areas increase relatively much more than those inland, in many countries at double the overall national rate. Most of the populations are concentrated in urban areas, many coastal mega-cities (Kullenberg 2001). The potential and opportunities of the coastal areas in the context of rural developments are, however, also considerable with proper use of existing international law and related commitments. The climate change perspective provides a strong additional motivation to pursue the rural model.

Dynamics of empowerment

Practically all economic and social sectors are influenced by and related to the ocean and coasts, their resources, the goods and services of their ecosystems. Enabling the local coastal populations to use the related opportunities and empowering them to take control of the resources, services and their developments through adequate education, will help abatement of poverty, establishment of security and achieving sustainable development. The IOI programme on coastal eco-villages provides one example of a successful operation involving most of these elements. Other examples can be found in the PEMSEA development of integrated coastal management sites at local community level.

A necessary part of the process transforming the European states towards democracy was the empowerment of the population through an education including all. This achieved a gradual change of human behaviour. The process was triggered through the needs of the industrial revolution and the first globalisation. Now, about 200 years after the initiation which also included the French Revolution, we are facing another challenge which likewise requires a change in human behaviour. Chua (2006) notes that, "the biggest challenge in resolving problems of the coast is the need to promote a crucial shift in human behaviour." The same holds true for the challenge of addressing global change, climate change, achievement of the UN Millennium Goals and sustainable development.

Noting that 85 percent of economic development depends on sciences, the ability to do scientific research, technology development and use it, it is clear that empowerment through scientific education is basic, in particular in the globalisation process as we now see it. This can include development of traditional skills, often associated with utilisation of ocean and coastal resources, and provision of related services. An essential role of science and technology in our context is to provide knowledge and information that can be used in addressing the issues and the needs of the population leading to empowerment. The scientific community needs interpret their findings so that decision makers can understand and use them. However, it is up to the governments and the governance process to make use of the information and understanding, the results of science and technology. The more understanding of these populations have, the more they can participate in governance and the more pressure they can put on the governments to take action. This can include provision of support to development of new technologies not yet in the market, e.g. for energy, food, sanitation, clean water productions.

Empowerment, like all development processes, has uncertainties and must be dynamic. It may be seen as a web of several courses of action or processes, many related to proper governance, involving all stakeholders. The process must take into account interdependencies and be able to work in conditions of uncertainty. It appears that the process can best be achieved at local level, which requires decentralisation from national level. In coastal areas the dynamic process can be linked to ocean affairs including ICM; harmonization with and application of UNCLOS and related instruments in rules of law; use of local populations in development of economic sectors and services relevant for the locality, nation, region. Since ocean space provides for a multitude of opportunities, something can always be established. The process will generate employment opportunities over a wide range of skills. The opportunities are coupled to the means provided through UNCLOS with the EEZ and the Common Heritage, as well as UNCED Agenda 21, and the related agreements together with the WSSD 2002 commitments, and the UN Millennium Goals. Taken together they provide for the required legal framework with rules of law, and accepted principles, norms and standards.



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The tangible, positive effect of youth empowerment in achieving the UN Millennium Development Goals

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Abstract

We have entered a new era. For the first time in history we live in a truly globalised society. The world has never been this connected. We are at a point of tremendous opportunity. We have a chance to harness the power of global collaboration. The way we are currently living with globalisation is not set in stone. It is still very new and we have the opportunity to shape how it develops over the next generation. We have an opportunity to use global collaboration to promote sustainable development.

We start this process by empowering *now* those who will be at the forefront of this new world *tomorrow*. We start with the young people of today. After all, youth are the greatest stakeholders in the world's future – particularly as this relates to the environment. One World Youth Project defines youth leadership as: action and organization initiated and maintained by young people. Youth leadership is sustainable if young people feel ownership. Youth leadership is successful when creative, flexible, but also practical. Youth leaders need time and space to practice leadership. They want to feel listened to, respected, and inspired. Most of all, they need responsibility in order to be motivated. If we want the future to look different, we must empower the young people of today.

For four years One World Youth Project, founded and managed entirely by young people ages 16 to 26, has proved that global *youth* partnerships for development are the key to achieving the UN Millennium Development Goals. From New Orleans to Sri Lanka we have seen youth be inspired by global friendships and new found interconnectivity to take positive action toward the MDGs. International governments and civil society can support youth empowerment by incorporating youth leadership into their programs and fostering mutually beneficial relationships between youth and adult allies. Oceans know no country borders. If we want to achieve the goals of this conference, humanity must come together across country borders as well. We can begin this process with young people – not only are we, as youth, more apt to listen, but we are the ones who *need* to listen.