



ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACTS AND RISKS OF CRUISE TOURISM

SUMMARY

As the popularity and geographical reach of cruising has grown so has its environmental, social and economic impacts. This paper discusses the types of risks and negative impacts that cruise tourism may cause, like: impacts from physical arrival of cruise ships, air pollution, noise pollution, congestion, cultural tangible and intangible heritage degradation, community disruption, low tourism multiplier effect and increased economic leakage, cruise tourism destination reputational risks. It outlines the possible negative impacts and risks due to the cruise tourism and intends to be a reflection that invites decision makers of cruise destinations to think about what they expect with the promotion of cruise tourism and to make decisions considering all the risks of the segment. It's important to increase the awareness and interest of the government, investors, environmentalist groups and media in above mentioned risk-factors and to develop measures for their mitigation and neutralization.

The cruise ship industry has been the fastest growing segment in the travel industry around the world. Itself The Port of Batumi, recognized as a logistics center in the Caucasus region, was a popular cruise direction even in the second half of the twentieth century. In recent years, cruise tourism still regains the actuality, which is confirmed with the growing number of annual arrival of cruise ships as with the interest of Black Sea Basin countries in Batumi direction. (<http://gobatumi.com/ge/discover-ajara/types-of-tourism/sakruizo-turizmi/474>)

Bringing large numbers of people to concentrated areas of destinations for brief periods, thus multiplying and concentrating the impacts, characterizes cruise tourism. As the popularity and geographical reach of cruising has grown so has its environmental, social and economic impacts. The Sustainability Accounting Standards Board (SASB) recognised cruising as “the single fastest growing segment of the tourist industry” and argued that “the environmental and social impacts of the industry are growing in scale”. (*Sustainability Accounting Standards Board, 2014, “Cruise Lines: Sustainability Accounting Standards”, [http:// www.sasb.org](http://www.sasb.org)*)

LEDI DZNELADZE

*Batumi State Maritime Academy,
Doctor of Economics, Associated Professor
E-mail: ledidzneladze@mail.ru*

There is no question that cruise tourism has the potential to bring money to local businesses, but ensuring the sustainable development of a cruise destination has a very high cost as it also generates impacts, that can negatively affect the environment and host communities. Then the question arises: are we sure that the benefits of attracting cruises to a tourism destination are higher than the costs?

This paper discusses the types of risks and negative impacts cruise tourism may cause and intends to be a reflection that invites decision makers of cruise destinations to think about what they expect with the promotion of cruise tourism and to make decisions considering all the risks of the segment. The paper outlines these impacts in environmental, social and economic categories.

Environmental impacts

The cruise ships, their passengers, or their suppliers may cause environmental impacts

from cruise tourism. The primary impacts are disruption to aquatic systems, pollution and environmental degradation. Among environmental impacts, we can include the following:

1. Impacts from physical arrival of cruise ships: Navigating and landing cruise ships at a destination causes aquatic disruption. If not properly zoned and regulated, cruise tourism can contribute to the loss of habitats or species in marine environments caused by facility construction, ship navigation, discharge and shore excursions. Cruise ships may also generate impacts from ballast water discharge and bringing invasive species to the region.

Ballast water is a type of water with potential impacts associated with shipping. It is water taken in by ships at sea to balance the weight of the ship. Ballast water discharge has been recognized as one of the shipping industry's potential impacts on biodiversity. A ship may take in water in one region of the world, then expel the water in a different region, thereby displacing species that can be invasive and disrupting local ecosystems. These include bacteria, microbes, small inverte-



brates, eggs, cysts and larvae of various species. The spread of invasive species is now recognized as one of the greatest threats to the ecological and the economic wellbeing of the planet. (*International Maritime Organization, "Ten of the Most Unwanted", <http://globallast.imo.org> (14-09-2015)*)

Best practices in mitigating ballast water impacts include proper monitoring of ballast water, treatment of ballast water prior to discharge and ports or terminals that have adequate reception facilities for the reception of sediments. (*International Maritime Organization, "International Convention for the Control and Management of a Ship's Ballast Water and Sediments", www.globallast.imo.org (26-01-2015)*)

2. Marine degradation: Marine degradation can impinge on a destination's recreational offerings (beaches, snorkeling, diving, boat excursions) as well as its livelihoods derived from fishing, causing losses of income. This type of degradation can also disrupt various ecosystem services, including climate regulation. (*World Tourism Organization and Asia-Pacific Tourism Exchange Center (2016), Sustainable Cruise Tourism Development Strategies – Tackling the Challenges in Itinerary Design in South-East Asia, UNWTO, Madrid*)

3. Air pollution: Air pollution occurs from particular matter emitted when ships burn fuel while docked at a destination without adequate purification systems. (*Behar, M., "Can the Cruise Industry Clean Up its Act?", www.archive.earth.org (26-10-2014)*) This pollution can cause health issues, as well as degrade the facades of historic buildings and other facilities.

On the one hand, cruise ships need to burn fuel to generate power. On the other hand, burning fossil fuels causes three primary impacts: (1) Greenhouse gas emissions (primarily from CO₂) and contribution to climate change; (2) Particulate emissions, air pollution and resulting health issues from the emissions of CO (carbon monoxide), SO₂ (sulfur dioxide) and NO₂ (nitrogen dioxide) and (3) Damage to marine environments if fuel is spilled (though it is rare for cruise ships).

Overall, shipping vessels of all types accounted for approximately 3.1% of global CO₂ emissions in 2012, of which cruise lines represented 3.3% of shipping vessel CO₂. Therefore, cruise ships accounted for 0.1% of global CO₂ emissions in 2012. (*International Maritime Organization, Third IMO GHG Study 2014 – Final Report, Marine Environment Protection Committee, www.imo.org (26-01-2015)*)

The most common fuel used by cruise ships is bunker fuel, which has high sulfur content and resulting particulate emissions when burned. Two approaches for reducing particulate emissions are gaining popularity:

a) fuel switching and scrubbing: To reduce sulfur

emissions, ships could switch from bunker fuel to marine gas oil (MGO), but it is expensive and currently unavailable in South-East Asia, which could be problematic. Alternatively, to switch to liquefied natural gas (LNG), this is available but requires a costly retrofit of the vessel for its use. In addition, some cruise ships have begun equipping ships with advanced emissions purification systems (known as scrubbers), which remove sulfur dioxide from fuel emissions. (*"The Fuel that Drives Success", International Cruise & Ferry Review, autumn/winter 2014, pp. 92-93*)

b) to insist and in cases regulate that ships use onshore power. It means that the ship plugs into the destination's electricity grid for its power use. To follow this approach, the destination must have the demand capacity and infrastructure to supply power to the cruise ships at a reasonable cost. Onshore power also benefits the destination by reducing noise pollution from docked ships, which may be a concern for terminals close to residential or commercial areas. (*World Tourism Organization and Asia-Pacific Tourism Exchange Center (2016)*)

4. Noise pollution: Noise pollution may also occur as ships arrive and as large numbers of passengers disembark. In addition to affecting local inhabitants, noise produced by cruise ships' engines, propellers, generators and bearings can cause marine species to accidentally collide with vessels or abandon their natural habitat. (*International Fund for Animal Welfare, www.ifaw.org/international (20-03-2015)*)

The physical arrival of the cruise ship is not the only cause of environmental impacts; **shore excursions** are too. When visitation exceeds the capacity of the natural attraction to recuperate, degradation occurs. These impacts are amplified when cruise passengers are not properly briefed and monitored for responsible behaviour specific to the site. Environmental impacts of shore excursion activities can be severe when not properly regulated.

Furthermore, **construction of new hotel complexes and infrastructure along the seashore** can negatively affect the environmental nature. Therefore, in some countries it is forbidden to build multi-storey buildings along the seashore. Tourism is a product of many different fields, and therefore their impact on environment must be taken into consideration. (*Samadashvili, U. (2011), "Positive and negative effects of tourism in Georgia", Tourism: economics and business – II International Scientific-Practical Conference*)

Although cruise ships represent a small fraction of the entire shipping industry worldwide, public attention to their environmental impacts comes in part from the fact that cruise ships are highly visible and in part be-



cause of the industry's desire to promote a positive image.

Social impacts

Cruise tourism's social impacts are encompassed by the effects it has on local stakeholders. They may be derived from environmental impacts or arise from interaction among groups. Common impacts associated with cruise tourism are congestion, cultural heritage degradation and community disruption.

1. Congestion: Cruise passenger visitor flows may disrupt or congest local traffic and pedestrian routes. This type of congestion, termed People pollution, crowds areas used by inhabitants. Changing local infrastructure to accommodate visitor flows may reduce congestion, but may also be unfavorable to locals if preference is given to accommodating tourists.

2. Cultural heritage degradation: Impacts to a destination's cultural heritage generally result from poor management of large-scale visitation in finite periods and exist in two forms. First, local communities and traditional cultures may be impacted, especially in rural areas where their intangible heritage forms an attraction despite their not wanting to interact with cruise passengers. Second, cruise ship emissions or high-intensity visitor traffic may degrade cultural heritage sites. Large visitor flows cause wear and tear on infrastructure, facilities, attractions and sites (Ashworth, G. J. (2012), "Do tourists destroy the heritage they have come to experience?", Channel View Publications, Bristol, pp. 278-286). **Commercialization of local artisans, culture and customs** may be taken as another concern. Excessive adaptation to the expectations and wishes of local artisans, culture and customs can cause the loss of originality of the national products, or "erosion" and, on the other hand, the so-called "Reconstruction of ethnoses". (Samadashvili, U. (2011))

3. Community disruption: Social impacts include dissatisfaction with local stakeholders who do not perceive that their communities receive adequate benefits from cruise tourism despite being subjected to other types of disruption and impacts. This can include both local businesses' views regarding their participation or conditions for supplying goods or services to cruise lines, as well as local resident's views.

Besides the impacts mentioned above, cruise ships that carry thousands of people in close proximity to each other can provide an environment for the rapid **spread of contagious diseases** and outbreaks of gastroenteritis and less commonly of Norovirus, can be a serious cause for concern. (Jones, P. Hillier, D. Comfort, D., "The Environmental, Social and Economic Impacts of Cruising and Corporate Sustainability Strategies", Athens Journal of Tourism, 2016)

In some ways, the social and economic impacts of cruising are interlinked. The increasing numbers of cruise ship tourists generate a range of economic benefits to host economies and communities, including port expenses and the purchase of fuel, water, food and beverage supplies as well as passenger expenditure in cafes, restaurants, excursions and souvenirs. However, cruise ships can also contribute to **changes in traditional value systems, lifestyles and behaviours at destinations**. Cruise ships can be an important source of employment, both aboard ship and on shore. While a number of cruising companies employ people from the destinations they visit, **low pay, long hours, insecurity and exploitation** are currently commonplace. (Brida, J. G, Zapata, S., "The impacts of the cruise industry on tourism destinations", Sustainable tourism as a factor of local development, Monza, Italy, 7-9/11/2008)

Furthermore, the reason for social tensions between local population and tourists can be **the different levels of life**. Local residents have the impression that tourists are much richer than they are, because they spend more freely their money. They forget that tourists are on holiday and can allow themselves to spend more than they usually do in everyday life in their homeland. (Samadashvili, U. (2011))

Economic impacts

Two overarching economic risks exist for a destination when cruise tourism is developed. First, cruise tourism arrivals cease despite a destination becoming reliant on its revenue because a cruise line or lines decide no longer to call at that port. Second, cruise lines continue to call at a destination even though it is no longer desirable by most local stakeholders to receive the ships and their passengers and costs more for a destination to receive cruise ships than is covered by the corresponding revenues. (World Tourism Organization and Asia-Pacific Tourism Exchange Center (2016))

The economic impact of cruise tourism and its benefit to local livelihoods is a ubiquitous topic for destination policymakers and stakeholders that arises when discussing cruise tourism development. Cruise tourism has been criticized for **generating less spending per passenger in the local economy** than non-cruise tourists. Cruise tourism may also generate less employment at the destination than other forms of tourism, especially at transit ports. Economic impact is dependent on the degree to which passengers are able to increase or decrease spending within a destination.

When cruise lines develop their own port reception facilities, when they are allowed to bring their own support services and ground handlers to destinations, when cruise lines operate their own tendering services and shore excursions, all of these scenarios lead to **low tour-**



ism multiplier effect and increased economic leakage, which is unfavourable to the destination. The tourism multiplier effect describes the circulation of tourism revenue within a local economy. When local businesses are foreign-owned, the propensity for leakage increases. Finally, cruise tourism spending may remain within the local economy, but **not benefit the communities impacted by cruise tourism** as the local authorities may use tourism's benefit for other interests and lack transparency in its distribution. (*World Tourism Organization and Asia-Pacific Tourism Exchange Center (2016)*)

In addition, accommodation of large cruise ships into port requires a great deal of initial **capital investment in infrastructure** as well as maintenance costs. As cruise ships continue to grow larger, further investment may be required. Without significant foreign investment into this infrastructure, it is questionable whether construction of large cruise ship terminals could pass a benefit-cost analysis.

Moreover, another economic negative impact may be a **market balance breach**. Increasing number of high-paying tourists in the country leads to increase of tariffs on prices and services for consumer products. It sharply worsens the condition of the local, low, fixed purchase ability buyers, and essentially drives them out of the consumer market. (*Samadashvili, U. (2011)*)

In conclusion, an increasing appreciation for protecting natural and cultural heritage while benefiting local communities enables a destination management approach of controlling demand rather than a traditional goal of just increasing visitor arrivals. Based on the study of possible negative impacts of cruise tourism, the following recommendations are provided:

Ø The goal should be to achieve a balance of min-

imizing impacts to the point where they do not pose risks to local livelihoods or to natural capital, based on an assessment and characteristics specific to each destination. Impacts to a destination should be considered carefully when evaluating the approach for cruise tourism development.

Ø Cruise development may lead to loss of precious biodiversity and destruction of cultural heritage if infrastructure and itinerary development outpace monitoring and evaluation of environmental and cultural resources and fragility.

Ø The lack of planning that allows confronting the massive arrivals of cruise tourism is the guarantee of multiple negative effects in a destination wherever this segment exists or is under consideration like an option for its economic growth. Thus, careful planning is essential.

Ø As the issues related to air pollution and ballast water impact are complex and evolving, destinations should work with cruise lines, industry groups and regulators to seek viable solutions that reduce pollutants to host communities and enable the continued viability of cruising in the region.

Ø Significant expenses are needed for abrupt improvement of ecological tourist condition in Georgia, but besides, it is necessary to master the principles of tourism and ecological tourism influence and also it is necessary to use foreign countries experience in ecological tourism organization.

Ø Finally, it is necessary to distinguish and systematize possible negative factors at state and local levels, use international experience of tourism development centers and develop measures for their mitigation and neutralization.

REFERENCES AND BIBLIOGRAPHY:

1. Ashworth, G. J. (2012), "Do tourists destroy the heritage they have come to experience?", Channel View Publications, Bristol, pp. 278-286;
2. Behar, M., "Can the Cruise Industry Clean Up its Act?", <http://www.archive.earthlink.org> (26-10-2014);
3. Brida, J. G., Zapata, S., "The impacts of the cruise industry on tourism destinations", Sustainable tourism as a factor of local development, Monza, Italy, 7-9/11/2008;
4. Jones, P. Hillier, D. Comfort, D., "The Environmental, Social and Economic Impacts of Cruising and Corporate Sustainability Strategies", Athens Journal of Tourism, 2016;
5. <http://gobatum.com/ge/discover-ajara/types-of-tourism/sakruizo-turizmi/474>;
6. International Fund for Animal Welfare, <http://www.ifaw.org/international> (20-03-2015);
7. International Maritime Organization, "International Convention for the Control and Management of a Ship's Ballast Water and Sediments", <http://www.globallast.imo.org> (26-01-2015);
8. International Maritime Organization (IMO), "Ten of the Most Unwanted", <http://globallast.imo.org> (14-09-2015);
9. International Maritime Organization, Third IMO GHG Study 2014 – Final Report, Marine Environment Protection Committee, <http://www.imo.org> (26-01-2015);
10. Samadashvili, U. (2011), "Positive and negative effects of tourism in Georgia", Tourism: economics and business – II International Scientific-Practical Conference, <https://www.old.bsu.edu.ge>;
11. Sustainability Accounting Standards Board, 2014, "Cruise Lines: Sustainability Accounting Standards", <http://www.sasb.org>.
12. "The Fuel that Drives Success", International Cruise & Ferry Review, autumn/winter 2014, pp. 92-93;
13. World Tourism Organization and Asia-Pacific Tourism Exchange Center (2016), Sustainable Cruise Tourism Development Strategies – Tackling the Challenges in Itinerary Design in South-East Asia, UNWTO, Madrid.

„საკრუიზო ტურიზმის ეკოლოგიური და სოციალურ-ეკონომიკური ზეგავლენა და რისკები“

ლემი ძეგლაძე

**ბათუმის სახელმწიფო საზღვაო აკადემია,
ეკონომიკის დოქტორი, ასოცირებული პროფესორი
E-mail: ledidzneladze@mail.ru**

რეზიუმე

საკრუიზო ტურიზმით დაინტერესება და გეოგრაფიული წვდომა სწრაფი ტემპით იზრდება, ამდენად, ტურიზმის ამ სახეობის ეკოლოგიური და სოციალურ-ეკონომიკური გავლენის მასშტაბებიც თანდათან ფართოვდება. სტატია ასახავს იმ რისკებისა და ნეგატიური გავლენის ტიპებს, რომლებმაც შესაძლებელია თავი იჩინონ საკრუიზო ტურიზმის შედეგად, როგორიცაა: პორტში საკრუიზო გემის შემოსვლით გამოწვეული გავლენა, ჰაერის დაბინძურება, გარემოს „დაბინძურება“ ხმაურით, მჭიდროდ დასახლებული პუნქტების გადატვირთვა, მატერიალური და არამატერიალური კულტურული მემკვიდრეობის დაზიანება, საზოგადოების უკმაყოფილება, ეკონომიკური სარგებელი და სიცოცხლის ხანგრძლივობა, საკრუიზო ტურიზმის დანიშნულების ადგილის რეკონსტრუქციასთან დაკავშირებული რისკები. მასში გამოკვეთილია საკრუიზო ტურიზმით გამოწვეული რეალურად მოსალოდნელი საფრთხეები, რათა მოხდეს საკრუიზო ტურიზმის განვითარების დაგეგმვის პროცესში ჩართული მხარეების ცნობიერების ამაღლება აღნიშნული რისკების შესახებ. მნიშვნელოვანია, რომ გაიზარდოს მთავრობის, ინვესტორების, გარემოსდაცვითი ჯგუფებისა და მედიის დაინტერესება ამ რისკ-ფაქტორების მიმართ, ღრმად იქნას შესწავლილი აღნიშნული პრობლემატური საკითხი და გატარდეს პრევენციული ღონისძიებები, რათა მაქსიმალურად შემცირდეს საკრუიზო ტურიზმის შესაძლო ნეგატიური ზეგავლენა.

ჟურნალი „სოციალური ეკონომიკა“ – XXI საუკუნის აქტუალური
პრობლემები. რეგისტრირებულია თბილისის რეგიონული ცენტრის
(საგადასახადო ინსპექციის) მიერ. რეგისტრაციის №19181.
რედაქტორის ტელ.: 2-36-51-16; 2-36-43-78; 599-33-53-92.
web: socialuri-economica.bpengi.com; www.socialuri-economica.ge
e-mail: social_economica@mail.ru; socialuri-economica@bpengi.com

გადაეცა ასაწყობად 15.07.18.
ხელმოწერილია დასაბეჭდად 18.07.18.
სააღრიცხვო-საგამომცემლო თაბახი – 17,65.

ტექნიკური რედაქტორი და კორექტორი: ნანა სახეჩიძე
სტილური რედაქტორი: ბადრი ცხადაძე
კორექტორები: თინა ცისკარიშვილი, ნანა ბოლქვაძე
კომპიუტერული უზრუნველყოფა და დიზაინი: ზურაბ წერეთელი