

# **Cruise Tourism in Dubrovnik: Economic Benefits and Social Impacts**

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## **Abstract:**

A large concentration of cruisers in the destination opens the question of sustainability of cruise tourism in Dubrovnik and whether there are more positive or negative effects on Dubrovnik as a destination. This paper determines the level and form of economic and social impact on sustainable development of Dubrovnik as a cruise destination. Various debates increased during recent years about the exact income generated from this type of tourism, and what areas it is affecting the most. Research was conducted by collecting and analyzing the data, as also interview conducted with Dubrovnik Tourist Board. Results showed that Dubrovnik is gaining significant income from the cruise tourism divided among different segments, but it lacks quality cruise management in organization and acceptance of cruise travelers. Poor management is affecting residents and stationary tourist quality of life.

**Keywords:** cruise tourism, economic impacts, sustainable development, Dubrovnik

## INTRODUCTION

Cruise tourism is one of the most developing phenomenon in today leisure tourism. It is one of the fastest growing segments in travel industry with annual increase of 7.2% since 1990 and it continues to double every decade (Cruise Lines International Association, 2010). Cruise industry is always seeking new undiscovered routs and attractive locations. Traditionally, this type of industry is greatest in North America in destinations such as Caribbean and Alaska, but in recent years it gain quicker pace of growth in other parts of world. One of those parts is Mediterranean Sea with various attractive destinations. Development of cruise tourism also made a huge impact on Croatia as well, especially on Dubrovnik as its most valuable port. Dubrovnik has been for many years on a cruise market, accelerating its development since the end of the last century. The largest share of all cruise arrivals in Croatia is realized in Dubrovnik as number of ships and passengers enormously increased. The statistics revealed the increase of 4 to 5 times in the last 10 years (Carić, 2011). For the consequence of that, Dubrovnik has become one of the recognized cruise destinations in Mediterranean, and second strongest cruise destination in Adriatic Sea after Venice, its main competitor. Geographically it is the most convenient port between Venice and Greek destinations. Dubrovnik as a cruise destination has mainly developed as port of call (transit destination) rather than the home port (Peručić, Puh, 2012). Mega cruisers are the main segment in this destination bringing 2000 passengers and over. Significant characteristics of mega cruisers are short stays in destinations, cruise duration up to seven days, and large variety of facilities and amenities onboard the ship for passengers to use it. There are no certain facts about the economic benefits for the City itself as different segments are included, and no serious research has been done to cover this. Main factor and general acceptance is that cruisers are affecting positively economic prosperity of Dubrovnik, including positive promotion in the world. There is a strong support and free promotion from international travel agencies which

are recommending and arranging travelling for their customers. Also there is a possibility that some cruise passengers who visited Dubrovnik will come back again on a land based vacation and spread the word of mouth. Medieval city with iconic city walls, historic and cultural heritage positioned Dubrovnik as one of the most desirable destinations for guests arriving from US, Great Britain and other western European countries. The City covers about the 80% of total cruise traffic in Croatia, while rest falls on ports such as Split, Zadar and Rijeka (Carić, 2011). In the year 2016 Dubrovnik accommodated 638 ships bringing 881.956 passengers, year before it was 601, and in 2014 total number of 577 ships arrived (Dubrovnik Tourist Board 2018). There is obvious trend of increasing ship arrivals every year.

As a port of call Dubrovnik as a destination is rapidly being faced with the increasing problem of large concentrations of cruisers and cruise passengers coming in a short period of time. There is also an evident problem in inadequate reception and organization of cruise passengers. Dubrovnik as a destination is mostly oriented on transit passengers, and it is not regarded as a port of embarkation/disembarkation in cruise itineraries (Pavlič, Portolan 2011). With that there is a mixture of customs and cultures of various people including stationary tourists, cruise passengers, local residents and visitors. Results of that can be witnessed every summer season with overcrowdings of Old City, traffic jams, disturbing of local population in everyday activities and their increasing negative opinions on tourism in Dubrovnik. Land based tourism also became affected by each year as a slowly increasing number of stationary tourists started to complain about the recently mentioned issues. Their main argument is inability to visit historic sights, experience local cuisine, local culture and overall noise in the peak months such as July and August due to huge number of cruise passengers. Most of the local population who are working in service and hospitality is arguing that cruise passengers are not spending enough money due to their short period of stay. When describing the positive and negative impacts of cruise tourism, detailed research found the similar cases in other

European cruise destinations such as Venice, Barcelona and Piraeus. Overcrowding, exploitation of historic heritage sights, negative opinions of local population and need for government intervention are some the arguments of these destinations. Further research and comparison will be presented in following pages. In 2016 UNESCO warned the Dubrovnik that their world heritage status is under threat highlighting the concern about maximum number of tourists exceeding the carrying capacity of the Old City, and the management of cruise ships .City authorities reacted by limiting maximum number of tourists entering the Old City on 8000 people by placing 16 cameras on City entrances to measure the numbers (Foster, 2017). In the year 2018 city mayor reduced the number to 4000 people, and sustainable cruise management plan is yet to be presented for forthcoming years.

## **Methodology**

In order to determine the level of economic and social impacts research was carried out using data analysis on various types of case studies, and data collection by interviewing key medium management employees working on positions in Dubrovnik Tourist Board and Port of Dubrovnik. All of them were involved directly or indirectly in offering tourism services or any other way in cruising tourism in Dubrovnik. Interview conducted with the Dubrovnik Tourist Board was held on March 16<sup>th</sup> 2018, while interview with the Port of Dubrovnik management was not held due to busy work schedule, but the data that was needed for research was sent by E-mail in PDF file. Data that was sent was highly appreciated as it was exact type that was required for this research. Interview conducted with the Dubrovnik Tourist Board was semi- structured interview recorded by mobile phone. The interviewee had a freedom of bringing the new ideas during the interview, while general questions were prepared in an advance with framework of themes to be covered. Interview contained six parts. The first part contained questions about participant's opinions on restrictions in cruise

tourism development, while the second part contained viewpoints on positive and negative impacts of cruisers in destination. Third part explored expenditures by passengers and crew, and fourth part opinions about further development. Fifth part covered questions about possibilities of better organization of cruise passenger's acceptance, and the last part asked to evaluate the performance of Cruise Office Dubrovnik. Data gathered from the PDF file sent by Port of Dubrovnik contained information's about port taxes and cruise expenditures that are required to pay upon berthing for every cruise ship.

Research was made for the purpose of analyzing and finding statistical relations between cruising tourism and economic and social impacts on Dubrovnik as a destination. Economic impacts consist of group of questions that are related to passenger and crew expenditures, investments, life standard and revenue from cruising. It is beneficial to get insight of how much prosperity has Dubrovnik from the cruise tourism and what is the real revenue that is divided among different segments. Social variables relate to questions about disturbance in everyday life, traffic jams, stationary tourism and prosperity of local community. To detect the level of economic impacts of cruise tourism onto destination, there are few categories that depends on that question: port of call, or port of embarkation. Port of embarkation or "home port" is the port from which cruise passengers start their voyage (Benic, 2008). Example of home port is Venice where passengers from cruisers stay a few days more. A result of that is that in port of embarkation economic contributions are significantly higher since it involves expenditures realized in accommodation units such as hotels, and apartments due to passengers extended stay. Another significant factor of economic contribution in home ports is that cruisers are replenishing their supplies such as food, beverages, and other materials before disembarking. Example of that can also be seen in Venice where shipping companies are buying agriculture products from local producers to be exported onto the ships. The Port

of Dubrovnik is port of call, and being such does not make the same revenues as the ports of embarkation. The Port consists of two anchorages: Gruž and the Old City.

## **Data**

Data acquired from the Dubrovnik Tourist Board presented insight of cruise arrivals in the last seven years with the prediction for 2018. Table 1.1 states that in 2011 1.072.681 passengers arrived on 665 ships, in 2012 1.040.935 passengers arrived on 643 ships, in 2013 1.176.007 passengers arrived on 688 ships which is the record of single Dubrovnik cruise season, while in 2014 915.065 passengers arrived on 577 ships, in 2015 873.392 passengers arrived on 601 ships, in 2016 881.956 passengers arrived on 638 ships, while last year in 2017 742.665 passengers arrived on 538 ships. Estimated number for 2018 season is 779.314 passengers arriving on 491 ships.

According to forecasts of cruise arrivals in 2018, and average number of cruise passengers in the last years from the Port Of Dubrovnik data it has been estimated that in May, June and August it will come to increase of number of passengers than the last year. On the year level, an increase of 26 000 passengers is estimated, which is 3% more than the last year. The reason for that is that even there is going to be fewer calls than the year before it is mainly due to arrivals of bigger ships with more passengers. It is evident that has come down to the fall on numbers of arrivals due to several reasons: According to director of Port of Dubrovnik Mrs. Antun Asić shipping companies such as Royal Caribbean changed some of their routes and left the East Mediterranean due to new emerging markets in Asia, and long popular exotic destination such as South Caribbean (Kovacevic, 2015). Second reason is that most Mediterranean ports such as Venice made restrictions for size of the ships that are arriving due to overcrowdings 'which resulted in mega cruisers with 5000 to 6000 passengers withdrawing from the Mediterranean (Kovacevic, 2015). Dubrovnik positioned itself as port

for cruisers with from up 1000 to 4000 passengers that are 47% of all calls in the city (Pavlic, 2010).

Cruisers are staying in Dubrovnik in average 13 hours, and passengers are spending five to six hours on the shore in the destination (Caric, 2011). As a destination for the cruise tourism Dubrovnik has to satisfy the most significant offer to the cruise tourists, and that is shore excursions and organized Old City sightseeing's. Before arriving in the destination cruise guests are booking shore excursions and tours at the ship based on their preferences. Cruise companies have pre- arranged contracts with the destination tourist agencies regarding the excursions, where company takes around 20% of the income (Horak, Marušić, Kušen 2007). Dubrovnik is offering five types of destination excursions. Besides the classical Old City and neighboring areas tours there are: Jeep Safari, Blue Trail Horseback Riding Tour and Three Islands Tours ( Krajina, 2013). Most of the trips are half day length from 3 up to 4 hours in a pre-arranged schedule, where Old City tours includes possibility of free time with shopping and further spending (Krajina 2013). Prices of the longer trips in Dubrovnik are ranging between 45 to 66 euros, where shorter excursions are from 41 to 62 euros ( Krajina 2013). Comparable with competitor destinations such as Venice where shorter trips are from 32 to 74 euros Dubrovnik positioned itself as slightly less expensive. Furthermore, 77% of all the passengers are staying full time on the shore (five to six hours), while 33% are staying up to three hours in the destination ( Matković, Pranic 2010). While they are in the destination, guests are experiencing the city in organized trips (42%), independent sightseeing (69%), consuming drinks (81%) and food (48%) (Matković, Pranić 2010). According to research carried out by the Institute for Tourism, the average expenditure of the passenger ashore is 41€, and the crew 26€. Number of crew members can be estimated with the crew to passenger ratio, with one crew member coming to two passengers (Pavlić, Portolan 2010). If number of 1.176.007 cruise tourists that arrived in 2013 is taken in consideration, which was the year

with highest number of cruise passengers coming to Dubrovnik ever, it can be estimated that in that season total revenue from the cruise tourist was approximately 48.216,287 €. As not all of the crew members are going ashore due to work, it is estimated that 40% of them are going in the destination (Pavlič, Portolan 2010). Taking in the consideration of numbers from 2013 and 40% assumption, 235.201 crew members were in the destination at that time, with 26€ expenditure pro crew member. Total income coming from them can be estimated around 6.115,226 €.

Another significant income coming from the cruise tourism are port charges coming from ship berthing in the Port Of Dubrovnik. Port charges include: pilot dues, transit passage fee, garbage collection, and water and lights dues (Brautović, Krzelj 2007). Given the data from the Port of Dubrovnik in PDF file, a single cruise ship pays numerous fees:

- Pilot fee – Every ship entering the harbor is paying for the pilot who is maneuvering the ship in amount of 800 €
- As ship is passing through the national waters of Republic of Croatia, it uses local navigational and lighthouse systems which costs from 2000 € up to 3000 € and this money is going directly to state national budget for maintenance of nautical infrastructure.
- Given the ship size in BT and passenger numbers, ship berthing costs 512 € which stands also for leaving the berth in the same amount. This leads to estimate that single ship pays approximately 1000 € in total for these actions. ( numbers were taken in consideration for large cruisers from 77000 BT and higher that are common in Dubrovnik)
- Taxes for using the shore starting with the base price of 550 € adding the ships BT and number of passengers. Using the assumption for large cruisers of 77000 BT the



total amount that ship of this size pays for 12h of stay, the estimated income is from 8000 to 10 000 €.

- Garbage disposal – includes hard and liquid garbage, with 50 € for m<sup>3</sup>, and 100 € for a liquid truck of 8t space for liquid garbage. Estimated total income pro ship is 200 €.
- Water and electricity - price is 4 € per m<sup>3</sup> that the ship is using for water supply which can lead to estimation of 200 € for water pro ship. Electricity is charged 10 € for connection unit and 0,40/KW that ship uses.

City of Dubrovnik has a direct income coming from bus agency providers who are picking up the guests from the Port of Dubrovnik and leaving them on Pile Gate. Bus providers are paying the fees for using the Pile area from which Dubrovnik are generating around 4 million KN (Marušić, 2014).

Table 1.2 projects total income from cruise passengers in Dubrovnik in following 2018 year by previous given data. Number of 779.314 guests was taken, which was multiplied with consumption of 41 € which gave total income from passengers in amount of 31.951.874 €.

Table 1.3 projects total income coming from the cruise staff taking into consideration ratio of one crew member on two passengers, and the fact that 40% of the crew leaves the ship, while rest stays to perform duties onboard the ship. Number of 155,863 crew member was multiplied with 26 € consumption per person which gave total profit of 4.052.438 €. Table 1.4 projects total income coming from port fees on estimated 491 calls in Dubrovnik. Pilot fees are 800 € per ship, ship berthing is 1000 € per ship, ship shore usage for embarkation and disembarkation is 9000 € per ship, garbage disposal for both hard and liquid is 200 € per ship, while water refilling is 250 € per ship. Data for electricity costs were not found. Total amount of income that will Port of Dubrovnik acquire is 5.523.750 € for the 2018 season.

Predictions were made on basis of large cruise ships form 70 000 BT and above with caring capacity of 2000 passengers to 4000. Assumptions for that were made from the interview with Dubrovnik Tourist Board where was stated that 2018 year will see drop in numbers of cruise arrivals, but there will be increase in large ships caring more passengers due to cruise company decisions and changes in cruise schedules. Cruise fees in national waters for using navigational waterways are not included in this table as this income goes to national government treasure.

When examining the impacts on sustainability and social factors besides usual questions regarding overcapacity of destination, degradation of historical monuments, noise and traffic jams; there comes more and more to question of environmental impacts and pollution of ecosystem.

## **Discussion**

Taken into consideration the numbers examined above, realized income coming from cruise ships should not be neglected. Passenger and crew consumption, port dues and other expanse paid by the cruise companies bring without doubt substantial profit to local business and authorities in Dubrovnik. When looking economic benefits it is obvious that both the City of Dubrovnik and the Port of Dubrovnik are major earners in cruise tourism. It is evident that the total income is increasing every season, and new records are achieved.

Economic issues surrounding the cruise tourism are also including potential direct and indirect environmental impacts. The environmental impacts are in particular negative impacts on marine and coastal systems. This problem has recently become subject of many research of how much cruisers are influencing on the environment, but it is certain that air emissions from fuel and waste incineration are polluting the environment. Other waste streams that are specific to cruise ships are human waste and grey water, oily bilge water, ballast water

(Copeland, 2009; US Environmental Protection Agency, 2009). Greywater (water from sinks, showers etc.) is usually discharged overboard untreated, which is legal by international regulations. When it comes to human waste, oily bilge water, air emissions and waste there are numerous strict regulations on how to handle with them. MARPOL is the International Convention for the Prevention of Pollution coming from ships that every cruise company and ship has to implement and follow or otherwise they will suffer severe consequences. In the recent years cruise companies made important steps in implementing new technologies, and waste management planning. More sustainable waste disposal options are being adopted by the companies including recycling targets: better treatment of grey water, zero discharge of hazardous waste and cleaning chemicals, improved installation for separation of oil form bilge water and installation of in board waste management. Most of the cruise companies are under pressure from regulation agencies to adopt waste policies where is recycling prioritized over disposal options. Average person aboard the ship produces 1 kg burnable waste, 0.5 kg of food waste and 1 kg tin and glass waste per day (Johnson 2002). Taking into consideration these numbers and the large ships with 2000 up to 4000 persons that are usually coming into Dubrovnik, these volumes can have significant impacts on local health and marine environment if not handled properly. The damage effecting the environment is there and it should not be neglected, but the problem in Dubrovnik is the lack of planning in waste collection and disposal. The City does not have clear and concrete plan for recycling the sorted waste coming from the ships. That waste is mixed again and disposed in irregular ways because of the lack of recycling system. Many of these effects can be overcome with new technologies and trough new partnerships. Port of Gruž should be supported to undertake sustainable approach to disposal of ship waste.

Dubrovnik is now experiencing uncontrolled development of cruising tourism which has negative impacts on stationary tourists and local population and their quality of life. Due to

large concentrations of mega ships in a short period of time with up to 4 ships berthed in Port of Gruž at the same time, overcrowding is the expected thing to occur. Dubrovnik as a smaller place is the attractive destination that must be seen and give extra value to the cruise. The current numbers of passengers and cruise arrivals are bringing the danger of degradation of destination image. Heavy burden on a community's infrastructure such as Old City given by the number of people found inside in a peak time of the day can make local area suffer. As a leading cruise destination in the Croatian part of the Adriatic, Dubrovnik is experiencing huge growth, but at the same time it is also experiencing challenges for proper development. Large tourism resources potential is confronted with danger of losing control over devastation of the location and significant commercialization. The lack of planning in acceptance of mass arrivals is the guarantee of various negative effects in the destination. Dubrovnik needs better acceptance of cruise passengers and it needs to implement higher quality management of cruise passenger's circulation. This task lies on the operational sector such as City authorities, travel and shipping agencies, in order to increase already good economic impacts, and reduce negative social and environmental impacts.

Most of the negative impacts that are arising are the consequences of lack of proper organization and destination management, limited accommodation capacities, and lack of direct professional involvement in issue solving.

### **Negative impacts**

- Overcrowdings
- Traffic Jams
- Environmental impacts
- Impact on stationary tourism
- Lack of original and autochthone products in retail stores

In order for Dubrovnik to better organize cruise acceptance, local community must be involved to shape and improve destination management.

Areas which need improvements and focus are:

- Concentration of traffic over weekend
- Concentration of traffic in the first half of the day
- Cruise arrivals each day in week per two ships maximum will reduce the stress on Old City area
- Construction of new cruise terminal in Port of Gruz with appropriate services will improve passenger acceptance

## **Conclusion**

Dubrovnik earns significant income from the cruise tourism, where 2018 predictions based on previous seasons estimate that the profit would be 42.000.000 € per season combined in all segments. This amount should not be neglected, as it takes 90% of all cruise tourism achieved in Croatia, and substantial benefits to the Croatian tourism at all. Passengers coming on the cruise are free promoters and marketers for the Dubrovnik in their countries. Guests arriving with the ship have the high chance that will come back as stationary tourist with their families. Given the positive facts and to reduce the negative impacts, Dubrovnik needs to reorganize its management of cruise arrivals and passenger circulation in order to coordinate all interests and protect itself as a destination. All of the participants such as Port of Dubrovnik, City Authorities, and Dubrovnik Tourist Board that forms integral product of Dubrovnik as cruise destination, must adapt and act as partners in order to maximize the

positive and minimize the negative effects. Setback or failure of one partner will increase negative impacts on the destination. Experiences coming from the worldwide cruise destinations indicate that this type of tourism has a very strong interactive effect on the environment, and changes in socio-cultural elements both positive and negative. These changes are affecting Dubrovnik also, and the amount that would be manifested on the destination itself will depend on the preparedness of local community to identify them, foresee them, direct and shape them in acceptable manner.

## **Appendix**

Table 1.1 presents cruise arrivals and number of passengers in Dubrovnik for the last seven years and predictions for ongoing 2018 year.

| <b>Year</b>  | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Pax</b>   | 1.072.681   | 1.040.935   | 1.176.007   | 915.065     | 873.392     | 881.956     | 742.665     | 779.314     |
| <b>Calls</b> | 665         | 643         | 688         | 577         | 601         | 638         | 538         | 491         |

Table 1.2 projects total income from the cruise passengers in Dubrovnik in following 2018 year by previous given data

| <b>Type of income</b>          | <b>Includes</b>  | <b>Total amount from expected 779.314 passengers</b> |
|--------------------------------|--|--|
| <b>Guest consumption (41€)</b> | Food, Drinks, Trips, Excursions Souvenirs, Clothes, City Walls, Museums, City Tour | <b>31.951.874 €</b>                                  |

Table 1.3 projects total income from the cruise staff crew given the crew member to passenger ratio and prediction of 40% crew members leaving the ship

| <b>Type of income</b>         | <b>Includes</b>         | <b>Total amount from expected 155,863 crew members</b> |
|-------------------------------|-------------------------|--|
| <b>Crew consumption (26€)</b> | Food, Drinks, Souvenirs | <b>4.052.438 €</b>                                     |

Table 1.4 projects total income of cruise tourism in 2018 coming from port fees on estimated 491 calls in Dubrovnik

| <b>Type of Service</b>   | <b>Per Ship</b> | <b>Total ( 491 ships)</b> |
|--|-----------------|---------------------------|
| Pilot Fees   | 800 €           | 392.800 €                 |
| Ship Berthing  | 1000 €          | 491.000 €                 |
| Ship shore usage for disembarkation and embarkation            | 9000 €          | 4.419.000 €               |
| Garbage disposal ( hard and liquid)                            | 200 €           | 98.200 €                  |
| Water and electricity<br>(No data for electricity expenditure) | 250 €           | 122.750 €                 |
|  |                 | <b>TOTAL AMOUNT</b>       |
|  |                 | <b>5.523.750 €</b>        |



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