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Sustainable development, pandemics, and tourism – intersections

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Abstract: *This paper aims to comprehensively examine the interrelationships between sustainable tourism, diseases, and tourism. In several previous publications, the authors explore the connection between pandemics and their impact on socio-economic development, including the tourism sector. Such an approach is crucial, as the pursuit of sustainable development (in its various aspects) requires analyzing and forecasting the influences of pandemics and tourism, both individually and interdependently. In this context, the paper represents an attempt at a theoretical examination of these interrelations, with the authors supporting their arguments with relevant examples where appropriate.*

Keywords: sustainability, principles, interrelationships, consequences, dependencies

THE ESSENCE OF SUSTAINABLE DEVELOPMENT

Sustainable development is a concept that aims to achieve a balance between economic growth, social well-being, and environmental preservation, ensuring the welfare of current and future generations. This model of development addresses the growing need to conserve natural resources, combat poverty and social injustice, and prevent environmental crises that threaten human existence.

Key Principles of Sustainable Development [1]***Integration of the Three Pillars***

Economy, Society, and Environment Sustainable development requires integrated solutions that take into account the economic, social, and environmental dimensions of human activities. This means that economic goals cannot be achieved at the expense of the environment or society. All activities must contribute simultaneously to economic stability, social equity, and environmental sustainability.

Rational Use of Natural Resources

Natural resources are limited, and their depletion or destruction could have irreversible consequences for future generations. Sustainable development calls for careful and prudent resource management by reducing consumption, enhancing renewal capacities, and preserving biodiversity. This includes waste minimization, energy efficiency, and transitioning to renewable energy sources.

Social Justice and Reducing Inequality

A key principle of sustainable development is ensuring social justice and equitable resource distribution. This involves improving access to healthcare, education, and basic services for all groups in society, with special attention to vulnerable and marginalized communities. Sustainable development supports creating equal opportunities for all, regardless of social, economic, or ethnic background.

Long-term Vision and Responsibility Towards Future Generations

Sustainable development aims for actions that are oriented towards the long-term, taking into account the needs of future generations. This means that today's decisions should be made with consideration of their lasting impact on the environment and society. Responsibility towards the future also includes taking preventive measures against environmental disasters and mitigating the effects of climate change.

Support for Innovation and Sustainable Technologies

A crucial part of sustainable development is the promotion of innovations and technologies that contribute to more sustainable resource use and more efficient management of natural systems. Technologies that reduce carbon emissions, promote recycling, conserve water, and foster "green" industries exemplify how innovation can enhance sustainability.

Partnership and Global Responsibility

Sustainable development requires collaboration at the global, national, and local levels. Challenges such as climate change, water conservation, and waste management are global issues that demand coordinated efforts from all nations and organizations. Sharing knowledge, technology, and resources is key to achieving global sustainability.

Sustainable development is a dynamic process that requires a shift in the way we think and act. To ensure long-term prosperity for all people and the environment, it is essential to seek a balance between economic interests, social justice, and environmental responsibility. This concept is not only aimed at addressing current issues but also at creating a better future for future generations.

The relationship between sustainable development, diseases, and tourism is complex and multifaceted, with each of these areas interacting with the others in ways that impact global society, the economy, and the environment. Here are some key directions for exploring this connection.

In the concept of sustainable development, the economic dimension should take the lead. The economy provides the mechanism for balancing economic growth, population well-being, and the improvement of social status while respecting the principles of a "green transition." The economic branch of sustainable development offers concepts for the "present" and "today" while honoring the right of future generations to their own "green future."

SUSTAINABLE DEVELOPMENT AND OUR HEALTH

Sustainable development aims to achieve a balance between economic growth, social well-being, and environmental preservation. One of its primary goals is to improve public health by minimizing negative factors such as pollution, insufficient access to healthcare, and poor water and food quality. Many diseases (both infectious and non-infectious) are directly linked to these issues, especially in developing regions.

The lack of basic hygiene conditions in marginalized communities and refugee camps, particularly in Africa, often sparks local or global epidemics and pandemics. For example, in the Democratic Republic of Congo, camps in Goma, located near the Rwandan border, have temporarily housed over 2.5 million displaced individuals. This displacement is a result of decades of military conflicts between armed groups from Rwanda and Eastern Congo. Diseases such as cholera and Ebola have been repeatedly reported in these camps. In 2023, a global outbreak of monkeypox began from this region, which has since spread to Europe. The first case in Bulgaria was reported in mid-June 2024. Since early 2023, over 20,000 cases of monkeypox have been recorded in Goma.

When sustainable development is applied to public health, it seeks to prevent and manage epidemics and pandemics by improving living conditions, providing vaccines, and ensuring access to healthcare services. The lack of sustainable health systems can lead to the spread of diseases with serious economic and social consequences, including impacts on tourism.

There is uneven territorial access to vaccines and varying proportions of vaccinated populations. For instance, by 2022, more than 9 billion doses of COVID-19 vaccines had been produced, but Africa received only about 540 million doses (around 6% of all COVID-19 vaccines) and used 309 million doses. Less than 10% of Africans were fully vaccinated against this pandemic disease [2]. This means that approximately 1.2 billion Africans had not received a single dose of the vaccine. According to the same author, Africa accounts for 23% of the global disease burden but consumes only 1% of the world's healthcare goods and services.

THE CONNECTION BETWEEN PANDEMICS AND TOURISM

Tourism often contributes to the spread of diseases, as people travel long distances and carry various pathogens with them. Epidemics like COVID-19, SARS, or Ebola have clearly demonstrated how quickly

contagious diseases can spread globally through international travel. On the other hand, pandemics such as COVID-19 have had a severe economic impact on the tourism industry, highlighting the interdependence between these areas.

The impact is twofold. Tourism also influences the spread of pandemics. Most scholarly works in this area suggest that the primary reasons for the increasing pandemic threat in the 21st century include: rapid population growth and its hypermobility, intensified urbanization processes, the concentration of many people in small geographic spaces (e.g., mountain tourist destinations), and the development of global transportation networks that act as vectors for the spread of pathogens. These views are supported by authors such as Labonte (2011), Scott & Gössling (2015), Pernerlić & Petkov (2020), Gössling, Scott & Hall (2020), Dumont (2020), and organizations like the World Bank (2012) and the World Tourism Organization (2020).

The development of air travel, particularly with the rise of low-cost airlines, has made reaching any point on the planet easy, inexpensive, and most importantly widespread. Several key factors drive this, as outlined by Moreno et al. [3], including irreversible globalization processes, higher incomes for a significant portion of the population, and, as a result, increased tourist traffic. Predictions at the end of the last century indicated that future tourism would depend on low-cost airlines, bypass intermediaries, and involve traveling greater distances. Consequently, the mass nature of tourism today plays a major role in the mass spread of various diseases.

In the Context of COVID-19 Spread, the spatial distribution of the first cases across continents is closely linked to the tourism industry. In some instances, the cases involved regular tourists, while in others, they were related to business trips.

Tourist destinations that have established robust health and sanitation systems can mitigate the negative effects of disease spread. Moreover, sustainable tourism promotes practices that reduce the risks of health crises, such as controlling tourist flows and adhering to health protocols. The lack of such measures, along with the absence of pandemic action plans, adequately trained staff, and epidemiological centers in the most popular resorts worldwide, has led to mass infections.

One notable example is the winter resort of Ischgl. Ischgl is a resort village in Tyrol (Western Austria), located just 8 km from the Swiss border. It has an elevation of 1,377 m, and a local population of only 1,600 residents. This ski resort became the site of a “blast” for Europe. On February 29, an entire plane of Icelandic ski tourists returned from this resort to Iceland. By March 6, more than 15 of them had already tested positive for COVID-19. On March 7, Norway announced that nearly 500 Norwegian tourists (many of whom had been in Ischgl) were on holiday in Austria and had tested positive for COVID-19. In Hamburg, Germany, 80 new positive cases were traced back to this winter resort. On March 9, another 100 infections

were reported in Denmark, linked to Ischgl, with over 100 more cases confirmed in Austria itself. Thus, more than 800 residents of European countries who vacationed at this resort became infected [4].

TOURISM AS A PART OF SUSTAINABLE DEVELOPMENT

Tourism plays a crucial role in sustainable development as it can be a primary economic driver while also having significant environmental and social impacts. Sustainable tourism aims to reduce negative effects on the environment and local communities while simultaneously promoting economic growth. Pandemics and health crises can disrupt these efforts, testing the resilience of tourism systems.

For instance, according to Dimitrov [5], it is imperative to implement energy consumption control systems. These systems enable real-time monitoring, allow the automation of climate control in buildings, improve analysis and reporting, and help optimize energy costs. They are often integrated with other systems as well. A good example in this regard is the Albena resort complex in Bulgaria.

The principles of sustainable tourism apply to all types of tourism—both traditional and alternative. Many areas have been affected by uncontrolled exploitation of available resources. Sustainable development and the increase in added value in tourism, as well as various types of tourism activities in rural, urban, protected, and urbanized areas, provide an explanation for the key problems and opportunities for resolving them on the path to achieving sustainability.

The "Charter for Sustainable Tourism in Bulgaria," proposed for discussion in 2013, finds its continuation in 2024¹. It outlines the following important principles [1]:

- *Principle of Growth for Local Communities.* The signatories of the Charter contribute to the promotion and support of growth and development in tourist areas to enhance the well-being of local communities and encourage small and medium-sized enterprises within them.
- *Principle of High Added Value.* The signatories of the Charter work to promote economic growth based on high added value solutions for the local economy, nature, and community.
- *Principle of Conservation of Protected Areas and Sites.* Protected areas and sites are among Bulgaria's greatest treasures. The signatories of the Charter commit to developing tourism activities while ensuring strict compliance with the regimes established by laws for the protection of natural and cultural territories and sites, declarations, management plans, and other applicable regulatory requirements and regulations for this purpose.

¹ Today, the Charter has been updated and was officially signed on April 2, 2024, at the Ministry of Environment and Water.

- *Principle of Eco-Friendly and Digital Accessibility.* The signatories of the Charter facilitate accessibility to tourist sites through eco-friendly rail, electric, or other public transport. They promote and ensure internet connectivity and easy access for consumers to the tourism product through widely available technologies and applications, without these becoming restrictions or obstacles.

- *Principle of Zero Impact.* Under this principle, the signatories of the Charter implement systems to avoid, reduce, and sustainably collect, recycle, and process waste, minimizing noise and other harmful impacts on the environment and climate from the tourism product, in accordance with environmental legislation and green innovations in tourism.

- *Principle of Good Practices.* The signatories of the Charter commit to sharing, exchanging, and implementing good practices that meet the highest international standards, scientific achievements, and research in the field of sustainable tourism.

Promoting health tourism (for example, due to better access to medical services) and the development of destinations that guarantee a healthy and safe environment can be a key factor for the post-pandemic recovery of the sector. Health tourism is a very broad category that encompasses a wide variety of treatments and services. In this context, medical tourism becomes a subset of health tourism. The main understandings of health tourism are summarized by Radev [6]: For instance, Henderson (2004) defines health tourism as “travel with the primary purpose of treatment in search of better health,” which may include “hedonistic pleasure from spa and alternative therapies,” while medical tourism “involves health check-ups, hospitalization, and surgical operations.” Similarly, Carrera and Bridges (2006) and Connell (2006) (cited in Kalpakchieva, 2021) identify health tourism with overall health and well-being, whereas medical tourism combines tourism with medical, surgical, or dental interventions to improve or restore health in the long term.

The example of Turkey is indicative. Plastic surgical procedures are significantly cheaper than in most developed countries. This is an important incentive for the territorial redistribution of these services, both in terms of sustainable development and the location of medical tourism. Undertaking cosmetic surgery in Turkey is a fraction of the price compared to UK and Australian prices. For example, a rhinoplasty (nose job) starts from £5000 or \$7000 respectively. A single dental implant, including all consultations, surgical fees and aftercare, can cost from £2500 or \$3000 upwards. As such, the surgical and cosmetic costs in western countries are prohibitive to most people who are wanting to improve their appearance. Depending on the type of procedure, savings on cosmetic surgery in Turkey can range from 30-70% less than the UK or Australia [7].

The presence of numerous diseases, especially catalyzed by major tourist centers, severely hampers sustainable development processes in the sector, particularly regarding economic growth, recession, job loss, and more. For example, the global COVID pandemic put an estimated 100-120 million jobs at risk. The

forecast for the global economic outlook in October 2020 predicted that GDP would shrink by 4.4% in 2020. The shock to tourism-dependent economies would be far worse. Real GDP among African countries reliant on tourism was expected to decline by 12%. Similarly, tourism-dependent Caribbean countries were projected to see a drop of 12% (WTO). Pacific island nations like Fiji could face an astonishing 21% decrease in real GDP in 2020 [8].

Among the G20 countries, the hospitality and tourism sectors account for an average of 10% of employment and 9.5% of GDP, with the GDP share reaching 14% or more in Italy, Mexico, and Spain.

In reality, the situation turned out to be far more shocking. According to the World Tourism Organization [9] in 2020:

- Over 1 billion tourists were lost;
- There was a 74% decrease in global tourist arrivals;
- The total number of tourists returned to levels seen in 1990;
- 100-120 million jobs in tourism are at risk of being lost;
- Global GDP losses for 2020 amounted to over 2 trillion dollars;
- Air bookings fell by over 80%;
- Hotel bookings experienced a 47% decline... and so on.

According to Eurostat, the share of the tourism sector in Bulgaria's Gross Domestic Product was 9.9% in 2019 (the year before COVID-19). For 2023, it stands at 6.6%, indicating that this crucial sector for the country has not yet recovered [10].

DISEASES, ENVIRONMENT, AND SUSTAINABLE DEVELOPMENT

Climate change and environmental degradation, which sustainable development seeks to mitigate, also contribute to the emergence of new diseases and the spread of existing ones. The degradation of ecosystems, deforestation, and habitat destruction lead to increased contact between humans and wildlife, thereby elevating the risk of zoonotic diseases such as COVID-19.

The interconnection between diseases, the environment, and sustainable development is crucial for understanding contemporary global challenges. The environment plays a central role in both the spread of diseases and their control. Various factors, such as air and water pollution, deforestation, climate change, and urbanization, can create conditions conducive to the spread of infectious diseases.

For example, climate change increases the risk of diseases such as malaria and dengue fever, as rising temperatures and more frequent rainfall expand the habitats of the disease vectors—like mosquitoes. Urbanization and the destruction of natural ecosystems often lead to increased contact between humans and

wildlife, creating conditions for the emergence of new zoonotic diseases—diseases that are transmitted from animals to humans. A notable example of this is the COVID-19 pandemic.

Sustainable development aims to create balanced conditions where human health and the environment are maintained in harmony. Through sustainable practices in agriculture, industry, and tourism, harmful impacts on nature are reduced while ensuring good conditions for public health. An example of this is sustainable tourism practices that minimize destructive effects on ecosystems and limit the spread of diseases among people.

The impacts of diseases on the environment and vice versa are also part of what is known as "ecosystem services" - the interdependencies between nature and society. For instance, healthy ecosystems help control diseases by providing natural water filtration and preventing the outbreak of epidemics. In this context, sustainable management of natural resources and ecosystems not only protects the environment but also provides safeguards against future health crises.

Climate change leads to an increase in extreme adverse events. For example, the massive floods in Pakistan in 2022 and 2023 attracted global attention due to deadly cholera outbreaks. In just 2022, the World Health Organization reported over 300 cases of cholera in various states within the country, with nearly 70% of samples from water sources in those areas testing positive for the disease [11].

Droughts, floods, heavy rains, landslides, and other natural disasters increase the areas with limited or poor resources. This leads to fatalities from respiratory and diarrheal diseases, which primarily affect infants and young children. It is estimated that measles, malaria, tuberculosis, and pneumococcal infections cause 5 million deaths each year, accounting for nearly one-tenth of global mortality [12].

CONCLUSIONS

The discussion clearly illustrates the multifaceted and complex interrelationship between the examined categories: sustainable development, pandemics, and tourism. While sustainable development is a process with a leading global trend towards implementation, pandemics are phenomena that often evade control and prevention. Conversely, tourism and facilitated travel contribute to the spread of diseases. In this context, the application of all principles of sustainable development necessitates intervention in regions at risk of generating local or global pandemics. These include Sub-Saharan African countries and certain Asian nations. Improving access to healthcare, vaccination, and education in these areas would enhance the overall social status of the population. This, in turn, would lead to a reduction in the incidence of infectious diseases and the potential for their transmission to new territories. Ultimately, our understanding of sustainable development would be fully realized!

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