MANAGEMENT OF COASTAL AREAS AND THE SEA, YET A CHALLENGE TO SUSTAINABLE TOURISM IN ALBANIA. AN ENVIRONMENTAL PERSPECTIVE - CASE STUDY ON DURRES AS TOURIST DESTINATION.

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ABSTRACT

The issue of coastal area and sea management are seen as key factors for coastal and marine tourism development in Albania. Development of sustainable tourism have become major priorities for national public policy makers. Nowadays, there is a need for managing sustainable tourism development, but this couldn't be done without taking into consideration environmental issues. This paper aims to examine through environmental indicators state of natural resources (coastal area and sea) of Durres as main destination of "sun, sand and sea" of Albania.The state is assessed by analysis of the data monitoring conducted over years by Ministry of Environment. Meanwhile tourism itself pose threatens to environment consuming its natural resources. Achieving goals of sustainable tourism and maintain high level of tourist satisfaction requires a continuous process of impacts monitoring and implementation of administrative and legal regulatory measures. The findings of this study may be helpful for decision makers in the area of managing sustainable tourism development.

Keywords: *sustainable development, environmental indicators, development*
JEL Classification: *Q56, Q51, Q53*

1. Introduction

Tourism is consider an engine of development for national economy, the direct contribution to GDP was ALL82.3bn (5.9% of total GDP) in 2014, and has directly supported 50,500 jobs (5.3% of total employment) for year 2014(WTO statistic data, 2014). The competitiveness of the tourism sector in regional market depends on the quality of tourist destinations, including the quality of environment, and not only. Based in good planning and management, tourism can be a positive force, bringing wider benefits to all in destinations, but if poorly planned and managed, it caused degradation. In focus of tourism sector and in the interest of the communities is to maintain and sustain the basis for the prosperity and the sustainable development of destination itself.
Years passed by, vacationer numbers that are in motion are increased than previous year, frequenting different type of destinations round the country. Thousands of tourists spend their

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holidays or weekends at beautiful beaches and especially in Durres, as main national destination known otherwise like “sand, sea and sun destination”, a preferred destination for vacationer and tourists.Usually the summer vacation is synonymous with swimming in the sea, so it is natural that water quality is an important factor in choosing a destination. The issue of coastal area and sea management are seen as key factors for coastal and marine tourism development in Albania. Development of sustainable tourism has become major priorities for national public policy makers. Nowadays, there is a need for managing sustainable development for tourism, but this couldn’t be done without taking into consideration environmental issues.

Sustainable development was defined by the World Commission on Environment and Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).Sustainable development as a multidimensional concept is related to the environment and resources, as well as to the population and economic production and a long term development is based on behavior of consumption. (Lazar, 2008).Achieving aims to sustainable development requires a balance between economic progress and the boundaries of nature, particularly between the quantity and the regeneration time of natural sources, human-made activities, and the neutralization capabilities of nature.(Pozeb,2007). Considering the tourism industry, the need to adopt a ‘sustainable’ approach is exacerbated by its fragility and sensitivity to change, its multi-sectors nature and its marked dependence on the quality of the host environment and communities; *“*tourism which degrades any elements of host communities and nations threatens its own future” (Manning, 1999). The concept of sustainable tourism emerged by the end of 1980, by connecting sustainable development principles with tourism.

Defining sustainable tourism, WTO (1996) states that sustainable tourism development meets the needs of the present tourists and host regions while protecting and enhancing the opportunity for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled, while maintaining cultural integrity essential ecological processes, biological diversity and life support systems. So, achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and corrective measures whenever necessary. To many individuals sustainability is about the environment, primarily the natural, physical environment and it’s protection, but would be better if everybody think in terms of ecosystem than the environment, and recognize that man is an important and valid element within the ecosystem (Starwbrooke, 2002).An important characteristic of the interaction between tourism and the environment is the existence of strong feedback mechanisms: tourism often has adverse effects on the quantity and the quality of natural and cultural resources, but it is also affected by the decline in quality and quantity of such resources (Coccossis, 1996).

Combining the term ‘sustainable’ with tourism, the latter must take-on the environmental, economic and social considerations and principles that are inherent within the former (White at al, 2006).To achieve sustainable development is necessary to identify the main causes of environmental degradation, to assess the damage scale, trying to find reasonable solutions to reduce its negative impacts on economic and social life of communities.

Since 1992, the World Tourism Organization (WTO) undertook the effort to develop and implement indicators which can help in the sustainable development of tourism at destinations and in 2004 was designed the Guide of Sustainable Tourism Indicators for Tourism Destination. Meanwhile, Agenda 21, United Nation Conference on Environment and Development (1992), highlighted the importance of monitoring progress and makes explicit reference (in chapter 40)

to the use of indicators for sustainable development as a better way for decision making at all levels.
Recent decades have marked important changes in our legislation creating institutional framework for sustainable development mainly based to the EU recommendations. First National Law on Environment Protection was approved in 1993, right after Rio De Janeiro Conference. Determination of basic national indicators for assessing the impact on the environment compiled by specialized institutions in collaboration both of local and central levels helps to identify and determine the potential risks and enable measurements for possible action, the continuous monitoring helps in better decision making to improvement and better solutions towards sustainable development.

2. Durres coastal area

Durres coastal area has a surface approximately of 500 km^2, with a total length of 18 km and a maximum width of 7.2 km. In the northern part of the bay lies Durres port area and the city of Durres itself. At the northern part of the Durres bay lies a very romantic part of Currila beach, while in the south is situated the largest national beach. All this space its'among the valuable economic sources, touristic and ecological as well of the city, but not the only. During the summer season the number of visitors and holidaymakers which attend this space for recreational purposes is estimated about 800 000 individuals annually.
Tourists seek the coastal zone for several types of activities including: beach activities - swimming, sunbathing and different sports; viewing and photography of landscapes, fishing and coastal flora; touring - by motor vehicle, bicycle, etc. Besides that, the coastal area of Durres face the issues of shore use and building, shores filling with inert construction released by individuals or companies, which have led not only to the modeling of coastline in this area, but furthermost pollution of sea water with suspended material, sea water quality, crowded of some specific localities in peak beach season, shore erosion, removal of solid waste, identification and protection of fragile habitats or species, and seasonality of use.
Since 1992 the beach territory is covered by boom in construction representing thus a damaged coastal environment. Illegal construction in North and South part of the coastal area consist respectively 58 to 796 different objects[3]. With the uncontrolled growth of house units and different public service, carrying capacity of urban space in this area has exceeded touristic criteria, turning over an urban residential neighborhood physiognomy. Most of these buildings do not have sewage network, and discharge effluents directly or indirectly into the sea.
A present phenomenon noted recently is the tendency of creating differentiated zones within the water body near to the coast based on the specific characteristic of shallow shore using reinforced concrete blocks, with the aim to benefit added surfaces of sand. This method is used to inhibit the natural activity of the sea waves to the shore, since a significant numbers of the buildings constructed is remotely close.
The vegetation in this area, particularly the pine forest is severely damaged by building construction made, reducing seriously the green space, featuring the chaotic image of development. Before 1990 there were 400 m^2 attractive area for residents, a 3 hectare forested area of poplar wood, two amusement parks for children with an area of 1 hectare. Currently green surface areaper capita varies from 2 up to 2.5 m^2.

[3] Selfo, L., Hajderi, E.,(2003) "A diagnostic analysis of environmental situation on coastal area", Study, pp.8

Environment is burdened more by the presence of aggregate materialsof objects that are still building or demolished as not legitimate, as well as by organic urban waste. The concerns becomes more evident over the weekend when the number of vacationers and turists increased significantly. This condition has a negative impact on the vacationers psychology.
Sea water is polluted even more significantly if we consider that only during weekends the number of holidaymakers goes around 50,000 individuals, due to lack of appropriate utility services (toilets) infrastructure.
Over used space capacity of sand area taken in use by different private entities has brought a densification of holidaymakers per unit area. Discharge of sewage into the Currilave beach area, discharged of the pumping station in Porto - Romano and discharged channel into Plepa station, also illegal sewage discharges of private entities diectly into sea water, caused significant pollution of sea water with pathogenic micro-organisms. The origin of these pathogenic microorganisms based on the ratio of the value indexes FC and FS refers to human composition.[4]* Exposure to such consignment waters did not exclude the possibility of holidaymakers contamination.
Another source pollution of the coastal zone are illegal discharges of ships in port or in its vicinity. Port of Durres is the biggest in Albania and its activity is increased progressively. After the reconstruction it has a processor capacity of 1800 ships per year with a maximum capacity of 25 000 tonnes.
Chemical analyzes made by ARM, idendified presence of high levels of Cd and Pb in sea water samples within the port area. Due to space bad management within piers that serve as landfill outdoor mineral which are stored there not packed. Sea water basin of the Port and the area around it are contaminated by illegal shipping emissions, mainly of organic origin and fuel oils. Another danger for pollution of sea water is the presence of oil deposits inside the new port in Porto Romano. The location of these deposits except persistently exposed to risk of sea water pollution pose another added risk that of air pollution inhabited area in case of fire.

3. Aim of the study

This paper aims to examine through environmental indicators state of natural resources (coastal area and sea) of Durres as main touristic destination of "sun, sand and sea" of Albania.

4. Data and methods

To fulfill the aim of the study, regarded to the pointed issues: 1. Damage to the natural environment of the coastal zone, the suggested indicator to evaluate sustainable development for tourism is used: % of coastal area in degraded condition;
2. Sea water quality – the suggested indicator: number of days per year (month) when beach or shoreline is closed due to contamination (based on measurement of key contaminants such as fecal coli forms.

[4] Muka.M, Këllici.I, (2012),"Bacteriological data on water quality in Durres beach area" , Proceeding book. 1-st International Conference Mar Coast 2012. Tirana, Albania, p.3.

Since no information is available regarding the restrictive closure measures of the various beach stations due to high level of contaminants concentration in sea water frequented for bathing purpose during years, we referred tochemical and bacteriological rate concentration compared to national and EU allowed norms. Environmental state of coastal zone and the sea were assessed by analysis of the data monitoring conducted over years on behalf of Ministry of Environment. Comparative data were collected over a five year period (2009-2010-2011-2012-2015).
Based on the baseline Indicators assessment of the quality of urban waste waters near the pumpping station and other waste water discharged points, (rural channel Plepa, and near Currilave beach area) were based on Albanian legislation set out in Decision 177 dating on 31.03.2005 for urban sewage treatment plant, which are the same as those of the European Community Directive referred presence of polluting substances COD, BOD, suspended matter and Phosphorus into marine aquatic environment.
Assessment of bacterial concrentation in bathing coastal waters for 21 sampling points along Durres coastal area in which are situated the most frequented beaches by vacationers and tourists from Porto Romano in Kavaja Rock station, is conducted by PHI. Quality assesement of marine bathing waters (bacterial concrentation rate) is carried out by measuring two pollution indexes: Fecal Coliform (FC) and Intestinal Enterococci (IE). Quality assessment refers to the recommendations of the World Health Organization (WHO) and EU regulations, based on the assessment of the 95% percentile.

5. Discusion and Results

The National Environment Agency in the implementation of the National Monitoring Program conducts annual monitoring of the impact of urban discharges on the quality of surface waters. According to the monitoring scheme of urban discharges is assessed quality of water discharges at the discharge point (collectors or pumping stations) and their impact on the quality of the receiving environment water, in this case plepa station (Dr-4) and Porto Romano pumpping station, (DR-1). To compare quality waters, reference rates are taken of urban liquid discharges defined in the Albanian legislation (DCM 177, dt.31.03.2005 "The permitted discharges liquid and criteria for zoning the receiving water bodies ") that correspond to the norms establishing by European Union Directive on the discharge of waste water[5].

Table 1: *The Urban liquid discharge rate by DCM Nr.177 831.03.2005)*

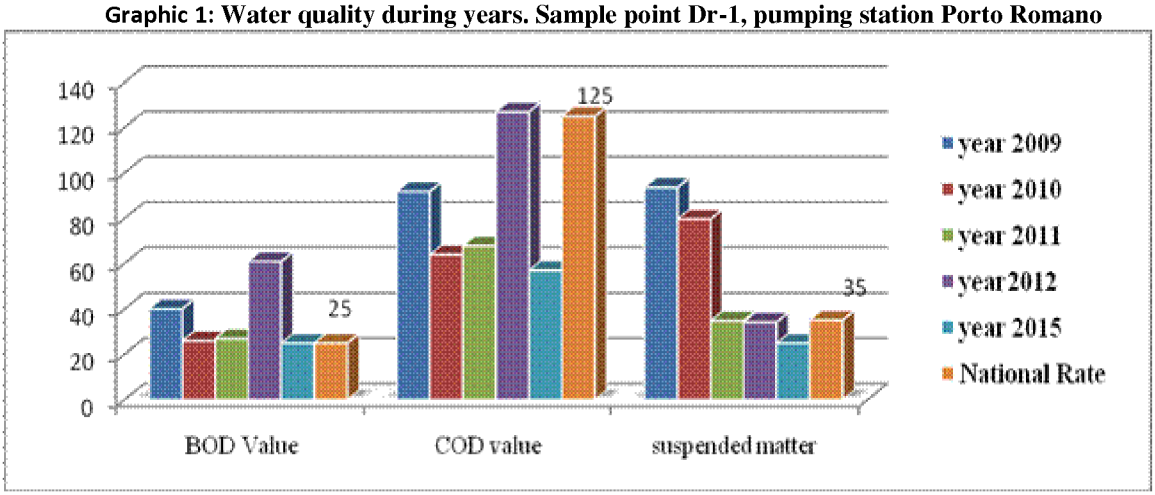
National Rate	Concretation
BOD (Biologic Oxygen Demand)	25 mg/l O_2
NKO (Chemical Oxygen Demand)	125 mg/l O_2
Suspended matter	35 mg/l
Phosphorus	1 mg/l

Source: Environment Ministry, Raport on environment 2012.

Urban waste water in Durres city, are discharged untreated directly into the sea near rural channel Plepa and Currila beach and in partial way in pumping station in Porto Romano.

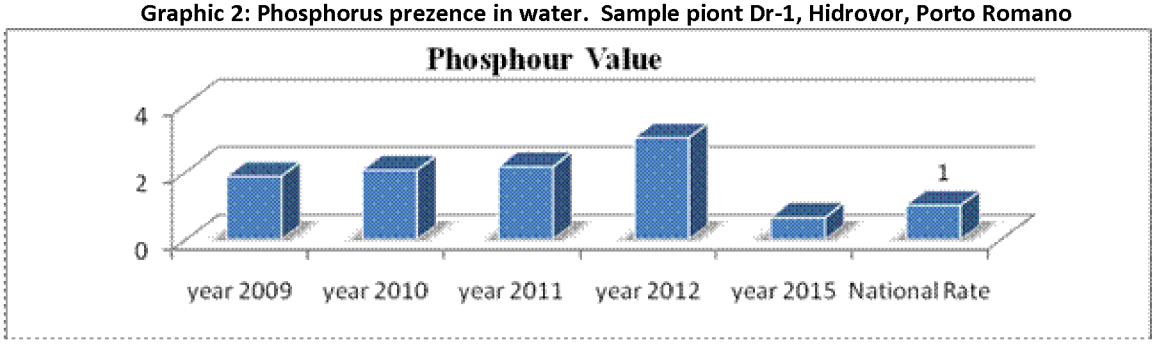
[5] Ministry of Environment,(2012) "Report on the environmental situation 2011", Tiranë , Anex,p.146

Graphic 1: Water quality during years. Sample point Dr-1, pumping station Porto Romano



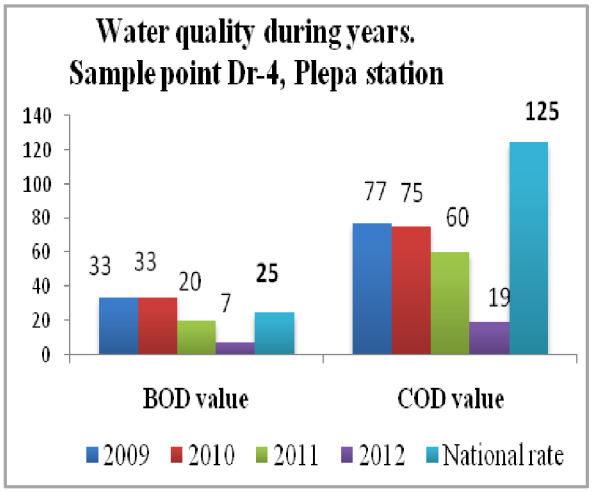
Source: Environment Ministry, Data Raport on environment year 2009, 2010, 2011, 2012, 2015.

Graphic 2: Phosphorus prezence in water. Sample piont Dr-1, Hidrovor, Porto Romano

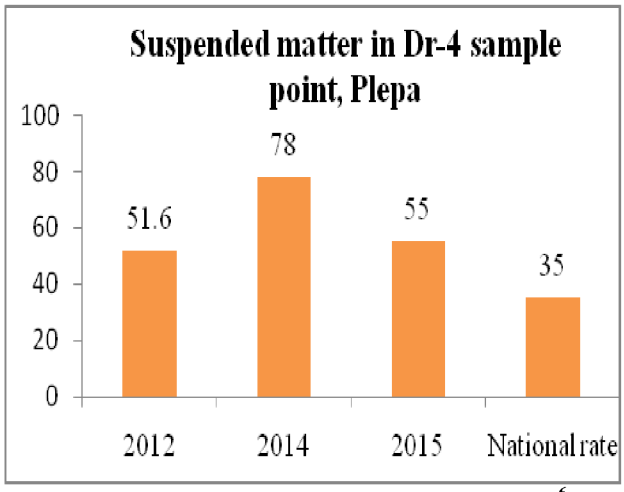


Source: Environment Ministry, Data Raport on environment year 2009, 2010, 2011, 2012, 2015.

Urban waters discharged from the pumping station in Porto Romano, according analysis conducted by NEA from the average indicators values measured resulted high content of organic substances BOD exceed values and limit rate for the years 2009-2012. The same state reflects rate concentration of Chemical Oxygen Demand (COD), above the allowed rate. Significantly high concern remains values of phosphorus content in water discharged from the pumping station of Durres. The content of total phosphorus is higher than the allowed rate to the same period. The high value of phosphorus concentration in urban waters is attributed to the use of detergents with phosphorus content by resident population. Also, suspanded matters index appears above the allowed rate. It is noted significant reduction of the presence of these contaminants during the year 2015, which coincides with partially funcions of the treatment plant. This trend is followed in part by the water quality in the sampling Plepa station. Reduction values in 2012 coincides with the implementation of a cleaning system of water pouring in.



Graphic 3: Water quality during years.



Graphic 4: Suspended matter in Dr-4 sample point[6]

Source: Environment Ministry, Data Raport on environment year 2009, 2010, 2011, 2012, 2015.

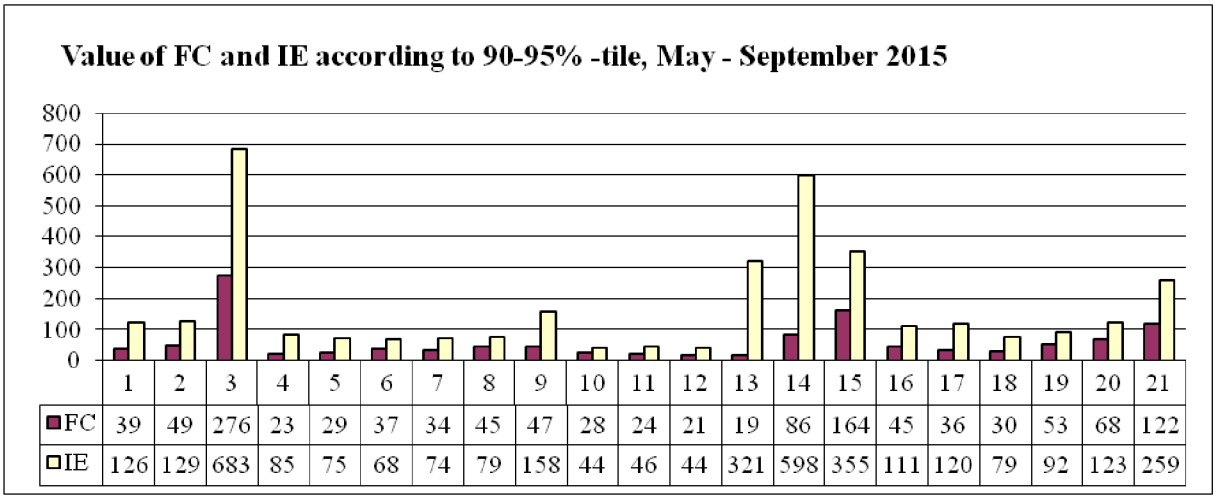
What states is, that the system of surface and sea waters is significantly polluted with total phosphorus, COD, BOD and suspended matters.As mentioned, the main source of pollution is sewage waste water discharged. The presence of chemical substances causes the phenomenon of eutrophication, hiper production of algae, phytoplankton, etc., consequently causing the reduction of oxygen in surface waters and sea. Consequently ammonia is formed and waters deoxygenated causing seriously damaged in aquatic life creatures. The conversion of ammonium ions in ammonia has serious consequences for the fish because it is highly toxic to*.Although marine ecosystem damaged by the uncontrolled discharge of sewage urban waste water activities, is still generally inreasonable conditions and its ecological and e economic importance is considerable.

The quality of surface waters and coastal areas results in bacteriological concentration and organic and chemical pollutants, due to the discharge of urban wastewater without prior treatment. The situation remains problematic especially in areas frequented by holidaymakers near the resort segments Tropical – Kavaja Rock, Currila and Porto Romano, near the Pumping Station. The presence of contaminants is highly appeared in DR-4 dischared station, regardless setting tratment plant in. The impact of sea water polluted by waste water discharged is considred a permanent danger present for many tourists during the summer season which choose to spent their vacations at these beaches.

To determine microbiological contamination of sea water were analyzed water samples taken at different sampling points placed at different beach stationduring summer season. Tests conducted by PHI aimed to determine the sanitary quality of bathing waters, based on concrentation value of IE and FC indicators.

[6] Selfo.L.,Hajderi,E.,(2003), "A diagnostic analysis of environmental situation on coastal area" Study, p. 25 .

Graphic 5: Quality of sea water according to value of FC and IE indicators.



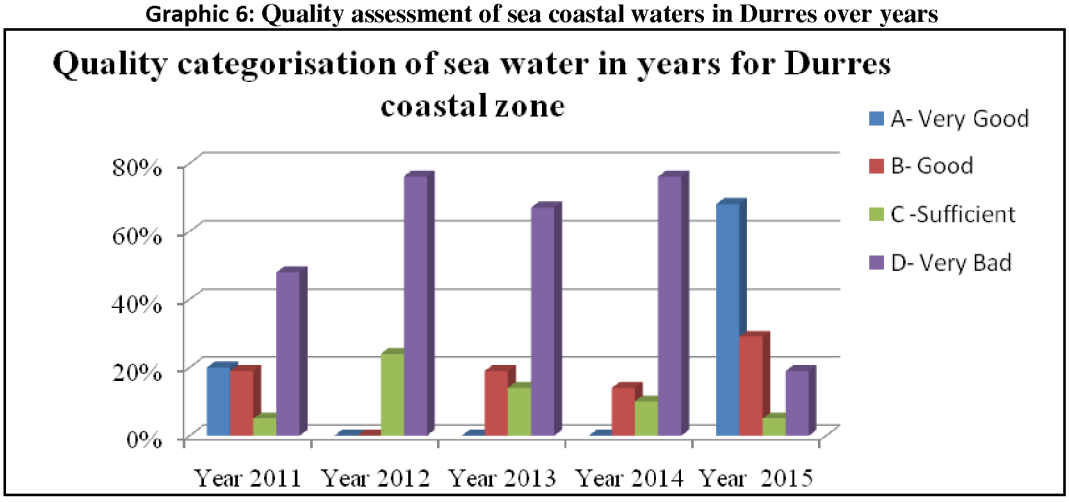
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
FC	39	49	276	23	29	37	34	45	47	28	24	21	19	86	164	45	36	30	53	68	122
IE	126	129	683	85	75	68	74	79	158	44	46	44	321	598	355	111	120	79	92	123	259

Source: Environment Ministry, Data Raport on environment year 2015.

According to WHO/UNEP FC-90% - 250 value of rate allowed to 100 ml water sample IE-95% 100 value of rate allowed to 100 ml water sample

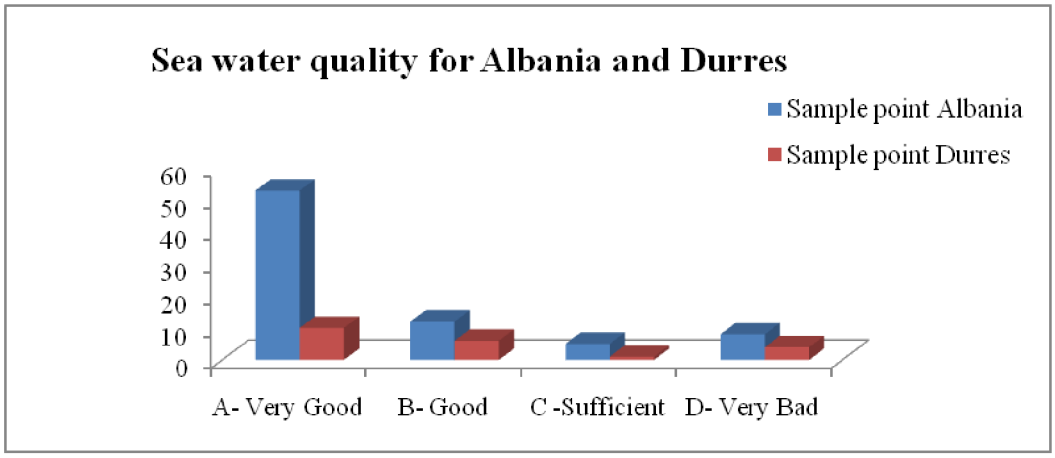
According to 2015 environmental condition report,value of IE and FC indicators appearedin higher rate compared with the MoH and standards WHO / UNEP for some sampling stations. Were indendificated beaches with high bacteriological concentration rate, Currila beach, Zhiron beach, Torra beach, Plepa beach and beaches station near Restaurant Tirana, Kavaja Rock to the Giardino exceeded the permitted levels, classifying this touristic segment in higher risk for the health of vacationers which exposures to bathing waters.

Graphic 6: Quality assessment of sea coastal waters in Durres over years



Source: Environment Ministry, Data Raport on environment year 2011, 2012, 2013, 2014, 2015.

Graphic 7: Comparing sea water quality for Albania and coastal sea area of Durres



Source: Environment Ministry, Data Raport on environment year 2015.

Based on the microbiological analysis of sampling points results that:
- The level of water quality for the period 2011-2014 under the relevant categorization maintains a consistency of high values of pollution indicators IE and FC, classified approximately 67% of the stations in the " Bad" quality condition that means taking immediate intervention measures due to the high risk that represents exposure to such waters.
- In 2015 the situation is changing with the positive trend to pollution indexes that appeared in moderated values. 68% of sampled stations were categorised "Very Good" quality and 29% categorised in "Good" quality water. Its seen significant reduction in number of station clasified as "Bad" quality, where only 19% of the sampled points still reflect that quality level. The changed situation is attributed to interventions made during the infrastructure segment Dajlani Bridge – Kavaja Rock, restructuring of secondary channels network enabling their dischargesto the main city collector.
- The higher index presence of pollutants annualy in permanent way in the sampling stations, Currila, Zhiron, Tropical, Plepa, is an indication of permanent sources of active pollution due to discharges directly on the sea shore by public entities, bussines services or family apartments[7]. Beaches station Philadelphia, Teuta, Apollonia, Hekurudha, Illyria, are easily spotted, its noted only one pollution index (IE) compared with the limit values.
- Areas near Plepa channel and Vollga discharged point near Zhiron beach station and Porto Romano near pumping station are considered polluted, outside the permitted limits to be used for recreational purposes. It was seen very high pollution index.
- Compared with the general quality of marine sea waters at national beach areas,the quality of sea water at Durres beaches appeared moderated with considerable presence of bacteriological pollutants.

[7] Data recorded from registers of Regional Directorate of Public Health Durres,years 2009, 2010, 2011, 2012

Conclusion

- Use of the environment and human impact on it during the past three decades, is characterized by incompatible development elements compared to sustainable development principles. The situation reflects high risk exposurelevel present for residents, visitors and tourists.
- Marine and coastal environment are among the most important sources with economic value to the city. Due to development growth rates not in accordance with the principles of sustainability, due to an inefficient coordination and bad management this environment is consumed and its quality decreased.
- The quality of surface waters and coastal areas results with bacteriological concentration and chemical pollutants, due to the discharge of urban wastewater without prior treatment.
- Informing the public about the quality of bathing water and restrictive measures taking, when neccessary at specifik bathing stations.
- The treatment plant partial use has improved the situation.
- The generated findings should be used for more detailed analyzes based on cost-benefit will influence the sustainable decision-making for coastal area management, generating positive effects to the regional economy focused on balneary tourism.

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