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Management of Coastal
Tourism

Coastal Tourism and environmental impact: green strategies applied in the Chinese context

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Abstract: Italian version

Il presente elaborato si propone di fornire un quadro di riferimento per quanto concerne il settore turistico costiero nel contesto aziendale cinese. Dopo aver introdotto alcuni aspetti definatori e fornito un'overview generale sullo sviluppo del turismo in Cina, il testo analizza le problematiche che ne conseguono, concentrandosi sull'emergente problematica della sostenibilità e degli impatti socio-ambientali scaturite dal settore turistico.

Le soluzioni agli ostacoli sopracitati sono prese in considerazione sottoforma di green strategies, green investments e green practices che risultano particolarmente rilevanti per il contesto territoriale preso in esame. Più nel dettaglio, le risposte del contesto cinese alle problematiche inevitabilmente conseguenti all'attività turistica non riguardano solo investimenti e strategie volte a rinnovare o ristrutturare i propri processi di erogazione del servizio turistico, ma si concentrano anche su nuove forme alternative di turismo che hanno preso piede proprio in Cina per poi diffondersi come pratiche consolidate nel resto del mondo. Appartengono a quest'ultima categoria lo "Yujiale", prevalentemente legato ad una forma di turismo strettamente interconnessa all'attività della pesca, costituendo così una forma di turismo esperienziale o "experiential tourism" ed in secondo luogo il "Glamping" tramite il quale verranno analizzate le nuove tendenze turistiche basate sul concetto di esperienza turistica o "experience tourism".

Un importante spunto di riflessione è dato dal connubio tra modalità di trasporto e sostenibilità e pertanto la sottoscritta ha deciso di trattare l'emergente tema delle linee ferroviarie ad alta velocità e di sottolineare in che modo queste ultime possano favorire l'incremento della domanda turistica nelle destinazioni che sono dotate di questo tipo di facilities. Una maggiore enfasi verrà posta, nella parte conclusiva dell'elaborato, sul tema dell'hospitality e sul contesto cinese legato agli hotel, resort e strutture ricettive ricreative. Questo focus partirà da un excursus temporale circa l'evoluzione di questo tipo di business in Cina e si concluderà con l'analisi di alcuni report di sostenibilità e/o di Corporate Social Responsibility per valutare l'effettivo impegno di realtà aziendali operanti nel contesto oggetto di indagine in tema di sostenibilità ambientale. I report analizzati faranno capo ad aziende cinesi che risultano quotate nelle borse di Shanghai ed

Hong Kong, luoghi strategici e di particolare rilevanza per il movimento turistico di tutta l'area orientale.

Abstract: English version

This paper aims to provide a framework for the coastal tourism sector in the Chinese business context. After some defining aspects and a general overview of tourism development in China, the text analyses the issues involved, focusing on the emerging problem of sustainability and the socio-environmental impacts arising from the tourism sector.

Solutions to the aforementioned obstacles are considered in the form of green strategies, green investments and green practices that are particularly relevant to the territorial context examined. More in detail, the Chinese context's responses to the problems inevitably resulting from tourism activity do not only concern investments and strategies to renew or restructure their tourism service delivery processes, but also focus on new alternative forms of tourism that have taken hold in China and then spread as consolidated practices in the rest of the world. The latter category includes "Yujiale", mainly linked to a form of tourism closely interconnected with fishing activity, thus constituting a form of experiential tourism or "experiential tourism", and secondly "Glamping", through which new tourism trends based on the concept of tourist experience or "experience tourism" will be analyzed.

An important food for thought is the combination of transport modes and sustainability, and therefore the undersigned has decided to address the emerging topic of high-speed railway lines and to emphasize how these can be relevant for an increase in tourist demand in destinations that are equipped with this type of facility.

More emphasis will be placed in the concluding part of the paper on the topic of hospitality and the Chinese context related to hotels, resorts and recreational facilities. This focus will start with an excursus in time on the evolution of this type of business in China and will conclude with the analysis of some sustainability and/or Corporate Social Responsibility reports in order to assess the actual commitment of companies in terms of environmental sustainability. The reports analyzed will refer to Chinese companies listed

on the Shanghai and Hong Kong stock exchanges, strategic places of particular importance for the tourist movement in the entire eastern area.

I. Introduction

The idea of sustainable development stems from the maturing realization that there is a relationship of mutual interdependence between economic development and the environment. Until a few decades ago, few people were concerned about the impact that economic growth could have on the environment. Then an environmental consciousness began to emerge and take hold, and so we began to worry about these negative impacts, especially the pollution of air, water and soil through waste. We realized that economic growth is undoubtedly a positive element because it brings greater economic well-being, even if it is not necessarily evenly distributed. But we also realized that this greater economic well-being did not always correspond to a better quality of life, and the increase in pollution was one of the most obvious signs of this contradiction. More recently, we have become concerned about the impacts of ecological tensions on the very prospects for economic development. We have been led, by the evidence of facts, to remind ourselves of an elementary truth: that although our civilisation is abysally different from that of our ancestors, there is one thing we have in common, and that is that our livelihood, like theirs, depends on the finite resources of the environment and nature.

Fortunately, the resources of the environment possess the characteristic of being able to replenish themselves through natural biological and chemical processes. So they can be maintained if we limit their exploitation within this assimilation capacity. But if exploitation goes beyond the capacity for regeneration, then the resources of the environment are bound to be depleted and the very possibilities for future development are jeopardized.

The focus on sustainability becomes even more important the more we talk about contexts such as China.

It is an almost unanimous opinion in the Western world that China has, to put it mildly, a rather difficult relationship with environmental issues. There is much data to support this thesis. The impressive economic growth of the Dragon since 1978 has in fact been made possible by the massive use of coal, which contributes to the production of more than 50% of China's electricity; since 2006 China has become the country that emits the most greenhouse gases on the planet (G. Noci, 2022). China's harmful emissions are higher

than those of all major industrialized countries combined, says a report by the Rhodium Group (2019), according to which Beijing was responsible for 27% of the Planet's harmful gas emissions in 2019. In reality, the situation is more complex than it may seem at first reading and takes on less clear-cut connotations than the Western vulgate; for at least two reasons. While it is true that greenhouse gas emissions have more than tripled since 1990 and have increased by 25% in the last ten years (I. Masu, 2001), it is equally important to emphasize that on a per-capita level, they are almost half of those of the United States (which stand at over 17 tonnes per inhabitant). This means that the former Middle Empire is indeed the largest generator of pollution on the planet, but this condition is also the result of the enormous size of its population and industrial system. Seen in this perspective, China's growth trajectory has therefore followed a similar - in some ways more virtuous - trend than many Western countries, first and foremost the USA.

II. Global framework of the tourism sector and the consequences on the planet

2.1. An overview across the tourism sector in China

The tourism sector experienced an incredible growth throughout the last years. According to World Trade and Tourism Council's report, prior to the pandemic, travel and tourism (including its direct, indirect and induced impacts) accounted for 1 in 5 new jobs created across the world during 2014-2019 and 10.3% of all jobs (334 million) and 10.4% of global GDP (\$10 trillion) in 2019. Meanwhile, international visitors spending amounted to \$1.9 trillion in 2019¹.

Before 1978, tourism in China was a minor economic activity, limited to diplomatic travel for political purposes. Subsequently, following important historical-political changes, China became actively involved in tourism and started adopting policies and measures to strengthen the tourism sector throughout the country. Through a series of reforms, the country has assumed a more open attitude towards the outside world, especially with regard to initiating trade. In line with this general trend, policies related to the tourism sector also received a major boost. Thus, since 1978, huge amounts of capital have been invested in the sector and modern technologies and management techniques have gradually been absorbed. However, along with the resulting wealth and benefits, the serious problem of environmental impact has become increasingly present. Not only in China, but all over the world, there has been severe environmental degradation and loss of local identities.

Regarding coastal tourism in particular, we can say that in the Chinese context it is growing rapidly. With more than 18,000 km of coastline, the area is characterized by the beauty of its natural landscapes and the cultural richness that surrounds it. The main coastal destinations in China include Hainan Province, the Shandong Peninsula, Fujian Province and the Guangxi Autonomous Region. This type of tourism has become increasingly popular in recent years due to the country's growing economic prosperity and increasing demand for unique travel experiences.

¹ United Nation World Tourism Organization, 2023 (unwto.org)

Coastal tourism in China offers a wide range of activities, including water sports such as surfing, windsurfing, kitesurfing and kayaking, as well as fishing, hiking and cycling along the coast. In addition, tourists can enjoy the local cuisine, culture and traditions, such as dragon and lion dancing, the tea ceremony and traditional Chinese medicine. New forms of tourism such as glamping, which we will discuss in detail in the following chapters, should not be underestimated.

As is the case globally, tourism in China has brought with it its own challenges, related to the negative impacts it inevitably causes. To cope with this type of problem, in addition to some forms of funding that we will discuss, the government has largely engaged in the identification and construction of protected areas to prevent impacts on endangered animal species or some particular natural landscape, at least where possible. These types of areas are mainly located in maritime locations, which are vulnerable mainly due to beach and coastal erosion. The latter category includes coastal national parks and nature reserves in areas bordering the oceans.

This has contributed to making China one of the most sought-after new destinations, not only for its special cultural heritage far removed from everyday western life, but also for the scenic and revalued beauty typical of the coastal environment. A city that exemplifies the importance of the tourism sector linked to the seas is certainly the city of Shanghai, one of the largest eastern ports and a strategic commercial point. Cities like this have been the main drivers thanks to which China has been able to improve its image in the eyes of public opinion, attracting new travelers who have re-evaluated it as a possible destination for their holidays. Today, in fact, it is a high-quality tourist destination and a major competitor to all the countries whose economies are traditionally linked to tourism, such as the Maldives, Australia and some parts of the African continent.

We will see later that, with the increase in global awareness of sustainability issues, China has been able to seize a further opportunity to attract foreign travellers and investors, making its green strategies its strong points. An element not to be underestimated is China's push towards an open and less stringent regime regarding the issuance of tourist visas.

2.2. Blue Economy, Coastal & Maritime Tourism: some definitions

Given the subject matter, it is necessary to introduce this paper with the theme of the Blue Economy. The latter, in fact, includes all sectoral and cross-sectoral economic activities based on or related to oceans, sea and coasts whether marine-based activities or marine-related activities. Although the terms appear to be very similar there is a difference between them. The former in fact cover all activities carried out in the ocean, sea and coastal areas, e.g., the exploitation of living marine resources (through fishing and aquaculture), marine minerals, marine renewable energy, desalination, maritime transport and especially coastal tourism on which much of the paper will focus (Tonazzini, D., et. Al, 2019). To marine-related activities, on the other hand, belong all those activities that use products and/or produce services/products derived from marine waters or marine-based activities. Seafood processing, biotechnology, shipbuilding and repair, port activities, technology and equipment, digital services etc. belong to this category (Tonazzini, D., et al., 2019).

It is also necessary to define what is meant by Coastal Tourism and what is meant by Maritime Tourism. To do this, we will use the connotation given to the two terms in the text "Blue Tourism, the Transitions Towards Sustainable Coastal & Maritime Tourism in World Marine Regions"².

Coastal tourism refers to beach-based tourism and recreation activities, including swimming, sunbathing and surfing, alongside with other activities taking place on the coast and for which the proximity of the sea is advantageous, such as coastal walks or wildlife watching. Maritime tourism refers to predominantly water-based activities, such as sailing, yachting and cruising, and other nautical sports, often carried out in coastal waters. Both coastal and maritime tourism are considered among the oldest and largest segments of the tourism industry and are ranked as the two sectors with the greatest potential to contribute to growth and job opportunities in the EU's Blue Growth Strategy.

The coastal tourism sector, which we have just defined, is only one of the seven sectors that are traditionally considered the components of the Blue Economy. The other categories of activities that may fall under the definition of Blue Economy are the sectors

² Ecorys (2013) and Honey M & Krantz D. (2007)

and sub-sectors related to: Marine living & non-living resources, Marine renewable energy, Port activities, Shipbuilding & repair, Maritime transport. However, not only the sectors mentioned above are part of the Blue Economy but also the emerging sectors that have developed in recent years and that are representative not only of new investment opportunities but above all of the potential future development of coastal locations.

After having introduced the topic of the Blue Economy, the discussion will now focus on the specifics of coastal tourism trying to highlight its specific activities, the compatibility that this sector has with the other components of the BE and the factors that may determine issues and concerns.

Coastal tourism includes both tourisms related to the beach and to the recreational activities connected to it such as sunbathing, swimming, sport competitions or events in/near the beach but also the activities whose taking place in the proximity of the beach represents an advantage; think for example of wildlife watching and coastal walks (G. Satta et al., 2023). The activities of manufacturing industries that produce beach-related items (e.g., manufacturers of deckchairs, parasols, inflatables and the like) may also fall under the connotation of coastal tourism.

As mentioned above, coastal tourism may or may not be linked to the other sectors that make up the BE and from these interactions both issues & concerns and synergies and new business opportunities may arise.

As far as port activities are concerned, we can consider coastal tourism as semi-compatible since the arrival of tourists in ports will certainly generate revenues also in terms of tourism and given this correlation it is very important that synergies are created between port terminals dedicated to cruises or ferries. However, while the arrival of tourists generates income, at the same time there are costs associated with the management of traffic and traveler flows that must be served through urban infrastructures. Efficient ports, on the other hand, not only increase opportunities for increased tourism, but also contribute to making the inland areas more accessible, improving the overall economy of the region involved.

On the other hand, there are several conflicts related to the relations of the tourism sector with that of non-living maritime resources, which mainly involve oil and gas. In fact,

many are the risks connected to oil leakage and several are the controversies concerning the visual pollution that the infrastructures connected to this sector create for coastal tourism.

Consider also the pipelines and cables sector which, while facilitating the reloading of fuels and other liquids on board, on the other hand can be an obstacle to anchoring operations, not to mention the irreversible damage caused to the underwater ecosystem.

2.3. Issues and concerns

The benefits that tourism brings both to coastal regions and to the general economy of the countries involved are manifold. However, what has prompted the production of this paper are precisely the negative aspects, problems and consequences brought about by this sector. Therefore, we will now go on to analyse which elements are affected by tourism and in the next chapter we will set out the possible solutions used and, specifically, those that have been employed in the Chinese context.

2.3.1. Volatility

The tourism sector in general, but especially the coastal sector, is continuously subjected to seasonal and trend influences, but not only. Obviously, people's ability to indulge in travel and tourism activities depends largely on their economic availability. The latter is closely linked to the general economic trend of a given country, which is itself subject to totally volatile trends in markets and the world economy.

Certainly, given the historical period that has affected us over the past two years or so, we cannot fail to refer to the total and unexpected halt in tourism caused by the health emergency caused by the spread of COVID-19.

2.3.2. Exploitation of Natural Capital

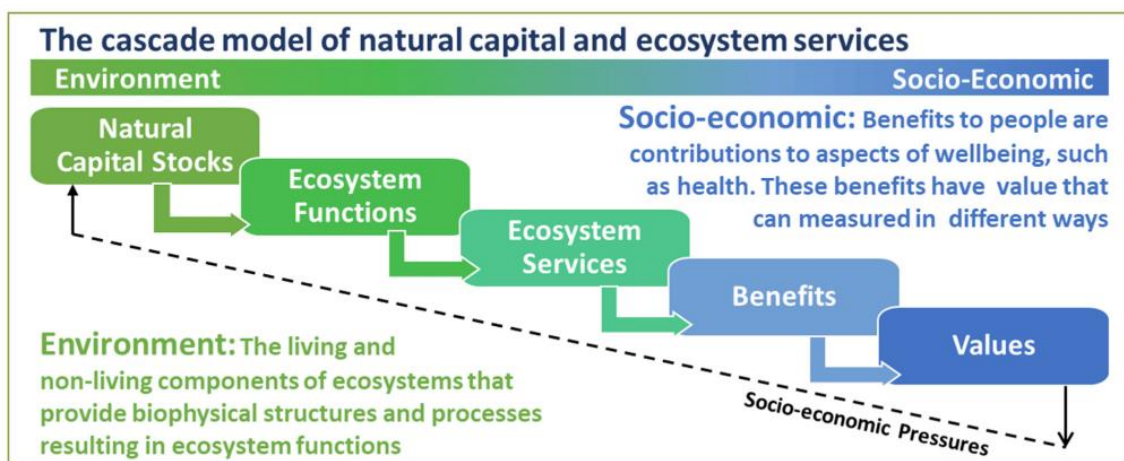
The emergence of the concept of 'Natural Capital' in recent years reflects how

crucial the environment and its resources are to a country's economy and well-being. In fact, according to the literature, Natural Capital is one of the four fundamental stocks of capital on which a nation's wealth is based, along with manufactured capital (such as machines and buildings), human capital (related to people and their intellectual knowledge) and Social Capital (such as norms and institutions).

Of those just mentioned, Natural Capital is considered the most fundamental because it includes all the resources that guarantee the very survival of human beings and their wellbeing in terms of food, water, air and elements essential to human life. Natural capital includes both living and non-living resources from the air, land, seas and oceans.

It sets the ecological limits for our socio-economic systems, as summarized by the image below, and yet, it is not considered in the wealth accounting systems of nations.

Tab. 2.1: “The cascade model of Natural Capital and Ecosystem services”



Source : Andrew M. Neill et al (2020)

As it can be seen, the picture shows how the elements that make up natural capital constitute the environmental assets that ensure the diversity of our ecosystems. From the interaction of elements such as genetic diversity, species richness, and biophysical structure result a series of ecosystem services that are vital to our socio-economic systems. Indeed, they give us access to what the literature calls ‘benefits’ (such as nutrition, clean water and air, health, security) and ‘values’ (such as economic and health values) that shape human well-being. Based on human behavior and human use of resources, we will have the so-called “responses”, i.e., the institutions, norms and policies so that we can

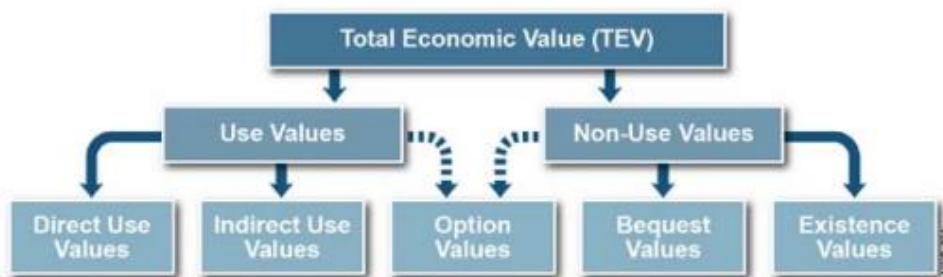
have the so-called "drivers of change" that can restore the balance in the ecosystem that has been ruined by human intervention.

If we focus on Marine Ecosystems services and coastal tourism activities, we will notice that the greatest interrelations between these two areas are related to "Regulating and maintaining services" (e.g., water purification, air quality regulation, Coastal protection, Life cycle maintenance and Biological regulations) as well as to "Cultural Services" (e.g., Symbolic and easthetic values, recreation and tourism, cognitive effects).

Many of the elements we have discussed concerning under Natural Capital are among what we call scarce and limited resources and are therefore very vulnerable. This means that the replacement of natural capital is practically impossible given the complexity of the composition of ecosystems and that therefore some damage to the environment will be irreversible in the future.

As can be guessed, it is very complex to assess the full value of natural capital and this often leads to its mismanagement in both political and economic choices. This is a problem both at the micro level (e.g. market prices that do not fully reflect the costs and benefits associated with a given resource) and at the macro level (e.g. excluding environmental values from national accounts and transferring environmental impacts to other countries). Below is an image that attempts to summarize all the values that fall within the constitution of the TEV (Total Economic Value) of Natural capital, further highlighting the difficulty of valuation.

Tab. 2.2: "Types of values contributing to total economic value by natural capital"



Source: Michael Ellsworth Colby et al. (2013)

2.3.3. Resources Consuming Process

Tourism is closely linked to the availability of a territory's natural resources since it is mainly these that attract travellers, allowing them to have at their disposal a series of goods and services and to experience natural sceneries that are completely different from the everyday life they come from. What is particularly important today is therefore to preserve the resources currently available so that they can contribute to forming what will be known as 'future capital' in the coming years. It is evident that in order to allow this to happen, a large part of the socio-environmentally impactful tourism activities would have to be considerably downsized or even eliminated if they cannot be replaced by sustainable activities.

If we consider the consumption of natural resources within the tourism sector, we absolutely have to refer to the use of land, water and energy.

2.3.3.a. Land use

When we talk about “land use” we are referring at, for example, the physical space occupied by hotels, accommodation facilities, bathing establishments, passenger terminals and facilities designed to accommodate travellers. All these infrastructures necessary for tourism inevitably transform the natural territory on which these activities are carried out, in addition to the fact that they take away available territory from local communities. With regard to this last aspect, coastal tourism facilities in island areas are of particular importance, since the erosion of the available space on the coast and the disruption of the territory for the inhabitants significantly increases the vulnerability of the island, sometimes jeopardizing the very survival of the tourist economy of the area concerned.

The problem of 'land use' is particularly exposed when we talk about mass tourism. Although it is expected that, thanks to the development of new forms of tourism, the phenomenon is destined to stabilize and even decrease considerably, the consequences it brings in terms of land use are considerable. The massification of tourism in fact, with the advent of globalization, has led to an increasing demand for the expansion of tourism-

related infrastructures and transport systems that could facilitate the accessibility of new destinations. Thus, while mass tourism contributes greatly to boosting the economy of the area concerned, on the other hand, an exponential increase in visitors in an area that is not equipped for tourism to take place in a sustainable manner can lead to a series of innumerable socio-environmental consequences.

Some new forms of tourism, including niche tourism, although in opposition to the principles of mass tourism, can also lead to problems regarding the exploitation of territories. Birdwatching, for example, is an activity that has been gaining popularity in recent years. It consists in spotting various bird species, requiring that for this activity, the ambush sites of people who choose this type of holiday are located near or even within a protected area.

2.3.3.b. Water

We have to keep in mind that tourism (and especially the tourism sub-sector related to hotels, resorts and entertainment facilities) requires and consumes fresh water for a number of purposes, including, for example, the supply of water for toilets, showers, kitchens, clothes washing equipment, swimming pools, spas and saunas, cooling facilities and watering equipment for gardens. However, there are also a number of ancillary and entertainment activities, such as golf courses built in some resort complexes or luxury hotels, that contribute to water consumption as their irrigation requires large quantities of water. According to some estimates, the average water consumption for a standard 18-hole golf course (with an irrigated area of 54 hectares) is about 300 000 m³ per year. The EEA (European Environment Agency) estimates that a tourist consumes three to four times as much water per day as a permanent resident, taking into account that daily water consumption for non-tourist purposes is between 100 and 200 litres per person across Europe³. Although overall water consumption for tourism is low, this often takes place in seasons and areas characterised by water scarcity, which adds pressure on local resources.

³ European Parliament briefing of March 2017

2.3.3.c. Energy

Tourism, and in particular certain sectors of it, are considered to be among the largest causes of energy consumption. The use of energy in these sectors is in fact very high and in the coming years this trend is expected to grow even further. The major drivers that can be considered as driving the cause of energy consumption to date are, first and foremost, the demand for fuel for the supply of hot water and the heating system during the winter season, as well as the propulsion system for ships. In addition, energy demand is also very high for heat pumps, air conditioning, lighting and all electrical equipment (freezers, refrigerators, washing machines, dishwashers, computers and related accessories, etc.), as well as public lighting. Obviously, energy consumption is closely linked to the type of transport being considered and also to the distance travelled. It is precisely for this reason that it was necessary to introduce the subject of energy management within the companies that fall within the field of coastal tourism. It consists of four phases and provides that, after analysing the energy consumption within the company and comparing it with the amount of energy actually required (during the assessment phase), a way to save energy is planned (during the planning phase) and the programmes established during the planning phase are implemented (during the execution process) and then the success or failure of the operation is verified (with so-called reporting). This type of energy conservation actually leads to the action of a series of benefits not only in terms of cost and significantly lower environmental impact, but also to an improvement of the company's image in the eyes of the public and easier compliance with the stringent rules concerning energy efficiency that have recently been developed by the regulatory authority.

2.3.4. Polluting Assets and Processes

One of the drivers that led to the birth and implementation of the European Green Deal by the European Union is the increase in pollution in recent years, a large share of which is certainly attributable to the tourism sector. Precisely for this reason, one of the goals set by the aforementioned Green Deal is zero CO₂ emission to be reached by 2060. Talking about pollution in a general sense is reductive, especially for the many structures

and activities in which coastal tourism is articulated, and therefore, in the following paragraphs we will analyse all the facets and environments that the term may concern.

2.3.4.a. Solid and Liquid waste

The production of solid waste by tourists far exceeds that of residents. Waste disposal, therefore, is a particular problem for small tourist islands. Frequent problems with waste management may include the small number of facilities for its treatment or disposal, the large seasonal variations in the quantity and composition of waste, the high population density, the limited land areas on which to locate landfills and other waste treatment facilities, and the difficulties in achieving economies of scale. Small islands are considered to be more environmentally vulnerable to increases in municipal solid waste. Negative health effects may also spread more rapidly. Sewage can be a major source of water pollution, harming fauna and flora and threatening human health. According to some ocean protection organizations, cruise ships release an average of 95 000 m³ of sewage from toilets and 5 420 000 m³ of sewage from sinks, kitchens and showers into the oceans and seas every day⁴. Human activities, including tourism, along the coast also have an impact. It is estimated that the potential cost across the EU for cleaning up coasts and beaches from marine litter generated by land and sea activities would be around EUR 630 million per year.

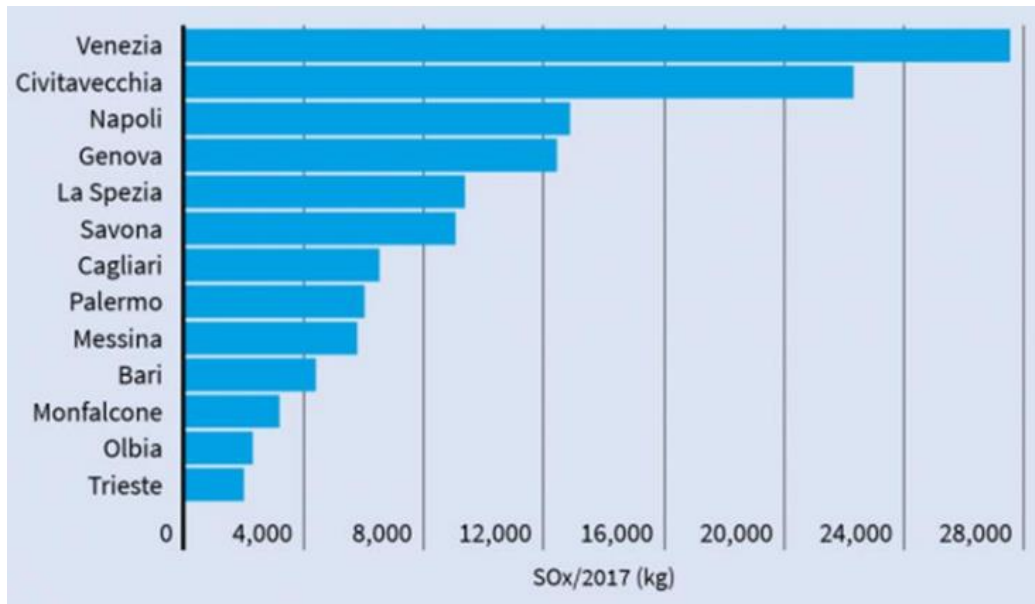
2.3.4.b. Air and Noise Pollution

The greatest source of air pollution are the gases produced by the propulsion of ships and ferries, examples of which are high levels of CO₂, sulphur, nitrogen and greenhouse gases (mainly caused by refrigerators and air conditioning) in addition to all the emissions caused by the incineration of waste from tourism-related activities. One hotel room is estimated to cause between 160 and 200 kg of Co₂/m³ per room, per year.

⁴ European Parliament, briefing 2017

From the graph below we can see the amount of harmful gases emitted by cruises in 2017 and, even more worryingly, among the 50 most polluted cities due to cruise emissions, 10 are Italian cities.

Tab. 2.3: “Most polluted cities by cruise ship emissions”



Source: Transport & Environment, 2019

As far as noise pollution is concerned, one only has to think of the consequences that the proximity of a port can bring to the population, with passenger terminals, on-board supply management and other related ancillary activities.

2.3.4.c. Physical and visual pollution

Physical impacts arise not only from tourism-related construction and deforestation, but also from constant tourism activities, and generally involve the deterioration of ecosystems. The creation of tourist facilities (such as accommodation or recreational facilities) may involve the extraction of sand, erosion of soil, beaches and sand dunes, and extensive paving. The construction of transport infrastructure (airports, roads) can lead to land degradation and the loss of natural wild habitats, while altering the landscape. Tourism development can also lead to deforestation and intentional or unsustainable land use (deforestation for the creation of ski areas, drainage and filling of coastal wetlands

for infrastructure and facilities, resulting in disturbance, erosion and, in the long run, destruction of local ecosystems). Recreational activities in marine areas (snorkelling, sport fishing, scuba diving, yachting, cruising) can pose a direct threat to fragile ecosystems. Concentrations of tourists in the vicinity of breeding grounds, nests and food sources can exert a significant disturbance. Local animal and plant species are also vulnerable to the introduction of diseases and exotic and invasive species.

2.4. Corporate Social Responsibility: Origin and Definitions

Every company in its operations has continuous relations and exchanges of information with its external environment. The latter includes all the company's stakeholders, customers, but not only. In fact, when speaking of the company's external environment, it is necessary to consider the more general meaning of the term since all the facets involved must be taken into account. We have to think about, for example, of the very territory on which the company is located with the infrastructures connected to it and the advantages or disadvantages it may cause to the surrounding community, as well as the exploitation and use of the resources present in the reference territory. Considering the same reference market, moreover, the company will suffer and be influenced in its management by the effects of competition with competitors and with the organizational entities with which it collaborates. It should also not be forgotten that all the people who work in a company, in addition to having a continuous exchange with it, will receive as compensation for their employment a certain level of income that will allow them to interact with the community, contributing to increasing the income of the region in which they live and beyond. In addition to all the relationships just mentioned, the relationship that companies have with society and the environment has become increasingly important in recent years, and this is where Corporate Social Responsibility⁵ comes from.

Many have tried to define CSR, but to date there is still no official definition of the term. This may seem strange since it seems to be taken for granted that everyone knows how to distinguish a corporate activity that is socially responsible from one that is not. However, what is more complex is to have an unambiguous idea about what is socially

⁵ “Corporate Social Responsibility” will be indicated in this text as “CSR”

responsible.

The first definition we will consider states the following “*The responsibility of enterprises for their impacts on society. Respect for applicable legislation, and for collective agreements between social partners, is a prerequisite for meeting that responsibility. To fully meet their corporate social responsibility, enterprises should have in place a process to integrate social, environmental, ethical, human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders, with the aim of maximising the creation of shared value for their owners/shareholders and for their other stakeholders and society at large; identifying, preventing and mitigating their possible adverse impacts*”⁶. From this definition we get what we might call the four types of responsibility that the CSR concept is about, namely: economic, legal, ethical and philanthropic responsibility. It is no coincidence that this order of citation has been chosen because obviously, acting profitably and in a lawful manner is necessary for the very survival of the company and are therefore the first two responsibilities that must be adhered for the others to exist.

Another definition proposes the concept as follows: “*(...) a concept whereby companies integrate social and environmental concerns into their business operations and in their interaction with their stakeholders on a voluntary basis*”⁷. A very important concept arising from what has just been mentioned is the 'voluntary basis' that expresses a company's willingness to communicate and measure its degree of CSR commitment. Obviously, some specifics have to be made about what has been said. It is true that having company policies that are supportive of positive CSR performance may or may not be done on a voluntary basis, but it is equally true that there are several reasons why a company may be more or less prone to CSR practices. For example, an SME (small-medium enterprise) sees its basis in having a strong relationship with the local population and in being more attentive and aware of what might be the risks associated with the community around it. Therefore, such a company may be more likely to want to comply with the concept of corporate social responsibility on a voluntary basis. If, on the other hand, we take an international company as an example, we are aware of how exposed it

⁶ European Commission, 2011

⁷ European Commission, 2011

will be to public opinion and the stringent regulations it will have to comply with in order to operate in a large market. It may be the case that in situations like these, given the imminent growth in awareness of environmental issues, some companies may be inclined to disclose their corporate performance regarding their environmental and socio-cultural impact in order to avoid being subjected to media pressure or even more stringent regulations. Therefore, depending on the very nature of a company we might find differences in the application of CSR. We should also not forget that where there is no existing and binding regulation, as is the case with the application of CSR, a large influence is given by the subjective and existing culture, philosophy, and management style of each company.

2.4.1. The important role of CSR for CT firms

There are several drivers for the use of CSR practices. In addition to the growing importance of environmental and socio-cultural issues and the increase in regulations on the subject, companies involved in tourism need to communicate their performance to their stakeholders in order to intensify their relationships and, consequently, their involvement. This is because companies need to balance the positive impacts with the negative ones that are inevitably brought about by tourism. The positive effects include both direct and indirect benefits. Direct contributions to the economy of the country concerned are the creation of new jobs in the sector, the purchases made for example by passengers and cruise tourists of the places they decide to visit, the development of infrastructures that are initially used to improve the accessibility of tourist destinations but which the local population can subsequently also use. In addition, an indirect effect that should not be underestimated is the intention to return to a country where one has been on holiday and, above all, the word-of-mouth that could entice friends, acquaintances, and relatives to enjoy the same travel experience (G. Satta et al., 2023).

Of course, there are also numerous shady sides to tourism, first and foremost the impact on natural resources such as wasted water and energy, increased pollution of various kinds and lack of respect for biodiversity. Not to be outdone are the negative aspects that reflect on the local community, the condition of workers and the problems arising from

overcrowding in some urban areas. Moreover, the economic profit from this form of business is not always balanced. Ports that are used to receive different numbers of passengers and have different facilities are often disadvantaged by the proximity of more efficient and competitive ports. In addition, a possible inequality of revenues between excursion providers, as well as possible conflicts over the ownership of terminal facilities, are added to the above-mentioned risks.

Considering what has just been said, we can therefore consider CSR as a fundamentally important tool for companies that decide to use it. First of all, it allows cost savings because by using CSR and various related indicators, companies have a clear idea of their performance and always have the possibility to make their processes more efficient. Furthermore, CSR itself can be seen as a differentiating tool because by highlighting the company's social and environmental commitment, it gives its service an added value that can give it a competitive advantage over its competitors in the long run. Communication through CSR, which we will see in more detail below, increases so-called customer engagement, making them feel more involved and participating in the company's activities. This type of direct communication is not only useful to have a dynamic and transparent relationship with stakeholders, but also the employees themselves can feel part of a common project with clear objectives, offering their own workforce to achieve them. Leveraging sensitive topics such as sustainability can increase brand recognition and corporate philosophy. This makes it easier for the company to be placed in people's mindsets and thus for travellers to choose it as a holiday solution because it is recognisable compared to other companies offering the same service.

2.4.2. CSR, Communication and reporting practices

As previously mentioned, a fundamental aspect of CSR is communication. We could consider the latter as the possibility of anticipating stakeholders' expectations. Obviously, communicating the company's environmental and social commitment requires careful planning of what is to be communicated to all those who have a legitimate interest in the company's activities, so as to communicate the company's objectives in a clear way that meets the needs of the stakeholders. Indeed, the success of communication depends

on how stakeholders perceive it. In fact, obviously, the communication phase must be supported by a series of internal company policies and practices that must subsequently be respected in the communication phase. A lack of consistency between what constitutes corporate initiatives and what is actually communicated could negatively affect stakeholder perception. The involvement of the latter, on the other hand, increases the credibility of the company and the truthfulness of what is communicated to those who have an interrelation with it. In addition, they are given the opportunity to express themselves on topics that they consider important or that they require the company to deal with.

Communication with stakeholders can take place through various channels, but certainly the most effective way of conveying the company's objectives and results on the subject under consideration is through reporting. These are usually placed on the company's websites, and consist of either specific Corporate Social Responsibility reports or Sustainability reports, or a specific section of the Annual Reports is dedicated to them.

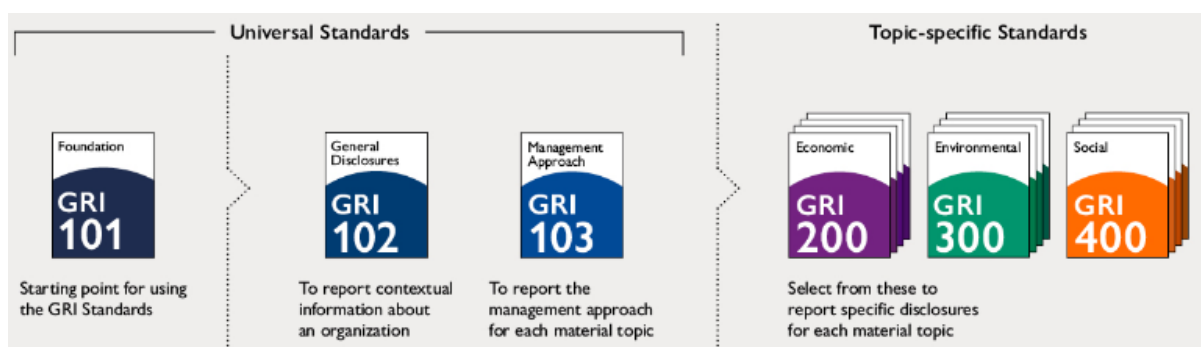
We mentioned earlier that CSR reports can be provided by companies on a voluntary basis. Since this is a free choice of the company and therefore not bound by regulations, each corporate entity is released from any obligation regarding the preparation of such reports. There are, however, standard reporting forms from the Global Reporting Initiative, the purpose of which is to provide guidelines for companies that decide to consult them. By conforming to these standards, reports from different companies become comparable and easier to assess. We will see later, through a case study, the connection that can exist between performance level and the adoption of a standardised reporting system.

It must be known that it is possible to identify different types of standards to which it is possible to conform. Some of them turn out to be universal and unambiguously applicable terms regardless of the subject matter.

GRI 101, 102 and 103 belong to this first case. The former contains the reporting principles that form the starting point for the entire set of GRI standards. It includes the requirements for a sustainability report prepared in accordance with the GRI Standards and describes how to use and refer to them. GRI 101, on the other hand, contains general

disclosures and is used to provide contextual information about an organisation and its sustainability reporting practices. This includes information on an organisation's profile, strategy, ethics and integrity, governance, stakeholder engagement practices and reporting process. Finally, among the last of the universal GRIs we mention, we consider GRI 103, which deals with management mode and is used to provide information on how an organization manages such an issue. It is designed to handle any issue that may fall within the realm of sustainability, including those that fall under the discipline of the specific GRI Standards, which we will see below. GRI 200, 300 and 400, are part of the specific standards used by enterprises, and are used to report information on an organization's impacts related to economic, environmental, and social issues, respectively.

Tab. 2.4: An overview across GRI Standards



Source: GSBB, 2016

2.4.3. Basic Principles of CSR: sustainability, accountability and transparency

Despite the difficulties encountered in defining them, it is necessary to analyse what the basic principles of Corporate Social Responsibility are. The ones we will analyse in this paper are the following: sustainability, accountability and transparency⁸.

2.4.3.a. Sustainability

It concerns the effect that an action taken in the present may have on the availability of future choices. What is worrying about this aspect and what needs to be taken into account more than the enterprise is that, especially if it is a resource of limited quantities

⁸ D. Crowther & G. Aras, 2008

or a scarce resource, it could even disappear tomorrow if it is used inappropriately. We might be inclined to think that this might only happen in the distant future, but the reality is that as the amount of extractable resources in nature decreases, the greater will be the costs of finding them, thus increasing the overheads that a company has to bear in order to survive.

Sustainability therefore implies that companies should think about the possibility of regeneration that the resources used have over time. This more global vision of the company as an entity belonging to a socio-environmental and economic system would not only prevent costs from rising, as previously mentioned, but would also be a way to ensure the success of the business in the future.

Once environmentally and socially unsustainable activities have been analyzed and identified, the objective of companies would then be to address the problem either by modifying certain habits or elements so as to make sustainable what is not sustainable today or by trying to plan for a future without the resources currently needed, perhaps replacing them with some renewable resources.

2.4.3.b. Accountability

This principle has to do with the recognition on the part of an organisation that its operational choices, as already mentioned in the section above, affect the external environment and that therefore the enterprise must take responsibility for these consequences. This means that the enterprise must provide an account to external stakeholders of these actions, so that they are made aware of what the enterprise's programmes are and how these may affect them. In addition to this, this principle requires that the enterprise also recognises the power that stakeholders have over the enterprise, having the opportunity to influence how the enterprise's choices are made, whether they can be chosen with justification or not, and above all what costs they will entail for the enterprise itself and for the entire network of relations connected to the enterprise.

Responsibility, in this sense, must be supported by the implementation of appropriate measures of environmental performance and reporting on the actions implemented by the

company. Obviously, the development of this requires commitment and costs on the part of the company that should possibly be lower than the benefits derived from its implementation. Corporate performance reporting therefore needs to be based on certain key principles. These include, for example, an immediate understanding for all parties that have a legitimate interest in the company's performance, the relevance of the information that is included in sustainability reports or similar reporting systems, the reliability and accuracy of the information that is included that benefits stakeholder when comparing the performance of one company with another in the same field.

Naturally, reporting in the social and environmental field will be studded with qualitative judgements of the company as well as quantitative measures. The company must therefore manage qualitative information in such a way that it does not interfere with any necessary comparison of its performance and, in any case, that it is as standardised as possible. Excessive recourse to non-quantitative measurements could lead to different individuals analysing and interpreting the company's results in a heterogeneous manner, misleading the very idea that the totality of stakeholders have of the company. We should not forget, however, that some companies resort to the incomparability technique in order to mask the greenwashing technique we will discuss later, which essentially aims at masking negative performance regarding the company's commitment to social initiatives.

2.4.3.c. Transparency

We could consider transparency as a consequent principle to the other two mentioned above. In fact, it can be seen as part of the recognition of the company's responsibility towards CSR issues and for its negative externalities and likewise as part of the process of transferring power to the stakeholders. In fact, this principle implies that the effects of the company's management operations must be ascertainable through reporting, but among these effects, the negative externalities it spills over must also appear. As can be guessed, this type of information may be easy to find and sometimes even redundant for those who work within the organization, but it is essential for stakeholders outside the company who lack a basic background to be able to know in detail the activities and objectives that the company pursues. Since most of the

stakeholders interested in and influencing the company's business are external to it, transparency must be one of the drivers for the development of successful reporting.

2.4.4. The correlation between GRI reporting and positive performances

As we have seen, the topic of Corporate Social Responsibility has gained a lot of notoriety in recent years and it is from this that the need to analyse it in detail arises to understand what implications it may have for companies working in the coastal tourism sector. According to the study proposed by Mehmet Ali Koseoglu et al (2021), we will focus on a very important aspect that concerns the attitude of companies to adopt CSR practices together with their propensity to communicate the results and/or objectives achieved. The aforementioned study will try to demonstrate the link between companies with good performance in socio-environmental terms and their tendency to use CSR communication & reporting following the GRI (Global Reporting Indicator) standard that we have previously discussed.

This increased commitment to CSR has meant that companies operating in the above-mentioned sector have gained greater legitimacy, and improved their corporate image as well as their relations with stakeholders. Having a dynamic relationship with these stakeholders makes it easier for companies to improve their relationships with them, increasing satisfaction and building customer loyalty. A good relationship with customers results in employee fulfilment and consequently greater commitment at work.

What is very important for stakeholders is not only that companies involve them more in CSR issues, but also that their environmental and social programmes and achievements are communicated to customers and all those who have an interest in the company's work. This is precisely why Hospitality & Tourism companies, in recent years, have tended to communicate their performance on these topics and why reporting in this regard has become essential. Usually, the results in this field are reported by companies either in the form of specific CSR reports or in sustainability reports or a section is dedicated to them in annual reports. We will see in this paper the importance of these reports and the information they contain through the discussion of the last chapter in which several companies specialising in hospitality and accommodation will be analyzed in detail.

However, communication through CSR reporting and its interpretation by stakeholders can also be controversial. Since CSR activity is totally voluntary, each company can decide which aspects to communicate and for which purposes. According to some past studies⁹, the first interesting and noteworthy point has emerged, namely that companies with positive CSR results are more likely to disclose and communicate their results and performance, making them their own strengths and attracting customers; at the same time, companies with poor CSR performance tend to publish more about their social and/or environmental sustainability efforts rather than their actual results, which is particularly contradictory.

This stems from the fact that companies may decide to proceed with CSR reporting for reporting or greenwashing purposes. The former term refers to the objective that reporting should actually set itself, i.e. to transparently communicate to stakeholders the results achieved in terms of company performance with respect to the interest in issues that benefit the company's surrounding community. The term 'greenwashing', on the other hand, indicates the tendency of companies to exaggerate their socio-environmental achievements even when these have not actually been achieved. With the standardization of sustainability reporting to the GRI standards mentioned above, the danger of greenwashing should be eliminated or at least greatly diminished.

The study also showed that companies with positive CSR results are more likely to outsource the preparation and monitoring of CSR reporting to external reporting companies. This is obviously not the case when the company's performance is poor or characterized by greenwashing, as companies are not willing to make their data available to external bodies that can analyze and check its veracity at any time.

2.4.5. Corporate Social Responsibility's practices in China

The practice of CSR is also becoming increasingly popular in China. Before 2005, in fact, there were only 22 total reports published by companies of all sectors, but today there are thousands of companies deciding to use this form of reporting. More and more

⁹ Pattern, 2002; Clarkson, Richardson & Vasvari, 2008; Uyar et al., 2020; Clarkson et al, 2011; Braam et al., 2016

companies, both private (POEs) and public (SOEs), have decided to adhere to social initiatives, e.g. for charitable purposes, but also for environmental and economic purposes in the area in which they operate.

The CSR practices implemented in China would not appear to be very different from those implemented in Western countries. In these contexts, CSR was first introduced to meet the needs of international investors, but later on it turned out to be a very useful practice also for domestic and international environmental activists, consumers and all other stakeholders. As a result, Western and Asian CSR reporting systems have begun to converge in terms of the arguments covered, especially in the environmental, social and ethical fields.

However, as we have already mentioned, in the West, CSR is considered a form of internal self-regulation through which companies undertake to voluntarily support environmental and socio-cultural initiatives that can benefit the environment outside the company. As for the Chinese context, we could consider CSR a practice imposed from the top down, through which companies support government directives. In fact, we could define Corporate Social Responsibility practices in China as "Corporate Public Responsibility" practices (Jiangyu Wang, 2020), thus driven by political logics that strive to establish a state-business relationship rather than an interrelationship between business and socially sustainable goals for the good of the community. We can analyse through four basic points how this political logic is articulated, a key point for the realisation of CSR.

First of all, CSR was born in China in a recent period, around the 1990s, thanks to the introduction of CSR by the so-called Foreign Invested Enterprises (FIEs). Initially, as previously mentioned, it was not very successful and only a little over 20 companies had decided to introduce it as part of their corporate policies. For this very reason, the National People's Congress, China's legislature, decided to introduce CSR through the Company Law of 2005. By that time, the internalisation of CSR had become a legal obligation even though the article introducing it was rather vague; it stated that "*a company shall (...) bear social responsibility when undertaking business operations*"¹⁰.

¹⁰ Jiangyu Wang, March 2022

After the introduction of this legislative regulation, the Shanghai and Shenzhen stock exchanges and the State Assets Supervision and Administration Commission (SASAC), which act as regulators of state-owned enterprises (SOEs), extended these CSR obligations to listed companies as well. In this way, the state has given a compulsory connotation regarding the treatment of social and environmental issues in environmental sustainability reports, totally losing the voluntary character that constituted instead, a fundamental principle of CSR in the West.

Secondly, we can say that in China, CSR practices are mainly applied in state-owned companies rather than in private companies or companies subsidised by foreign investors. In fact, it is precisely SOEs that have developed, in the Chinese context, a larger number of indices aimed at measuring their socio-cultural and environmental performance than those we can analyse in other types of companies. In fact, the Chinese Academy of Social Sciences has confirmed that for 13 consecutive years, from 2009 to 2021, SOEs scored significantly higher than POEs and FIEs. Obviously, this result should not come as a surprise as state-owned companies are more bound to comply with the CSR practices regime introduced by the government and the bodies in charge of their management, such as the SASAC mentioned above.

The third point that it is important to analyse is that obviously, since companies are bound to the will of the government for CSR compliance, the topics they will analyse in their reports will be aimed at meeting the needs and goals of the state. The goals that were promoted by the government organisation concerned the need to create a 'harmonious society' and to balance the country's economic growth, which was undergoing an exponential increase in those years, with a strong priority to address the social and environmental problems arising from economic development.

Finally, we cannot underestimate the fact that complying with CSR practices has turned out to be a necessary requirement for the very survival of companies, also as a result of the tightening of regulations to which certain types of companies have been subjected at the behest of the government. This category includes, for example, the high-tech companies towards which the Chinese state has imposed measures to restructure local government debt as well as regulations aimed at avoiding monopoly situations against large internet companies. The companies subjected to this regulatory pressure have

realised that one strategy to get relief from the government is to actively participate in social issues and have therefore decided to contribute to the 'common prosperity' sought by the government. Examples of this are the companies Alibaba and Tencent, which are part of the most coveted circle of companies specialising in technology, which have pledged an amount of USD 15.5 billion over the next five years precisely to support the goals of the prosperous society desired by government agencies. According to the companies themselves, these disbursements will be used to regenerate rural areas through investments in technological innovations, resulting in the creation of job opportunities for citizens in specialised positions and thus leading to higher earnings.

However, not only have Chinese companies decided to comply with CSR obligations for compliance issues, but many of them have decided to implement their involvement in social and environmental issues in order to be better integrated and competitive in a global and international context, also seizing the opportunity to attract foreign investors. Thus, we can consider that, if at first compliance with CSR practices was mainly driven by the will of the state, later on the companies themselves and with them their stakeholders have understood and internalised its importance to the point of becoming an integral part of the 'Chinese dream' of having a perfect balance between a prosperous economy and a socially and environmentally healthy environment. To give more support to CSR practices, Chinese companies have started to use ESG (environmental, social and governance) reports. In fact, while both CSR and ESG reports refer to a company's relationship with its environment and its commitment to social issues, ESG establishes quantifiable criteria to effectively assess a company's sustainability and provide more detailed information to those who can gain insight, such as foreign investors.

Although ESG is currently underdeveloped and at a preliminary stage, consistent with the political stance on CSR, the Chinese government is also implementing this type of practice. Indeed, in recent 2018, the Code of Corporate Governance was revised, which formally established a framework for ESG disclosure followed by regulations requiring ESG reporting for certain categories of companies listed on the Shanghai and Shenzhen stock exchanges. SASAC emphasised the importance of implementing ESG in China, to help convey to stakeholders China's commitment to international issues such as the carbon neutrality target to be reached by 2060, along with the local initiative to regenerate rural areas so that they too can contribute to the country's economic development, not

least through the driving role that tourism will play for these little-known areas that have been given a new lease of life.

III. Green strategies applications and new form of tourism in China

In this chapter we will focus on some of the Green Investments, Green Strategies and Green Practices implemented by Chinese companies trying to be less environmentally impactful. Although the terms are very similar, each has its own different connotation and entails a different level of commitment in terms of economics and necessary changes on the part of companies.

3.1. Green Strategies

Green strategies "*refer to each strategic decision or change in the corporate strategic goals or corporate principles aimed at undertaking initiatives to promote greater environmental responsibility and reducing corporate environmental impacts*"¹¹. From the definition, it can therefore be deduced that there are different types of choices and changes that the company can implement to make its influence on the environment more sustainable and that fall under the concept of green strategies. First of all, the company can redefine its mission and vision as well as its strategies so as to incorporate the 'triple bottom line' concept into its policies. It requires the company to give equal importance and invest its resources equally in achieving performance in economic, social and environmental terms.

Another element that can contribute significantly to increasing companies' commitment to green strategies is the possibility of entirely re-designing their business model. It expresses how the company is managing its business by highlighting the revenues and costs that derive from its activity, how the company creates value for the customer, the activities that it carries out in its own premises and those that it decides to outsource, the customers with whom it has a network of relationships and the channels through which the company communicates with them (Satta et al., 2022). Usually the type most adopted by companies is the Canvass business model, consisting of 9 building blocks representing all the main areas of business interest. In order for the business model to acquire a green connotation, companies can emphasise areas of focus that can help reduce environmental impact. This allows the business model to be implemented through structural changes. In particular, companies that decide to adopt as the basis for their green strategies, a

¹¹ Didactic Material, Satta et al. (2023)

restructuring of the business model, may decide to modify some of the building blocks through minimal changes until the creation of a new business model with innovative areas of focus and in step with the environmental goals that the company is called upon to meet. Even if it may seem obvious, the company's communication with its stakeholders can also be a type of green strategy: it requires that environmental results and goals be transferred to those with an interest in the company's activities following the principles of transparency and truthfulness. Finally, it is essential that companies develop an appropriate management system that can support the company in the green strategies it decides to implement.

3.2. Green Investments

Different from the concept just analysed, is that of green investments. In fact, it includes the "hard" implemented actions carried out by the company with the aim of minimising, reducing or mitigating the environmental impacts caused by business processes and activities through the purchase of assets and equipment¹². There are no unequivocal definitions of the concept of "green investments" but we will use the one proposed in the paper by Della Croce et al. (2011), which states that "(...) *generally green investments refer broadly to low carbon and climate resilient investments made in companies, projects and financial instruments that operate primarily in the renewable energy, clean technology, environmental technology or sustainability related markets as well as those investments that are climate change specific*". In general, we can say that the areas that require green investments are essentially those related to renewable resources, combustion technologies to develop new propulsion systems for ships, related to climate change mitigation and related to transport, to which a specific section will be dedicated in this chapter. In addition, each sector within tourism has its own specific investment needs, based on what it needs most.

We will see below the case of the Jingning region in terms of innovative investments brought to the category of ferries affecting the major passenger transport lines in the area. We could also reflect such investments to the field of cruises.

¹² Didactic Material, Satta et al. (2023)

In fact, examples of green strategies typical of the cruise sector are new investments aimed at renewing ship propulsion systems and alternative fuels, waste and water management systems, technological solutions to increase energy and environmental efficiency, and automation through digital technologies. . LNG (liquid natural gas) ships, the use of Low Sulphur Fuel Oil and Exhaust Gas Cleaning Systems are all methods aimed at reducing emissions of sulphur (SO_x), particular materials (PM), Nitrogen (Nox) and Green House Gases (GHG) (Satta et al., 2023).

The various techniques for energy efficiency include cold ironing and the use of wind and solar energy for cruising. For ballast water treatment, two technologies are particularly popular, i.e. the "Ballast Water exchange & Onboard treatment system" and the application of "Advanced wastewater purification systems", also known by the acronym "AWWPS". Both of these technologies decrease the possibility of introducing unwanted microorganisms from the discharge of ballast water into the sea. Unlike the 'Ballast Water Exchange' system, the AWWPS system enables, as the name of the technique suggests, the purification of ballast water from microparticles and solid waste.

As far as solid waste management is concerned, most investments are made in the most innovative systems, such as the so-called 'waste compactors', the most famous of which are the Ecodyger and the Converter. These systems make it possible to regenerate almost all organic or undifferentiated waste. By compacting the waste, they lead to a reduction in costs and space requirements as waste storage areas will be superfluous and they also allow for no emission of impacting agents because the liquids contained within the waste materials are separated and condensed. Statistics testify that the implementation of Ecodyger systems can lead to an 80-90% reduction in the lost volume ratio of waste, facilitating waste management for the entire waste treatment chain¹³.

3.3. Green Practices

Green practices include "Soft implemented actions aimed at eliminating, reducing or mitigating the environmental impacts of business processes and activities"¹⁴. We could therefore consider in this category, all the eco-friendly practices and actions developed by an organization in order to protect the environment from emissions or to avoid the

¹³ Ecodyger.com

¹⁴ Didactic Material, Satta et al (2023)

waste of necessary resources such as water and energy.

Some of these practices can easily be found in the cruise and ferry world. For example, cruises increasingly seek to reduce their use of plastic in their courtesy sets, rather than in dining areas. It is also possible to produce drinking water on board, up to 90% of the total needed, through seawater desalination or by reverse osmosis. Some cruise ship lines have also developed technologies that allow their operators to collect condensate from air conditioning waste and reuse it in laundries.

As far as ferries are concerned, green practices have become widespread to avoid energy wastage due to engine management. For this reason, on board ferries, efforts are now being made to achieve maximum efficiency in the management of Main Engines and Diesel Generators both while the ship is in motion and when it is stationary at the terminals, always adhering to the planned schedules related to the commercial needs of the line.

3.4. Alternative fuels

Surely one of the most innovative green strategies is the use of alternative fuels to propel ships and ferries. They, in fact, together with the use of energy can contribute to low or almost zero carbon emissions, but their use is often bound by high quality and safety standards to be met. In addition, it is sometimes very complex to convert ships powered by traditional fuels to ships with new propulsion systems, as it entails large investments for companies in terms of money but also in terms of long lead times. In addition, some forms of alternative energy, such as that derived from the exploitation of wind or solar lights, are not applicable to all routes as they are strictly dependent on weather conditions and are also characterised by profound differences depending on the tonnage of the ship on which they are applied. While it is certainly true that this type of fuel drastically reduces carbon emissions, this is not so true for other types of emissions. It must be taken into account that, not at the moment of combustion, but in the production and transport phase, some of the alternative fuels (such as hydrogen, for example) cause greenhouse gas emissions. Consequently, the use of these alternative fuels also leads to some negative impacts, especially if we consider the marine and crew risks involved. We will look at the most significant alternative fuels below and after analysing them, we will see the consequences of their applications in China.

LNG causes methane emissions at all stages of its processing such as recovery, processing, liquefaction and transport. If we compare methane with carbon, we see that methane emissions are on average 30 times more harmful¹⁵. In general, according to the ICCT¹⁶, even the most sophisticated LNG engine produces on average 70% to 82% more greenhouse gas emissions than engines fuelled with fuels that are considered 'cleaner'. Therefore, this type of fuel can only be considered as a temporary and transitional solution compared to traditional fuels. The handling of LNG is also extremely dangerous for humans and the environment. The latter could be severely compromised in the event of a collision accident between two ships causing LNG to spill into the seas. Furthermore, operators have to work in very cold environments when transferring LNG, as this fuel needs temperatures below -200° C to remain in a gaseous state. These extreme temperatures could also ruin the very structures of which the ship is composed. Another risk to which one is exposed is a possible fire in the case of the proximity of heat sources and spillage during refuelling.

Ammonia, having a strong acidifying potential, reduces the productivity of ecosystems through its deposition. This is due to its composition of predominantly concentrated oxides and sulphur dioxide. In addition, it is a toxic corrosive gas and therefore presents numerous risks whether it is transported (in the form of cargo) or used as fuel for ship propulsion. In addition, when ammonia comes into contact with wet surfaces, it can cause severe irritation and burns, and when a large amount of this alternative fuel is released, for example following a collision, it can spread hundreds of metres into the sea and its gases can escape into the air up to hundreds of metres from the point of release¹⁷. As a result, ammonia is a serious hazard to both the marine ecosystem and human health.

Biofuels can be formed from biomass and thus from waste or crop and/or animal waste. Although its production may therefore be totally natural, considering the entire production process involved in transforming waste into biofuels, it can be just as polluting as the production of petrol or even much more so. Moreover, even biodiesel, in the event of a spillage into water, would be indistinguishable from a spillage of traditional diesel,

¹⁵ Unece, 2020

¹⁶ International Council on Clean Transportation

¹⁷ National Research Council Committee on Acute Exposure Guideline Levels, 2008 & Nowatzki 2008

making the process of recognising the source of the spillage and the environmental clean-up actions subsequently required more complicated. However, some research suggests that it is possible for some marine bacteria to consume a biodiesel spillage, which would not be possible with conventional diesel (Wang. Y, Wright L.A., 2021). If biodiesel is mixed with petroleum derivatives during the spill, its composition may cause the oil droplets to be incorporated into the water particles, causing the pollutant to sink faster towards the seabed. Thus, although biodiesel is inherently more sustainable and less impactful than traditional fuels, it could lead to an extension of the contaminated marine area and thus damage a larger area of underwater biodiversity.

Hydrogen is a major source of greenhouse gas emissions caused by methane liquefaction processes (Wang. Y, Wright L.A., 2021). However, at present, methane and other fossil fuels are the most widely used sources for hydrogen production. Again, for hydrogen, it is worth analysing the problems brought about by its handling in bunkering, storage and the use of hydrogen fuel on board. The molecules that form this type of alternative fuel are so small that they can easily leak out of any crevice and although it is non-toxic, if its particles are concentrated in large quantities, they can be flammable very quickly and a fire can result from even a simple cigarette spark.

As in the case of hydrogen, methanol is also responsible for greenhouse gas emissions, largely from the conversion process of its raw materials. Methanol can be derived from natural gas and has a higher potential on global warming than e-methanol and biomethanol. Although methanol has the main characteristic of being biodegradable, it is toxic at higher concentrations.

3.5. Shipping Industry's fuel green investment in China

3.5.1. Development of the LNG ships use in China

As we have seen in previous sections, one of the most widely used alternative fuels is LNG. Despite the strong increase in its use, following the emergence of the importance of environmental sustainability, in 2013 there were only less than 40 ships fully LNG-powered worldwide and China was one of the countries with the lowest concentration of LNG-powered ships¹⁸. In recent years, however, demand for LNG in China has been on

¹⁸ Chengpeng Wan et al. (2015)

an ever-increasing trend, which has led to China accounting for 47% of the world's LNG imports. In doing so, the country has become the driving force behind the trade of this commodity, as well as its application in the world of transport and shipping in particular. Despite the growing application to date, we can consider the use of LNG in China at an embryonic stage, but the government and oil companies have shown great interest in the use of LNG as a fuel. One example of this inclination towards the use of this fuel is the Chinese maritime authorities who, together with shipping companies, have conducted relevant studies on ships using it to implement bring major advances in the LNG construction and design industry and LNG storage tanks. Despite the progress, to date LNG storage on board in China is an obstacle to the conversion of ships previously fuelled with traditional fuel, due to the increased complexity required to transport this new type of fuel.

3.5.2. Other examples of green fuels applications in China

The ship 'Kriti Future', built in 2022, represents one of the examples of the Chinese shipbuilding industry's move towards green sources for ship propulsion. It is currently powered by heavy fuel oil but was designed so that it could be converted to the use of alternative fuels such as ammonia and LNG.

The Höegh¹⁹ company has contracted a multi-fuel, ammonia-ready ship with China Merchants Heavy Industry. The contract stipulates that this will be the first of four ships to be delivered by 2025.

MSC has also ordered six new so-called 'dual-fuel' container ships from Dalian Shipbuilding in China. The ships will be 16000 TEUs each and will be powered by dual fuel engines produced by WinGD²⁰.

The 'Three Gorges Hydrogen Boat No. 1', as can be guessed from its name, is the first example of a fully hydrogen-powered vessel. It was launched last 17 March by Jianglong Shipbuilding Co. Ltd. on behalf of the Yangze Power Co. The Three Gorges Hydrogen Boat No. 1 is a passenger catamaran that is powered by a hydrogen cell working in

¹⁹ Höegh Autoliners was found in 1927 by Leif Høegh, based in Norway (Oslo) and now listed on the Oslo Stock Exchange after merging various shipowning entities

²⁰ Winterthur Gas & Diesel LTd.

synergy with lithium batteries, inspected and classified by CCS²¹. Despite its recent construction, the ship has already received several certifications representing the high standards it has achieved in terms of energy efficiency, reduced environmental impact and technological innovation on board. CCS said that the use of hydrogen fuel cells will provide an important support base for the likely future construction of ships of the same type, adding that the vessel will also provide an important experimental platform for testing hydrogen fuel cell technology in the maritime industry.

3.5.3. Government regulations: Fuel Sulphur Cap and Emission Control Areas in China

The Chinese authorities have introduced numerous rules and guidance on the sulphur content of marine fuels. By means of domestic emission control areas, such regulations have been applied gradually over the last few years. Establishing coastal emission control areas (ECA), China capped the sulphur content of marine fuels that can be burnt by vessels. The three ECAs are: the Pearl River Delta, the Yangtze River Delta and the Bohai Bay. Such Control areas have not been imposed by MARPOL, but they have been directly established by the Chinese government to apply the new regulations.

Regulations to manage these areas have been many and have evolved over time. The first rules was issued in January 2016 and through it China applied a strict enforcement of the existing international conventions and domestic laws and regulations on sulphur oxides, particulate matter and nitrogen oxides. For the time being, ports within the ECA had just the option to introduce a 0.50% sulphur limit and other control measures, but they were not compelled to do so.

After those first regulations, the most important one dates from January 2020, by which the IMO global sulphur cap of 0.50% enters into force. China Marine Safety Administration (MSA) put in force the ‘Implementation Scheme of 2020 Global Marine Fuel Oil Sulphur Cap’ (the scheme) according to the “Atmospheric Pollution Prevention and Control Law of the People’s republic of China” and other internal law and

²¹ China Classification Society

regulations. The other major implications of this regulation can be seen from the table below²².

Tab. 3.1: Requirement for using and carrying of fuel oil as well as alternative measures for ships entering in Chinese waters (personal reinterpretation)

Type ^①	Emission control area ^②			Non emission control area	
	Coastal control area ^③		Inland river control area ^④	Coastal waters	Inland waters
	Sea area in Hainan waters	Other waters			
International ship ^⑤	From 1 Jan, 2020, use fuel oil with sulphur content not exceeding 0.50% m/m (Hereinafter referred to as "Compliant Fuel Oil")				
	From 1 March 2020, not carry self-use fuel oil with sulphur content exceeding 0.50% m/m (Hereinafter referred to as "Non-compliant Fuel Oil")				
	From 1 Jan 2022, not exceeding 0.10% m/m	--	From 1 Jan, 2020, not exceeding 0.10% m/m	--	--
Ship	Shall not discharge effluent from the exhaust gas cleaning system (EGCS) with open loop systems			--	

Source: Huatai Insurance Agency & Consultant Service Ltd, 2019

Furthermore, this regulation foresees the following:

- Requirements for reporting information on vessel's bunker on board: before entering a Chinese port, a foreign ship with a non-compliant bunker on board, should submit a FONAR (Fuel Oil Non-Availability Report) to Chinese maritime authorities in order to apply to enter in Chinese waters.
- Requirement for disposal of non-compliant bunker: foreign ships with non-compliant bunker on board can apply to Authorities to either dispose the bunker or to retain it on board without using it in Chinese Waters.

²² Guidance on "implementation scheme of 2020 global marine fuel oil sulphur cap", 2019 (www.huataimarine.com)

- Supervision and Control: Local Maritime Authorities should contact inspection on board the vessels sampling and testing the marine fuel oil.

It is also worth analysing the latest regulations issued by the Chinese government, i.e. those dating back to January 2022. It first provides that all vessels entering Hainan Waters within the coastal ECA are compelled to observe a sulphur cap of 0.10%. In addition, it contains provisions on 'Inland Emission Control Areas' and 'Exhaust Gas Cleaning Systems (Scrubbers)'.

In the designated 'inland control areas', a more stringent sulphur cap applies. These areas include navigable inland rivers such as the Yangtze River main lines (from Shuifu in Yunnan Province to Liuhe Estuary in Jiangsu Province) and the Xijiang River main lines (from Nanning in Guangxi Province to Zhaoqing in Guangdong Province). All vessels entering the above-mentioned rivers are compelled to use bunker not exceeding 0.10% sulphur emissions from the 1st of January 2020.

Regarding the provisions on Exhaust gas cleaning systems, the vessels using scrubbers should be aware that the discharge of wash water from open-loop scrubbers is prohibited in inland river belonging to the ECAs, port waters within Coastal areas of ECAs and Bohai Sea. The incineration of the water washing residues from any type of exhaust gas scrubber is also prohibited in Chinese waters. All vessels are compelled to keep accurate records of the stowage and disposal of the water washing and, if they are not able to store the washing water, it is required to switch to low sulphur fuel (not exceeding 0.50% sulphur content) prior to entering the above-mentioned areas. Only under peculiar circumstances, a vessel may apply to MSA for an exemption to use a non-compliant bunker.

The Chinese MSA has circulated guidelines on how to apply the fuel sulphur regulations. The scope of the guidelines for Supervision and Management of Air Pollutant Emissions is to standardise inspection procedures and actions related to Chinese sulphur limiting regulations (including guidance on the penalties that can be expected in the event of a violation).

3.6. Green investments in the ferry industry: a case study on the Jingning contea

To analyse the Green Strategies and Green Investments, which we have discussed in the previous paragraphs, implemented in certain areas of China, let us start with the case study of ferries in the Jingning Autonomous County. Looking at this area from the map, it might seem strange to associate it with a coastal tourism destination or even with the use of ferries itself, but this area is very special. Its predominantly mountainous constitution meant that transport by road or rail was slow to develop, and as the area is characterised by very large lakes and navigable rivers, the local population soon began to travel by means of a few rudimentary boats initially and later by actual ferries. With a structured travel system that allowed the population to move around regularly, the Jingning region attracted the first travellers, who were intrigued by this territory that, although located in the Chinese hinterland, allowed for a travel experience divided between sea and mountains. Consequently, the use of this means of transport became so frequent that studies were necessary to try to reduce the environmental impact and air pollution they cause.

To date, there are 16 ferry lines, organised to transport people and vehicles, throughout the county under review, most of which are concentrated on both sides of the shores of Lake Qianxia since that is where most of the population of this area lives. The above-mentioned lines only refer to the major connection lines for the country, as for the less densely populated areas, much smaller ferries have been built for short distances with fewer places available and, consequently, less environmental impact. It is specified that the following studies have been carried out taking into consideration the ferries with the highest capacities in the area and belonging to the major connection lines.

On the main lines mentioned above, according to 2021 data, as many as 17 ferries were operating, divided between those specialised in transporting only passengers and those capable of transporting vehicles as well. An estimate of the impacts reports that the total CO₂ emissions for these ferries was approximately 368.06 tonnes in one year, or an average of 42.7 tonnes per ferry per year caused by a total fuel consumption of 143.52 tonnes²³.

²³ Shiru Yao et al. (2022)

As we have already mentioned in the previous chapter, one of the most serious dangers to the planet is precisely caused by the enormous quantities of carbon dioxide and harmful gases that are emitted every year, especially by the tourism sector and its sub-sectors such as cruises, ferries and all the facilities related to accommodating tourists. The consequences of the greenhouse effect such as global warming, rising seas and melting ice have raised serious international concerns. China has already put in place several measures²⁴ to prevent these emissions and to commit to its promise of achieving carbon peak by 2030 and carbon neutrality by 2060; the implementation of ferries capable of contributing to this goal, such as the ones we will analyse, is a concrete example of the many strategies planned.

We will also see that there are specific investments to finance projects to make ports more sustainable as well, but as these involve a large amount of money to actually implement, it is important to focus on the techniques that could lead to greater efficiency and less environmental impact and that are applicable to ferries and vessels in general, so that a first step can be taken towards a greener marine environment. We will now move on to analyse the specific techniques implemented on ferries in the area to see if the above-mentioned CO₂ emissions and fuel consumption figures can undergo positive and significant changes with the implementation of such strategies.

It is necessary to specify that although there are different methods for measuring carbon dioxide emissions, we can fall into two main strands: the so-called 'top-down' and 'bottom-up' techniques (Yao s. et al., 2022).

The first involves starting with the total CO₂ consumption of the entire country and then breaking it down into the various industrial sub-sectors that contributed to its formation. The other technique involves the exact opposite, i.e. that total consumption is established by adding up the emissions of all categories that may be part of it. It is precisely through this method that data was collected with respect to the study being referred to, concerning the ferries used in Jingning County. To obtain the data on carbon dioxide emissions, a conversion was made by taking into account the volumes of fuel needed by the ferries in

²⁴ Wang Y. Et al (2021) & Liu Z. at al (2015)

a year and transforming this into an estimate of how much of that fuel would be transformed into gases impacting the atmosphere.

With such data available, scholars wondered if there was an instrument in nature that could act as a 'carbon sink', and the answer was surprising though obvious: trees. We all know that trees are considered to be the lungs of our planet as they have the ability to convert carbon dioxide into oxygen and have therefore proven to be the most sustainable and appropriate natural response to balance the impacts caused by ferry propulsion.

However, it must be taken into account that not all shrub species are able to survive in the long term in areas of high humidity, which is why the study focused on the 'Taxodiaceae' plant, also called the 'swamp cypress'. In addition to having a strong adaptability to water, this tree species gives a high landscape value to the area in which they are planted, thus fulfilling the dual purpose of being absolutely sustainable and enhancing the area from the tourist's point of view. We must also consider that a suitable number of plants for an area such as the banks of a river or lake can help maintain the integrity of the area, stabilise its banks and purify water quality. Moreover, this tree is the perfect home for a number of animals that choose it as their natural habitat and thus contributes to the creation of an ecosystem aimed at preserving biodiversity.

There is a great deal of research done on this tree and to understand its beneficial effects on greenhouse gases, it was necessary to determine some very important factors including its photosynthesis capacity during the daytime and the amount of carbon that each leaf on average is able to retain. These elements are quite variable depending on the age of the plant and its size, we have an idea of them thanks to the table below.

Tab 3.2: Biomass and carbon storage of Taxodiaceae in different years

	Whole Tree Biomass (t/ha)	Carbon Storage (t/ha)
Young tree (6 years)	43.76	22.75
Middle-aged tree (11 years)	88.34	45.94
Nearly ripe forest (20 years)	148.20	77.06
Mature forest (25 years)	172.08	89.48
Over-ripe forest (33 years)	246.59	128.23

Source: Shiru Yao et al (2022)

After taking the above parameters into consideration, the first step towards a sustainable strategy in this environment was to find the actual carbon storage in the so-called water-level fluctuating zone.

In our area of interest, 3000 trees were planted in the water-level fluctuating zone in 2021. In 2022, the number of trees planted was increased by more than 1,500 additional trees, and the forecast is that from this year onwards, 1,000 new species will be planted each year, until a total area of more than 1,500 hectares is reached. According to some calculation formulas studied ad hoc by a team of experts, the project structured in this way would lead to the absorption of more than 38 tonnes of CO₂ by the end of 2025, and then give birth to mature forests that, by 2050, should lead to a reduction in carbon dioxide of at least 577 tonnes²⁵.

Together with the investments of this new plantation system we have just analysed on the banks of lakes and rivers in the Jingning area, important changes have been made at other locations through the planting of meadows and green areas. The areas affected by this type of initiative are partly located in urban or rural areas, but the real novelty lies in the introduction of these types of areas in port areas and, in particular, in pier parking areas. This type of investment not only improves the area in question from a landscape point of view, but also acts as a natural means of absorbing carbon in the air. The plan is to cover an area of more than 44 m³ by 2025, and most of the green areas will be lawns in order to have lower maintenance costs than greening through plants or trees. With this type of investment, the green areas should be able to absorb more than 300 tonnes of carbon dioxide.

In addition to this initial intervention, it was decided to further implement the development of this area and its contribution to a sustainable environment through the total electrification of the ferries. In addition to replacing the fuel-powered propulsion system, the ferries provide a completely natural source of electricity for the many different uses that passengers on board may need, such as the lighting of the rooms themselves, the use of the ventilation system and air conditioning, and the energy source for the operation of all electronic devices. The electrification of ferries requires not only

²⁵ Yao S. et al, 2022

the physical installation of panels exposed to the sun's rays, but also an electrical storage system both on board and ashore. Although ferries structured in this way are very expensive and are more prone to maintenance due to the short life of the batteries needed to convert the sun's rays into energy, their implementation has brought about major changes as shown in the table below.

Tab. 3.3: Passenger ferry electrification energy cost consumption

Year	Type		Annual Fuel Consumption		Annual Operating Cost (Thousand CNY)	
	Diesel	Electric	Diesel (t)	Power Consumption (MkWh)	Energy Costs	Battery Costs
2021	11	0	69	0	412	0
2025	9	2	56	0.2	480	200
2028	0	11	0	1.1	770	1100

Source: Shiru Yao et al (2022)

Observing the table reported above, we can see that by 2025 one of the goals China has set for the area is the implementation of the first two fully electrified ferries (thanks also to the application of solar panels) and then further develop this practice until reaching at least 11 ferries by 2028. As can be seen from the "Diesel" column, the amount of tonnes used for fuel will decrease over time and instead, the costs related to electricity and batteries will rise considerably (more so the latter costs are related to the replacement of the batteries which usually lose their full functionality within 5 years), in addition to the electricity consumption itself. However, these additional costs related to electrification would be justified by a reduction in carbon dioxide emissions of at least 32 tonnes caused by less fuel use.

Further support for the electrification of ferries involves the installation of solar panels on board ferries. A total of 332 panels should be installed in the period 2021-2025, whose contribution to CO₂ reduction is shown in the table below. Although the installation of these panels entails high costs in the initial phase of the process, it entails low maintenance costs for day-to-day operations and would therefore also be a significant cost advantage in the long run.

Tab. 3.4: Emissions reduction from solar light installation on the ferries

No.	Name	Quantity	Time (h)	Electricity Consumption (MWh)	Emission Reduction (t)
1	Huitou Ferry	20	8	0.03	6.13
2	Xinchanting Ferry	28	8	0.04	8.58
3	Taoyuan Ferry	85	8	0.14	26.04
4	Guigen Ferry	42	8	0.07	12.87
5	Hekou Ferry	32	8	0.05	9.80
6	Meikeng Ferry	6	8	0.01	1.84
7	Tangdiwan Ferry	22	8	0.04	6.74
8	Jintouhui Ferry	23	8	0.04	7.05
9	Guandu Ferry	23	8	0.04	7.05
10	Danshui, Shibushan Ferry	51	8	0.08	15.62
	Total	332			101.71

Source: Shiru Yao et al (2022)

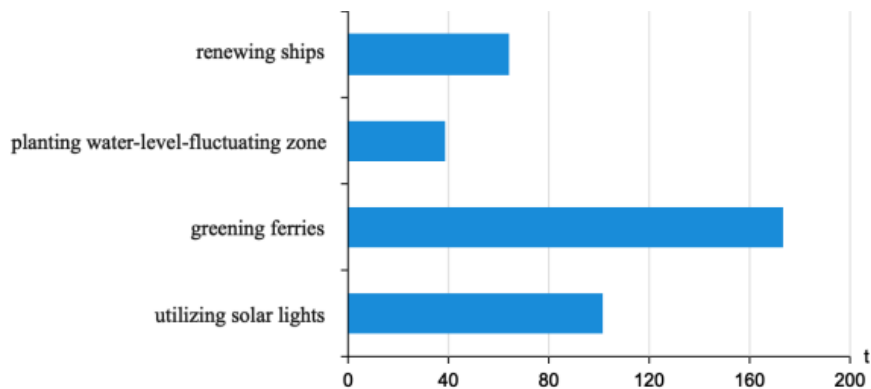
It has been estimated that the Jingning region has a solar exposure of more than 1,800 hours per year and consequently has been classified as a Tier IV natural energy resource area. We have already mentioned that the exploitation of this type of energy allows us to have zero carbon emissions, precisely because it is a totally natural source of energy and therefore renewable and sustainable. Consequently, the use of photovoltaic technology has been implemented in the area of interest not only on board the ferries but also in the terminal areas with regard to lighting systems. In fact, all lighting systems concentrated in the passenger waiting halls are now equipped with LED systems and energy-saving lights.

Jingning is an area that, as we have said, is particularly suited to hosting many tourists annually, and indeed in recent areas this business has contributed significantly to the county's economy. However, as with any type of tourist area, it is important that there is a dynamic work to give due weight and importance to the delicate topic of environmental impact. We have seen how much structured and diversified investment is needed to support the change of ferries and their way of operating within the region, and to do this requires a well-planned and, above all, feasible strategy in the short term. Therefore, it is very important that the departments directly involved in the structure of this project, as well as those who will participate indirectly, i.e. the travellers and inhabitants of the area themselves, are fully informed and aware of the changes brought about by this new travel solution. The government has a key role to play in popularising low-carbon tourism and promoting the use of low-carbon means of transport.

All this requires a change of perspective and conception on the part of the people who will decide to join this sustainable travel solution. One strategy that could lead travellers to learn about this type of means and to choose this particular service could be to publicise low-carbon routes and to present the population and potential travellers with statistics linked to practical cases of the application of these strategies so that they can fully grasp the benefits of this project.

Thanks to the study that has just been analysed, we have been able to analyse four methods implemented either to directly reduce the environmental impact caused by ferries (such as the electrification of ferries or the installation of solar panels on board) or to compensate for its effects (such as the use of green areas and the construction of water-level-fluctuating zones). The graph below highlights the carbon emission reductions, expressed in tonnes and by 2025, made by each of the green strategies and/or green investments we have just analysed. We can see that the use of greening ferries is the most positively impactful strategy in terms of emissions to date, with a total of more than 160 tonnes of CO₂ saved.

Tab. 3.5: Cumulative emissions reductions in 2025



Source: Shiru Yao et al (2022)

3.7. Ecological Civilization

In order to conclude the discussion of this topic, we will look at a theoretical approach. Ecological civilisation is based on the construction of a harmonious relationship between man and society, created by man's respect for nature, in order to establish sustainable production and consumption patterns. This concept emphasises the importance of human sovereignty, self-discipline and mutual reinforcement that nature

and man have over each other. Ecological civilisation is only possible with the support of ecological awareness, ecological legislation and consequent ecological behaviour. In China, since the time of Confucius, theories have been circulating that could be considered pre-cursors to the principle of ecological civilisation and which envisaged that man and nature should be considered as a single entity, given their close interrelationship (Zhang Wei et al., 2011). This is a concept that arose in opposition to the ideas of the age of industrialisation and we could consider the first forms of ecological civilisation to date back to the 1920s. It was during these years that the 'Human Ecology Doctrine' developed in America and its ideologies soon spread to the rest of the world, reaching as far as the East.

The first piece of writing on this subject was 'Silent Spring' published in 1962²⁶ by Roy Morrison²⁷ when he was still a student and dealing with the dangers of pesticide use. This text appealed to public opinion about sustainability and contributed to the creation of what we could call human 'environmental awareness'. The student's publication caused quite a stir, especially in the western world, and gave the first push for change, providing fertile ground for governments to put in place strategies and regulations to remedy the damage caused by the economic boom.

The first explicit reference to the term 'ecological civilisation' appears in a paper by Roy Morrison²⁸ in 1955, which dealt in detail with this topic and its importance. He even proposed replacing income tax with a tax on pollution.

What is very important for the purpose of this paper is that the role of ecological civilisation is of particular importance for the development of a low-carbon economy, and in particular we will focus on the role this concept plays in China. First of all, a detailed implementation plan needs to be put in place in order to have a structured ecological civilisation, especially considering the rapid economic development that the Chinese

²⁶ Zhang Wei et al. (2011)

²⁷ Roy Morrison is the director of the Sustainability's office at Southern New Hampshire University. He is also an energy consultant with more than 40 years of experience during which he published lots of articles and books about ecological transformation and economic development (e.g. Ecological Democracy, 1995; Ecological Investigations, 2001; Eco Civilization 2144, 2005; Markets, Democracy and Survival (2007)

context has been undergoing in recent years. Indeed, the driving force behind the country's economy is the industrial sector, and an increase in GDP could lead the country to lose sight of the environmental plan if it is not underpinned by a plan that promotes sustainable development.

Secondly, any topic of global interest nowadays enjoys great visibility thanks to the use of the media, social networks and all the technological tools that aim to connect a dense network of people using them. As we shall see in more detail at the end of this chapter, the mass media act as a dissemination tool with a strong impact on public opinion and therefore succeed in conveying to the community the responsibility they have in committing themselves to learning about and spreading ecological culture. Obviously, freely published news from any source is not enough to create the ecological awareness necessary for the dissemination of this topic, but it is important that major information distribution channels such as these, are supported and actively collaborate with specialised environmental protection departments. In addition to what has just been said, we must consider that governments often rely on technological and digital devices to disseminate their information and decisions to the population and this allows them to update the community in a timely and continuous manner.

Certainly, a noteworthy point concerns the need to have departments on ecology that are available to collaborate with governments and citizens so that their information is as clear as possible to everyone. But not only that, it is also important that scientific research departments in this field decide to collaborate with institutions, schools and universities so that a culture and interest in ecological civilisation is already formed at a young age and that these principles can then be transferred over time to more and more people. One very useful project is to partner external research departments with companies whose services are more impactful, so that their employees are able to recognise which processes can be made more efficient or new strategies that management can implement to make the company's operations greener.

For the implementation of all programmes concerning the topic of ecological civilisation, capital support is obviously necessary. The problem lies in the fact that the concept of 'green' capital and finance has only recently been introduced in China and is therefore still in the process of being introduced. This means that to date, there is not enough money for

the development of green civilisation and as a result, China is organising investment funds for the industry to operate in a more sustainable way²⁹.

A further very valuable introduction is the identification of some performance indicators for the government so that it can concretely measure its actual performance in building an ecological civilisation. What has been found to be necessary, in addition to the implementation of systems to support the formation of ecological awareness, are penalties for those who are negligent or fail to reach the required minimum performance levels. The introduction of this type of measure will certainly make a clear contribution to ensuring that companies give due importance to this issue, and this should not surprise us as we have already analysed how the issue of Corporate Social Responsibility and the obligation for companies to use it has been addressed in China.

In addition to the indicators used to assess performance in China, a dense network of stringent legislation has been developed that has been essential in taking the first steps towards the development first, and the subsequent dissemination, of this topic. With the introduction of this law-bound system, the penalties to which companies will be subjected in the event of non-compliance will be increasingly stringent and will therefore reduce any adverse behaviour to a minimum. It is also important to work with a team of experts and scholars in the field so that they can assess in an impartial and detailed manner all the steps that are necessary for the creation of an eco-society to be possible.

3.8. New forms of tourism in China

The new forms of tourism that have developed in China and which I have decided to discuss in this paper, refer to the concept of experience tourism and experiential tourism. The terms may seem very similar, but they have a different nature and characteristics that we will analyze in detail in the following paragraphs and, in particular, we will see the trend of what is called "Yujiale" linked to experiential tourism and of so-called "glamping" linked to the concept of experience tourism.

²⁹ Zhang Wei et al., 2011

3.8.1. Experience Tourism

When we speak of the fruition of a tourist service, we can consider it as consumption of a process or as consumption of an experience (G. Satta et al., 2023). The tourist tends to conceive it as the consumption of an experience, the production of which is incorporated in the enjoyment of the process itself. Precisely because of the importance of the concept of experience for the tourist, the business model of tourism companies (coastal and others) is structured to be in line with the tourist's concept of 'experience'. Consequently, new trends and behaviors of tourists must also be considered as business opportunities. When tourists decide to buy a service, such as tourism, in order to have a new experience, they intend to pay for unique moments that will remain in their long-term memory.

The concept of experience, however, is conceived by tourism management through two different facets. The first refers to the state of experience lived moment by moment during the stay in the tourist location; the second, on the other hand, is subject to post-trip rethinking and evaluation, and is therefore less subject to the 'novelty' of the experience just lived. In both considerations of the term, what the tourist expects to receive (in the case of the first connotation of the term) or assesses to have received (if subject to post-trip reappraisal) is a very distant or even opposite and unexpected experience, far from what he or she might experience during his or her everyday life.

Moreover, we can say that the concept of experience itself, in addition to the two meanings of the term we have just analyzed, has a very complex and multifaceted nature. First of all, experience is characterized by the principles of subjectivity, intangibility, continuity and is closely linked to personal conception. Secondly, the tourist experience can be considered as the result of a dense interaction of the traveller with the external environment or a response to various external stimuli deriving from structures or physical elements such as facilities, landscapes, as well as deriving from the interrelationships with other people involved, be they other travelers or members of the local community. The psychological process connected to the tourist experience must also be taken into account. In fact, if we consider the theory behind the "Three Stages Service Consumption

Model"³⁰. we can see that the experience is subject to three consequential stages: anticipation, recollection and reflection. The first stage occurs when the traveller's need to have a tourist experience appears and the actions he or she takes to make it happen.

the second phase includes all the activities that can be traced back to the idea of a holiday; finally, the concept of reflection involves, as the term itself suggests, a reflection by the traveller on what he experienced on holiday, indirectly verifying whether his needs and expectations were met. Finally, it is worth considering that memories of the travel experience are often linked by the traveller to the places they visited or to the idea of themselves in certain places and can be strongly influenced by this, either positively or negatively. However, we have to take into account that there are a number of events that can influence the experience and that fall outside the scope of what can be controlled by the service providers; examples are natural disasters or bad weather.

Having considered the above, we can give some definitions of the term "tourist experience". It can be considered as an interaction between the tourist and the destination, considering the latter as the place of the experience and the traveller as the actor of the experience. We can also consider it as a past event, important enough to remain in our memory. The tourist experience is also the output of a business characterised by a continuous multi-interaction between the external environment and the agents possessing the resources and activities involved in the process of tourism consumption. We have said that what the tourist expects is to live an experience far removed from his or her everyday life, and therefore we can consider travel as a solution created ad hoc to solve the problems linked to everyday life, seeking authenticity through multifaceted leisure activities. More than any other concept already expressed, today there tends to be more and more recourse to travel for self-realisation or the search for one's own identity. It is

³⁰The above-mentioned model envisages that the tourist experience is divided into 3 phases: phase of pre-purchase, phase of service encounter and phase of post-purchase. Each of these is in turn divided into sub-phases that encompass the totality of the activities included in the process of consuming the tourist service. The first phase includes: the moment of recognition of the need, the search for information to satisfy it, the evaluation of the alternatives proposed by the various service suppliers and the final decision on the purchase of the service. The second phase involves the actual meeting between the tourist and the service personnel (or self-service technologies that often replace staff), and the negotiation of the terms of payment for the service. Finally, an evaluation of the service received is formed and whether or not they intend to return to use it in the future or recommend it to friends and acquaintances by word of mouth.

precisely from the latter that so-called 'experiential tourism' was born, which we will see in the following paragraphs.

What we have just analysed has indispensable implications in the managerial field, and those involved in business decisions are therefore called upon, first of all, to identify what factors influence the travellers' tourist experience. Subsequently, it is necessary to identify the market segments that management must target in order to satisfy their "experiential needs". Only at the end and after considering the previous steps is it possible for managers to proceed with service delivery. This gives rise to the concept of Tourism Management (in this case experiential management) which must take into account the 3 main stages in which the tourism process is articulated in order to set goals and strategies to be implemented to reach the identified targets.

The first point considers the so-called "experience phases", which may be 3 or 5 depending on the theoretical approach adopted. If one considers the three-stage service consumption model we analysed earlier, the phases taken into consideration are the three described above (anticipation, recollection and reflection). If instead one considers the theoretical model of Clawson & Knetsh (1966), the phases to be considered are 5 (anticipation, travel on site, on-site activities, return travel and recollection) but conceptually they take up what was established by the previous three-stage theory.

The second aspect to be considered concerns the "Experience determinants" which are:

- The traveller: each of us when travelling has our own idea and expectation of what we are going to experience during our stay in the tourist destination. What we expect can be influenced by various elements such as: past experiences, opinions of friends, family and acquaintances, the media and our own knowledge of the place visited.
- Type of activities: a trip is related to a very wide set of activities that can be performed and, in most cases, it is these that strongly influence the overall experience.
- Local population: especially in some areas such as islands or coastal environments, the local community may be more or less involved in the activities proposed by the service providers and consequently they may also be more or less inclined to the tourist activity. This latter assessment strictly depends on how the population

evaluates tourism per se: as a threat to their cultural heritage and territories or as a profitable business opportunity that benefits the country's economic productivity. The third and final aspect worthy of note for managers in the field of experience tourism is experience outcomes. Today, the most sought-after travel experiences are those that allow for personal growth. In addition, the new knowledge derived from the trip, both from a physical (knowledge of landscapes) and cultural (knowledge of local people and their traditions) point of view, is particularly important. As already mentioned, young travellers in particular often prefer a trip that allows them to get to know themselves more deeply and to experience activities that can add value to the formation of their personal identity.

3.8.1.a. Glamping: Main aspects and definitions

Contrary to the slow general recovery of the tourism market due to the COVID-19 pandemic, the Chinese market for Glamping, a term born from the fusion of the English words 'Glamour' and 'camping', depopulated in China in 2020, although the term had actually already been coined as far back as 2005 (alexsoft.com).

As suggested by the words that make up the term, it has taken its cue from European and American comfort and wilderness, but its aesthetic is governed by the delicate style typical of Japanese landscapes. Glamping is a perfect combination of new consumer habits and the current travel preferences of tourists and has spread especially among young people thanks to sharing on social networks and digital platforms, so much so that it can almost be considered a new social trend. In fact, we could say that the advertising marketing of this new type of outdoor activity has been promoted by the young people themselves, who with their comments, exchanges of reviews and aesthetics have sparked curiosity among friends and acquaintances. For this very reason, we can consider the marketing that has sprung from this sector as 'experiential' marketing.

This form of tourism consists of an open-air experience combined with a luxury that we could define as wild, as with the pandemic, the desire to be immersed in nature rather than in crowded environments has spread among tourists, but without renouncing the comfort they would have found in other tourist environments. In fact, glamping differs from traditional forms of camping (which usually require tourists to use sleeping bags,

tents or basic equipment), due to the emphasis placed on innovative and comfortable structures such as yurts, tree houses, 'bubble hotels' and the like, which are proposed as a luxurious alternative that allows tourists who use them to escape from everyday reality by being completely immersed in nature. The main point in which traditional tourism and glamping differ, in fact, is primarily the facilities. In most cases, traditional camping sites are not equipped with any infrastructure apart from toilets. But tourists are obliged to build their own accommodation, cook and manage their own waste. Suffice it to say that for this very reason traditional camping is even banned or severely restricted in some countries. In glamping, on the other hand, the facilities, in whatever form the service provider decides to structure them, are present and well organised.

Glampsites (this is the name given to places where glamping is organised) typically, in addition to the basic services for which they have been set up, offer supplementary services such as: electricity, air conditioning and heating, wi-fi access, private bathroom with running water, laundry and accommodation management services, small restaurants or catering areas. It is not possible, however, to create a categorisation of the facilities of glampsites as their characteristics are very varied and heterogeneous. In fact, some focus mainly on the tourists' proximity to wildlife, others are part of much larger and more luxurious complexes, thus being almost like an ancillary experience. Still others offer deluxe cabins that differ from the more modern forms of Mongolian yurts or furnished tree houses. In general, we can say that whatever form of glamping is chosen by the tourist and selected for the holiday, it will aim to make the travel experience unique and unforgettable.

Studies suggest that the glamping market is subject to continuous expansion and in particular the growth expectations between 2022 and 2027 are 14.7%³¹. Being a relatively young phenomenon but with enormous potential, it is important to study the characteristics of those who choose this type of tourist option in order to be able to implement strategic marketing actions aimed at attracting as many travelers as possible. According to some market surveys, the characteristics of these travelers are those summarized in the table below:

³¹ Alexsoft.com (2022)

Tab. 3.9: Glamping's users

Average age	18-32
Average number of people involved in a group	4
Important service factors	Staff friendliness and professionalism; cleanliness
Important facility factors	Attractive and well-maintained natural environment, glampsites locations and comfort
Main amenities	Electricity, wi-fi, bathroom, kitchen, heating/cooling services
Main market expectations	Comfort and climatic considerations, unique design, setting and location, destination and experiences
Marketing specifics	High-quality pictures, detailed descriptions of what to expect, web presence

Source: author's elaboration based on alexsoft.com, 2022

Having analysed the characteristics of tourists who usually select glamping sites for their holidays, it is important to emphasise that there are various aspects they will take into consideration. Since we have expressed the multifaceted nature of the facilities involved, it is easily conceivable how each of the tourists may give different weight to each of them. However, a study conducted by the 'Department of jobs, tourism, science and innovation' in Australia (2021), attempted to standardise the importance that is usually attached to the various attributes taken into consideration, creating a hierarchical pyramid of them, as we see below.

Tab. 3.10: Glamping Hierarchy of Elements



Source: Department of jobs, tourism, science and innovation (2021)

3.8.1.a. Focus on Glamping in China

Glamping is one of the latest trends in vogue for Chinese consumers of the so-called ‘Z’ generation. The development of this phenomenon has led to an extensive analysis of marketing and its potential in the Eastern world. Already in its infancy, during the covid era, it was predicted that given the unfavourable global conditions in the tourism sector in which the phenomenon had managed to develop, the growth margins by today’s year would be close to RMB 36 billion³². Given the strong element of luxury present in the Glamping business and the strong interest of young Chinese people in aesthetics (the origins of which we will see in the paragraph below), the demand for luxury items to take with them on holiday has also grown dramatically, so much so that sales outdoor-related products have increased by 130% in recent years. As we have said, the real marketing initiative to sponsor the birth of the new business came from the young people themselves, who with their social networks have exponentially increased the potential for word of mouth and sharing of their experiences, enticing friends and relatives to try this new experience. The number of shares was so high that in 2020, the ‘Little Red Book’³³ app created two new hashtag campaigns to be affixed when camping-related content was published. In general, it was the aforementioned app that brought glamping to its mainstream, in fact to date there are more than 550,000 notes (posts) related to the theme ‘camping’ and searches for ‘glamping’ have increased by more than double since 2021. Many Chinese celebrities, especially in the category of K-pop bands (a genre that is very popular and loved by young oriental people), have decided to set some of their concerts and performances in glamping style and this has only increased the spread of the phenomenon.

Glamping has thus become a lucrative trend in Chinese social media and has already been widely exploited by the largest luxury brands. One example is Prada, which transformed one of its shops in Shanghai into an immersive glamping experience. The cosmetics brand

³² Alexsoft.com (2022)

³³ (In Chinese Xiaohongshu: 小红书) started as a sharing community with the aim of helping users discover and buy international goods, share tips and advice. Over the years, it has progressively integrated eCommerce features that, combined with social features, have created a comprehensive social commerce platform where tips and advice drive users to buy.

L'Oréal also took advantage of the strong marketing push by organizing a camping-themed event on the beach for the launch of its latest sun product.

3.8.1.a.ii. The importance of the Aesthetics of Atmosphere in Glamping Tourism

Given the recent emergence of this phenomenon, it is often considered by scholars as a sub-topic of research into hotel management (Welsh W. et al.), thus equating this form of camping with luxury hotels immersed in nature. This is essentially due to a lack of available information about this new form of tourism. Since it is, however, recognizable that the motivations for travellers to choose the option of glamping rather than a luxury hotel are quite different, it is necessary to investigate the origin of the emergence of the need for the new form of camping we have just introduced.

In this new era, the desire for a more comfortable life has intensified and scholars like Welsh³⁴ argue that the aesthetics of objects are becoming as important as their practicality of use. Precisely on the basis of the increasing emphasis on aesthetics, a German scholar Gernot Bohme developed the theory of aesthetics on atmosphere. He defines atmosphere as “the definite presence of something”³⁵ and in particular the word 'atmosphere' itself should not be understood in its scientific connotation but as a state of mind that is dispersed in the environment. Within the atmosphere, according to Gernot Bohme's theory, the encounter between man and his experiences in space and space itself takes place. Through this encounter, man is regarded as a receptive body (according to the theory of perception) and through this he is able to incorporate all the sensory functions of the environment.

All activities aimed, therefore, at 'creating a certain atmosphere', are nothing other than typical aesthetic activities which, to give a very practical example, is the concept on which designers of houses, hotels, yachts (and others) base the construction of an environment that can satisfy the purely aesthetic need of the people who will live in that environment. We could therefore consider atmosphere as an interchange of relationships between the

³⁴ Welsh W. Et al (2006)

³⁵ Ting Sun and Tai Huang (2022)

perceiver (man) and the perceived (the environment around him). The interrelationships just mentioned, may concern objective factors (such as lighting, objects in an environment or a certain music) and absolutely subjective factors (which we could liken to the feelings of an audience at the theatre, who perceive the behaviour of the performers differently and who may feel more or less immersed in the scene they are observing).

Even in the context of camping, the atmosphere cannot be divorced from our experience and is considered the intermediate environment between the campers and nature, the facilities and the outside environment in general. According to Bohme's theory, it is through the atmosphere that is received by our sensory body that the camp itself is able to create emotions, just like a story staged on a stage. This process is capable of influencing our mood and our very experience: just think of how our mood varies when we are at a party, in an environment that is usually colourful, illuminated and surrounded by music. Similarly, a well-equipped Glamping style campsite with aesthetic landscapes will make us feel more easily involved and immersed in the environment itself.

3.8.2. Experiential Tourism

To describe this new form of tourism we take one of its definitions as a basis: "Experiential tourism is a growing trend towards experiential learning, whereby people create meaning through direct experience in tourism destinations"³⁶. As can be deduced from what has just been mentioned, experiential tourism is a form of tourism that involves the active participation of travellers so that they can have a totally immersive travel experience with the local people, their culture and traditions in order to create a memorable and unique experience. The activities carried out by tourists opting for this type of solution should not be imagined as extreme or extraordinary activities, but sometimes simply include the very experience of staying in unusual facilities or even co-habiting in facilities offered by the local population, as in the case of the 'Yujianle' we will see below. This implies that, even if not necessarily, in order for the desired goal to be achieved, the traveller must make an effort to live the experience to its full potential. One of the positive aspects of the traveller's full involvement is sometimes a saving in

³⁶ Didactic Material, Satta et al. (2023)

terms of money and time in identifying the activities to be performed or the reception facilities that are often offered by the locals, at no cost. The authenticity of the lived experience is in fact better conferred and guaranteed by the human relationships that the traveller is able to build with the local population that can become points of reference for a potential future trip.

What is striking is the contradiction of this form of tourism with the trends of mass tourism, characterised by a highly standardised type of service and the involvement of a large number of tourists concentrated in a short period of time.

The activities that can be traced back to this category of tourism are many and the image below is intended to summaries the main ones.

Tab. 3.6: Most popular adventure activities



Source: Adventure Tour Operator Snapshot Survey, 2022

After having focused on the defining aspects and fundamental traits of experiential tourism, it is necessary to dwell on the distribution of services, the major players involved, and the related business models.

First and foremost, those who make the realisation of this type of travel solution possible are the local providers who, in this case, consist of the inhabitants of the place identified as the destination of the trip themselves. In fact, only locals can offer this type of unusual service as they are the only ones who are closely linked to the cultural and traditional activities of their place of origin, thus giving the travel experience the connotation of niche tourism. Examples of this are the Bedouins in the desert who offer guided camel tours or a Chinese farmer who, by offering the availability of his home, instructs travellers in rice-growing techniques. A peculiarity of these businesses is that they go against the trend with regard to the use of technology. In fact, very often this kind of experience is

done in southern or developing countries and, as a result, the presence of smart devices and the corresponding networking is very scarce or completely absent.

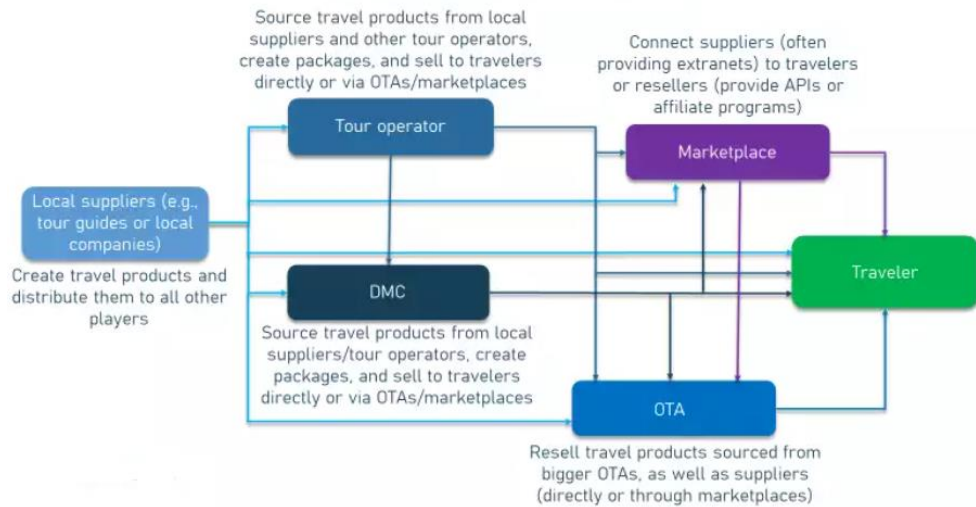
However, locals alone would not be able to offer such a structured package to travellers. They are closely assisted by tour operators to whom they communicate the activities they are able to offer and they create ad hoc travel solutions to resell through digitised (websites, apps, etc.) or physical (travel agencies) distribution channels. Together with tour operators, the role of destination management companies (DMCs), whose job is very similar, i.e. to organise tourists' itineraries in destinations, is crucial. The substantial difference between tour operators and DMCs is essentially that the latter are usually located in the territory in question and therefore have a deeper knowledge of it, which allows them to offer a wider range of services and a greater degree of customisation. Among the major services offered are airport transfers, rental of vehicles and other means of transport, bookings of accommodation such as hotels and restaurants, activities of various kinds, and much more.

Tour and attraction (T&A) marketplaces do not create and/or resell tours, but their task is to connect sellers and buyers, earning a commission in case future travellers decide to book that particular trip. In fact, marketplaces are used by tour operators to advertise their products in order to increase the awareness of the services they offer, and they often collaborate with marketing and technology experts to extend their reach.

The last actor we will analyse are travel agencies, and in most cases when we refer to them we mean online travel agencies, also known as OTAs. The business model of an OTA is very similar to that of a marketplace but the range of products covered is much broader. Of particular interest are the technologies used by OTAs, since, if appropriately digitised, they have three fundamental technological components: what we can consider the "front side" formed by their website or applications; the "back side" which is formed by all those who keep track of bookings, analyse databases, accounting and other internal systems; and finally the "provider side" which regulates relations with suppliers.

We summarise the major representatives in the field of experiential tourism and their interrelationships through the diagram below:

Tab. 3.7: Experiential Travel distribution



Source: altexsoft.com (2022)

3.8.2.a Yujiale

Yujiale (Chinese: 渔家乐) is a form of tourism based on the conversion of intensive and unsustainable fishing activity into an experiential form of tourism with less social and environmental impact. It is very different from other forms of coastal or insular tourism in that it incorporates the pleasure of the sea with the experience of the locals and the fishing tradition, offering personalised services and very close relationships between host and guest in a totally family environment. Moreover, as coastal tourism is supported by the government and upper-middle class tourists, it plays a key role in poverty alleviation in local fishermen's environments. The conversion of fishing activities into tourism activities has affected various parts of the world, but particularly this phenomenon has spread to China. This form of tourism originated in Shandong Province in the late 1990s and has since spread to the entire coast of East China³⁷. For this reason, there are many studies in China concerning this event, especially those relating to economic revenues for local governments, the distribution of costs and benefits for setting up this type of tourism activity, and the ecological perspectives it offers both in terms of fishing and coastal tourism. Legally speaking, this phenomenon is very peculiar in that while the government has pushed hard for the fishing-tourism conversion to take place,

³⁷Wang et al (2016)

on the other hand, the existing post-conversion tourism activities are managed through non-formalised regulations developed by the local population and not by legislative measures.

The need for reconversion arises, not only in the coastal sphere but concerning all small-scale activities (such as agricultural activities), as attention to environmental, social and sustainability issues spreads in China. This happens when China, driven by its economic boom, becomes a desirable tourist destination for Western travellers. For example, in the State Council's (2018) Strategy for Rural Revitalisation (2018-2022), the following had emerged "it is crucial to develop the ecological system, leisure tourism, cultural experiences, and the aged care industry in order to expand the industries in rural areas"³⁸. In 2018, the amount of operating revenue from tourism in rural areas was 800 billion yuan³⁹. In fact, the counterpart of the Yujiale, in mountainous and predominantly rural areas is the Nongjiale (Chinese 农家乐), which consists of the conversion of activities carried out mainly in the fields for animal husbandry or rice cultivation into tourism-recreational activities.

Usually, the Yujiale consists of a family business and the study by Yuan et al. (2019) found that there are two types of this form of tourism. The first is what is identified by the study as the 'participatory model'. From the term itself, one can infer the structure of this form of Yujiale which involves fishermen providing folklore shows, boat tours, fishing days, and fish and seafood consumption. The second type is called the 'resort model' and envisages that there are facilities for the reception of tourists that are usually assimilated to or near the homes of locals who offer tourists accommodation and food with their own local produce mostly derived from their fishing activities.

³⁸ Haoxuan Sa & Michael Fabinyi, (2022)

³⁹ Yuan et al, (2019)

Img 2.8: Home Style accomodation & Yujiale restaurant



Source: Ming Ming Su at al. (2017)

Having seen its main features, it is at this point known that the Yujiale was born, beyond legislative measures, in response to most of the issues and concerns, which we have already analysed and which are brought about by tourism. First of all, we have already seen how the negative sides of tourism are the more impactful the more the territories on which it pours its effects are limited in terms of space. The introduction of the Yujiale, in fact, has taken hold especially in the islands since their economy is almost entirely driven by tourist activities, an insufficiency of which could even jeopardise the very survival of these areas and the populations that inhabit them. On the other hand, since spaces are very limited, a dense presence of tourists concentrated in the same period of time (a problem strongly linked to mass tourism), creates a strong pressure on the local community, which sees the possibility of using the territory of their homeland according to their needs called into question in order to make room for the tourist needs of travellers.

To consider its positive aspects, we must take into account that, in general, the Yujiale (if structured according to the 'participatory model') indicates a form of tourism based on sharing the local culture, concentrating on the activity of fishing and living for the period of the trip in the homes of the local population so as to live the experience fully immersing oneself in the life of the communities that inhabit the place visited. This would lead to savings in terms of the infrastructure needed to accommodate tourists as the designated facilities for accommodating travellers are the homes of the inhabitants and, on the other hand, by making fishing the focus of the tourist activity, this allows the population to utilise their local resources and protect and disseminate their cultural heritage at the same time.

However, the Yujiale also has its downsides, one of which many scholars have

commented on relates to the fact that while it is true that this form of tourism helps combat the poverty of local fishermen, this is not the best way to do so. In fact, according to experts, it would be necessary to differentiate the fishermen's income, which is only partly made up of tourism from fishing and the remainder through other forms of incomes⁴⁰. A livelihood provided by the sole source of fishing tourism, in fact, and the consequent need to have a continuous flow of tourists, would invalidate the very concept of insularity, negatively impacting the territory. Others complain about the lack of the construction of fixed structures and infrastructures that are not stimulated by fish tourism as it exploits 100% of the already existing forms of accommodation and transport (mainly by sea, through rudimentary boats), thus missing one of the most advantageous consequences of tourism, which consists precisely in the improvement of transport and connection lines that in the first instance are created to improve the tourist experience but subsequently become an added value for the whole territory and the population living there. Still others argue that a negative influence on Yujiale could be the inhabitants themselves. Indeed, communities do not have an unequivocal opinion about their acceptance and participation in the provision of fish tourism. Should the locals not support this form of tourism, seeing it as a threat to the survival and authenticity of their cultural heritage, they would be the first to negatively influence the tourists' experience and consequently, their intention to return to that place or recommend it by word of mouth⁴¹.

3.8.3. Main differences between experience marketing & experiential marketing

Having analysed the distinctive features of experience and experiential tourism, we must bear in mind that since they have very different characteristics, the strategic marketing actions implemented by management must also be managed differently in order to attract the greatest number of tourists possible, once the target audience has been identified. The origin of experience marketing is an external stimulus that causes a process to start. It starts with a change in customer behaviour or attitude, therefore it is defined as a strategic approach that takes into account the affective, cognitive and conative perspectives of the service experience. It aims to directly engage the customer,

⁴⁰ Su et al., (2016)

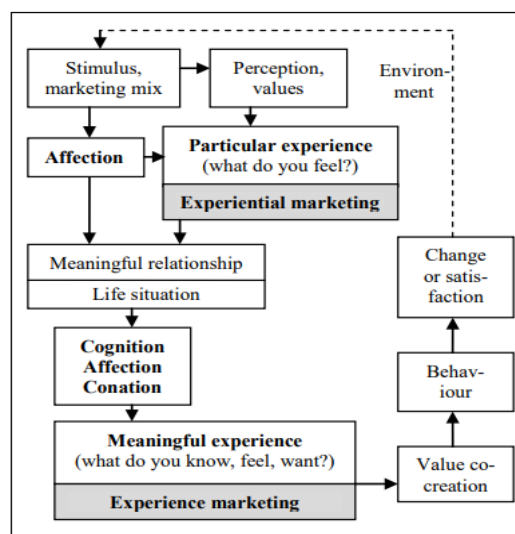
⁴¹ Bechleitner & Zins (1999) & Nicholas et al., (2009)

making them understand the message and value that the company intends to communicate through its service. It is therefore based on triggering a particular emotion in the customer and leading him to behave accordingly. This customer emotion is the reaction to the stimulus (caused by the marketing mix) which can be intrapersonal, i.e. arise internally from a person for internal reasons (tiredness, need for a holiday) or interpersonal, i.e. from the exchange of communicative input between several people (advice, links, websites) or between people and marketing tools (billboards, advertising, adverts).

Experiential marketing, on the other hand, operates on a tactical level. In fact, it is not a process that starts thanks to a response given in relation to a given stimulus, but starts thanks to the direct experience of the traveller. It is closely linked to the emotions, senses and feelings that a tourist feels during his or her marketing experience and it is the experiences (especially if positive) that create a consequent positive association with the service provider's brand. From the direct experience and the emergence of emotions in the customer, experiential marketing aims to create customer loyalty through the customer's unforgettable memories and knowledge gained during the trip.

The diagram below is intended to make the characteristics, differences and possible interrelationships between experience marketing and experiential marketing more illustrative.

Tab. 3.8: The difference between experience and experiential marketing



Source: Tallin University of Technology, 2012

3.9. The role of green transport on tourism: the impact of HSR in China

We can consider it a real green investment and strategy that has intervened in the construction of high-speed railway lines in China. Transport, in fact, even if not strictly related to coastal areas, influences tourism globally as more accessible territories also in terms of connections and transport solutions are more easily visited by an increasing number of people. In addition, such transport solutions are less impactful than other forms of substitute transport.

The first railway line for high-speed passenger tourism was opened in China in the year 2003, more precisely, it concerned the route between the cities of Qinghuadao and Shenyang with trains with achievable speeds of 250/300 km/h. From then on, and especially in the following decades, the HSR achieved exponential growth⁴². This inauguration marked the beginning of the era of high-speed intercity transport, which led to the planning of future routes thanks to the intervention of the China Railway Corporation (formerly the Ministry of Railways) starting in 2004. From the first medium- to long-term project for the construction of high-speed lines throughout the country, it resulted in the implementation of four horizontal and four vertical axes developed by 2020. These corridors envisaged for the vertical sections, connections between Beijing-Harbin, Beijing-Shanghai, Beijing-Guangzhou; while the western line envisaged rail corridors between Qinghai-Taiyuan, Shanghai-Wuhan-Chengdu, Shanghai-Kunming and Xuzhou-Lanzhou. Of all the above-mentioned routes, the first to be completed and enter into operation is the one connecting the cities of Beijing and Tianjin, in August 2008. The planned corridors have increased from four in 2020 to eight, which can be realised by 2030, thanks to the revision of the high-speed line plans in 2016. In 2020, the Outline of Powerful Nation Railway Planning Advance⁴³ also proposed the goal of full access to high-speed lines for cities with at least 500,000 inhabitants. By the end of 2020, China's 146,000 km of railway lines will include 38,000 km of high-speed lines⁴⁴. Below are two maps depicting the route development that has taken place or is assumed to take place, respectively, in the period between 2008 and 2020 and between 2016 (the year in which

⁴² Ou Xunmin et al., (2022)

⁴³ It's a Rail Network Planning that refers to the planning, forecasting and assessment of the rail network as a system

⁴⁴ Wu Jiatong (2021)

the reform that increased the number of HSR routes from four to eight took place) and 2030.

Tab 3.9: HSR Network in China (2008 vs 2020)



The red line in the image highlights the lines present in 2008 while the blue line identifies the branching and implementation of the pre-existing lines until the year 2020

Source: L., M., R. bullock and Ziming Liu, 2019

Tab 3.10: HSR Planning in China: eight vertical and eight horizontal corridors (2016-2030) (Source as per above, 2019)



In the map, we see what is the planning of China's railway routes up to 2030, dividing them into routes that have already been built (marked in light blue), corridors connecting the various routes (marked in dashed blue), lines that will be built in the short term (in green) and those for which a long term is planned (in dashed green).

Finally, lines already under construction, such as most of the lines in south-east China, are marked in orange.

In addition, the increasing development of high-speed trains has produced a series of impacts on cities and, in general, on the whole surrounding area. The impacts at the regional level are the most evident since it is precisely at this level that we can see the connection between urban clusters and emerging and developing metropolitan areas, breaking down the geographical limits and constraints often imposed by the morphology of territories. In addition to urban integration, therefore, we can consider HSR as an essential element for rural urbanisation, i.e. the repopulation of all those more sparsely populated territories whose accessibility was severely limited.

It is precisely this last concept that is very important for measuring the structure performance of a transport network⁴⁵. For inter-urban travellers, who frequently travel between different cities and need long-distance transport, e.g. for work purposes, the introduction of HSRs has fully met their needs, becoming an essential means of transport and perfectly integrated with other modes of transport, creating a dense intermodal network. In addition to the development of intercity passenger traffic, the development of HSR has also led to the use of high-speed trains for journeys to neighbouring countries. As a result, the number of passengers using these lines on a monthly basis has been decreasing over time, in favour of using the infrastructure in question on a weekly basis.

The development of high-speed trains has had clear consequences, especially for the road and air segments, although these are still absent from the literature. What has emerged, however, is that high-speed railways have proven to be more competitive than other modes of transport for a medium to long journey time of around 3-4 hours. At the same time, cars and buses are more competitive for shorter journeys, while the ideal means of transport for journeys longer than an average journey time of 3-4 hours are airplanes⁴⁶.

Although the benefits of using HSR are many, like any major infrastructure, there are also negative aspects. Indeed, both the construction and operation of HSR lines entail

⁴⁵ Y. Park et al., (2006)

⁴⁶ L., M., R. Bullock and Ziming Liu, 2019

significant ecological risks and environmental impacts on the atmosphere and groundwater, noise levels and electromagnetism.

Consequently, it is mandatory at the beginning of all HSR project cycles to prepare a revised Environmental Impact Report approved by the National Development and Reform Commission.

Having introduced the benefits and costs, let us now analyse the economic, social and environmental impact that high-speed lines have on the external environment and the territory on which they are located.

HSR has a direct and indirect economic influence on the territories on which it is used in that, first and foremost, it entails an increase in demand for travel (whether it is non-avoidable due to business conditions or leisure travel). It follows that ease of travel therefore leads to new growth opportunities for both larger cities and cities that are developing but well connected to more modern ones. Research has also shown that HSR has a positive growth impact on both economic integration and regional growth and the well-being of local communities⁴⁷. Especially for larger-scale projects, the construction of HSR contributes to the overall growth of GDP and economic stability, especially for the sectors directly involved in its construction. This latter category includes the industry related to steel, cement, concrete and other materials used in construction.

On the social side, HSR and its development create new job opportunities. In addition to the workforce directly involved in the operation of the lines, this new type of transport opens up wide avenues for the implementation of research and development departments within the infrastructure sector under consideration. Since most high-speed lines are fully electrified, specific new positions are needed to deal with energy management and in particular energy consumption management⁴⁸. In fact, the introduction of high-speed lines has led to a significant reduction in urban CO₂ emissions, and estimates predict that the conversion of 100 overland journeys into as many by HSR could lead to a 0.14%

⁴⁷ Chen Z. et al., (2015)

⁴⁸ "Energy management is the proactive and systematic monitoring, control and optimization of an organization's energy consumption to conserve use and decrease energy costs. Energy management includes minor actions such as monitoring monthly energy bills and upgrading to energy-saving lightbulbs". (source: ibm.com)

reduction in emissions. These new job opportunities obviously benefit the entire local community but especially the population living in the less developed areas that are included in the HSR connections. They, in fact, in addition to benefiting from the accessibility of their territory, which thus has the possibility of becoming fertile ground for tourist activities, find advantage above all in occupying job positions that fall within the system involved by the HSR. The lines that are particularly affected by the latter phenomenon just mentioned are those involving transport between the cities of: Baoji-Lanzhou, Xining-Chengdu and Chongqing-Guizhou. In the latter, in fact, HSR and the new jobs associated with it have been used as a useful system for balancing the poverty of the local population.

As a final noteworthy point regarding the social sphere, the implementation of HSR in China has contributed to the development of urbanisation and tourism, giving rise to the so-called 'New Towns HSR'.

As far as the environmental field is concerned, while on the one hand, as we have already mentioned, HSR lines contribute positively in that they are totally electrified (in most cases), they nevertheless have a considerable environmental impact. In this regard, we must in fact take note of the fact that all the materials used in its creation and the entire process of building the infrastructure necessary for the operation of HSR create an environmental impact. Take, for example, the entire phase of supplying the materials needed for construction (and their transport from the place of origin to the place where they will actually be used), the maintenance of the infrastructure, and their decommissioning at the end of their useful life: all these processes cause emissions⁴⁹, and consequently the entire HSR system, albeit indirectly, causes environmental impacts that do not make it as totally sustainable as it might seem at first glance.

An important goal achieved in China has been the replacement of air transport with high-speed rail transport. In fact, as we have just analyzed, through the 2003, 2016 and 2020 planning, China now boasts a dense network of HSR that allows connections between all major Chinese cities and beyond.

⁴⁹ L., M. R. Bullock and Ziming Liu, (2019)

This is precisely why there is a strong level of competition between HSR and civil aviation regarding the passenger transport market. A particular impact has been brought about by fast trains on short-haul flights, which has already caused a number of air routes to be cancelled in favour of high-speed rail. A concrete example of this are the flights on the routes between Zhengzhou-Xi'an, Nanjing-Wuhan and Chengdu-Chongqing, which went from a frequency of 3 times a day to final cancellation only six months after the opening of competing HSR lines⁵⁰.

3.9.1. Empirical Studies on the development of HSR

Because of its complexity and innovativeness, many researchers have been interested in studying HSR. Bonnafous⁵¹ was among the first to open up studies in this field by analysing the high-speed train connecting Paris and Lyon before and after its inauguration. Gines de Rus⁵², on the other hand, conducted an ex-post cost-benefit analysis of the advent of high-speed trains in Spain. These just mentioned are only a few examples, but since the early days of research, high-speed trains have proven to be of great economic value. Above all, in recent years, this has become a central sector for the development of tourism, as in addition to a reduction in the time enjoyed by travellers, high-speed trains make it possible to meet an environmental need by reducing their impact.

Most studies, in order to address the tourism sector and the impact that high-speed trains have on it, select a representative region or a specific line by analysing the changes in tourism development before and after the high-speed link. These studies led to the conclusion that in addition to classic tourist destinations, high-speed trains can contribute to urban tourism development and facilitate the transfer of tourist flows from central and economically developed cities to peripheral and therefore less touristic cities. This favours a more balanced development of regional tourism.

In the wake of high-speed trains, a number of Chinese cities have decided to develop some alternative transport but with the same basic principles; this is how the high-speed

⁵⁰ Sakzberg Andrew et al., (2013)

⁵¹ Bonnafous, A., 1987

⁵² Ginés De Rus, 1997

monorail was born in the city of Chongqing, which is one of the key locations for tourism on the Sichuan-Chongqing route.

A criticism of the construction of high-speed train lines can be the very high cost they entail, also considering that the distances between cities in China are much greater than in Europe, for example; the latter problem emerges especially if the high-speed train system is to act as a link between developed and peripheral areas. In addition, the Chinese territory, from a geographic and morphological point of view, has countless differences and this leads to higher costs. Another difficulty that should not be underestimated is the difficult interpretation of tourism trends when a high-speed line has reached its completion. In fact, being a long-term project, it is difficult to understand which will be the major tourist destinations and which will remain of little attraction for travellers.

In order to find a further application to what has been said, I decided to take as an example a study conducted in the literature to demonstrate the sustainable development of mountain tourism in the south-western region of China. Specifically, the referenced study takes into consideration data from 2010 to 2019 of 39 Chinese cities in the provinces of Guizhou, Guangxi and Yunnan, which are located in the southwestern mountainous region of China, and based on this data, it aims to analyse the efficiency of mountain tourism development in the inception phase of a high-speed railway in order to identify existing problems and those that may arise in the future.

Before proceeding with the results of this study, it is necessary to elaborate on the analysis technique used. The latter is called DEA (Data Envelopment Analysis)⁵³, which is a method to evaluate the relative effectiveness of a decision-making unit (DMU_j) with multiple inputs and outputs based on known data. From the perspective of input orientation, this research uses DEA to evaluate the efficiency of the early stage of an HSR in the development of mountain tourism. It is assumed that DEA is carried out under the condition of variable returns-to-scale. OE (Overall Efficiency), PTE (Pure Technical Efficiency), and SE (scale efficiency). of tourism development in the study area can be calculated.

⁵³ Mengdi Liu et al., (2022)

Now that we have defined the study under consideration, we must take into account the 7 basic hypotheses on which the study is based and which refer to all the consequences that may arise from the initial phase of construction and use of high-speed lines. As we shall see, these hypotheses relate both to the initial phases of the implementation of high-speed railway lines and to their influence on tourism (in this case in mountainous areas). They are as follows:

1. *“The opening of a high-speed railway line is the key factor in improving the overall efficiency of tourism development in a mountainous region.*
2. *A high-speed railway line can effectively promote the development of sustainable tourism in areas located in mountainous regions.*
3. *HSR has a delayed effect on promoting the overall efficiency of tourism development in a mountainous region.*
4. *HSR has no role in the pure technical efficiency of tourism development in a mountainous region.*
5. *HSR promotes the efficiency of scale of tourism development in a mountain region.*
6. *HSR can improve the efficiency of tourism development by improving the income levels of residents.*
7. *HSR can improve the efficiency of tourism development through accessibility”.*⁵⁴

After the study carried out, not all hypotheses turned out to be verified. The first hypothesis turns out to be false in that although high-speed trains have a positive impact on the accessibility of tourist destinations, on the reduction of the space-time proportion and promote the opening up of the area concerned to the outside world, it is still the economy and services that are the key factors in improving the efficiency of tourism development and the introduction of high-speed trains is therefore not yet a turning point for the regions examined.

A second consideration following the analysis is that the effect of promoting a high-speed line on tourism development on that particular route is delayed. In fact, high-speed does

⁵⁴ Mengdi Liu et al., (2022)

not have a significant effect on the OE promotion of tourism development in theory. However, given the significant trend of tourism development in the SE, which can promote the improvement of OE, it can be inferred that the HSR will significantly promote OE in this study area when it is in the middle phase of an HSR's life cycle.

Furthermore, in its initial phase, an HSR appears to lack the resources necessary to meet demand. This is because, prior to its construction, the level of management development has reached its maturity, however, after the investment in HSR, the initial equilibrium that prompted its construction is lost and the resources invested seem to become useless. In fact, before being able to fully satisfy demand and thus remunerate the investment, the construction of the work must be completely finished, and this can only take place in the medium to long term.

The study also shows that the desire for a high-speed line stem from the need and therefore the demand for that particular service by residents of mountainous and peripheral areas and not from their income level. In fact, those with higher incomes are usually less willing to spend their time commuting (e.g. from home to work) as the time lost in the commute translates into less income. Moreover, those with a good employment situation and a sufficient income level are more willing to enter the tourism market, especially if it is more accessible. However, in this study the income level was not considered as a trigger for the demand for high-speed trains, as for those living in mountainous areas the demand for a certain type of connection did not arise from a desire to travel but from a need to have a connection to other more developed and central regions.

Although it might seem like an unpopular destination, the connection of mountain areas via high-speed lines contributes positively to the development of tourism. Indeed, due to the speed and efficiency guaranteed by this method of transport, high-speed lines can considerably reduce travel time between cities. Especially over long distances, the convenience of tourist transport is one of the key elements.

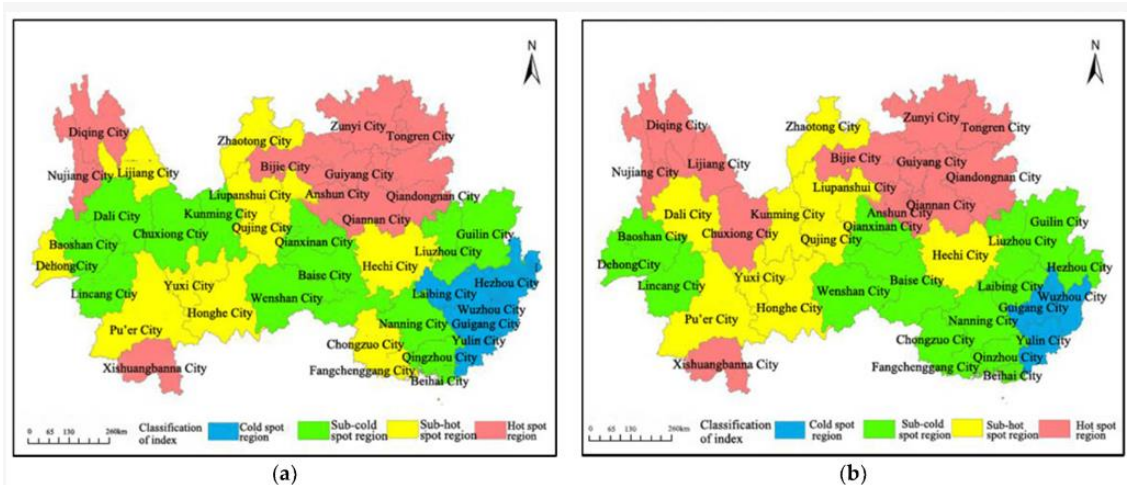
To conclude this study, we have seen that the construction and development of high-speed railway lines have enabled a connection between developed and developing areas, breaking down their geographical boundaries and promoting a form of transport that not only shortens distances and reduces travel time but is also environmentally sustainable. Since the development of these types of railway lines are still in the construction and

improvement phase, their definitive impact in economic and societal terms cannot yet be fully analysed, but it is clear that it will increase in the future.

The government has an important role to play in the realisation of this train network, as the greatest effort must be made to identify any tourism-related efficiency problems that may arise as soon as possible so that these can be resolved when these trains are actually operational. Therefore, the government should continue to improve the tourism industry system and marketing in these mountain areas so that the tourism system with HRS infrastructure achieves a balanced allocation and coordinated development to finally achieve sustainable development of the tourism economy in the entire mountain region.

To analyse the formation of spatial clustering in China favoured by high-speed trains, below is a map depicting the formation of clusters that emerged from 2014 to 2019. Following the legend, a cold spot represents a cluster area with low efficiency of tourism development; conversely, a hot-spot region indicates a cluster of high efficiency for the tourism sector.

Tab 3.11: Spatial Hot spot evolution of OE in 2014 (a) and 2019 (b)



Source: Mengdiu et al, (2022)

3.10 Information and Communication Technologies (ICTs) and their application to the tourism sector

Information and communication technologies (ICTSs) and the internet introduced an 'Industrial Revolution' in the late 1990s⁵⁵. The spread of the internet and smart devices has strengthened the dense network of interchange between them, enabling both individuals and companies to have a wide range of information and digital resources available at all times, regardless of their location, and above all without paying any cost. All this has led to a complete restructuring of the entire business, leading to the digitization of all processes in the value chain of companies involved in tourism, travel and accommodation. Thus, were born the forms of E-tourism and Web 2.0. that have completely changed the way businesses interact and communicate with their stakeholders, increasing even more the value of ICT for them.

ICTs are crucial from both an operational and strategic point of view. From the operational point of view, in that they allow for the information that the company needs on the one hand and the information that the customer needs on the other, in both cases with maximum reliability since they are updated in real time. As far as the strategic approach is concerned, we have to take into account that the services offered by businesses are characterized by the character of intangibility and the use of technology can overcome this concept in that the customer through websites, online tours (e.g. of room solutions that he/she can select in a hotel or on board a cruise), stakeholders can feel more in touch and participate in the business activity. Furthermore, strategic marketing related to the tourism sector focuses on creating attractive images or descriptions for the tourist, since he cannot have proof of the service he will choose before purchasing it. A final aspect to be taken into account is the possibility for companies using digital platforms or applications to receive information about their customer base to reach them with a single click anywhere in the world and independently of their location.

The definition of ICT that we will consider is the following one, which states that ICT consists of "*the entire range of electronic tools that facilitate the operational and strategic management of organizations by enabling them to manage their information,*

⁵⁵ Didactic Material, Satta et al., (2023)

*functions and processes as well as to communicate interactively with their stakeholders for achieving their mission and objectives*⁵⁶. The major components of ICT are hardware, software, data, netware and humanware. While the former include all physical equipment of any kind, the latter consist of preset and detailed information to ensure the functioning and programming of the hardware. Data is the major connecting element between the various smart devices, as it includes everything that is exchanged between the network users, everything that is stored within the clouds and also constitutes the part of information that can be studied and analyzed through 'data mining'. Netware includes all the physical equipment and software connected to it to develop and sustain an interconnected network or system of computers, the Internet and smart devices. Finally, as can be guessed from the term itself, humanware encompasses the intellect and skills acquired by and distinguishing all those involved in ICTs. We can easily find the use of ICTs or smart devices within the "three-stage service consumption model" that we analyzed earlier.

3.10.1 Technology Application in Tourism in Asia

The application of technology to tourism has become one of the strategic forces of competitiveness in the global tourism.

In Asia, the rapid growth of tourism industry has accelerated the adoption of modern technologies. In fact, numerous Asian touristic destinations have put up a strong technology base for providing non-material services.

3.10.2 Significance of technology in Asian Tourism

Over the last decades, technologies became necessary to satisfy the mutable preferences and needs of tourists. In fact, they can keep actual and potential tourists updated about destinations⁵⁷. Particularly during COVID-19, digital communication has

⁵⁶ Buhalis, (2003)

⁵⁷ Zainol, (2005)

become essential to provide services to tourists. They have supported by technologies such as the internet, the software applications and the smart devices⁵⁸.

Some Asian countries (Japan, China, South Korea, Indonesia, Taiwan, Malaysia and India) are very keen to use new technologies to boost sustainable tourism sectors⁵⁹. Tourists in the Asian region are also used to share their touristic experiences through technology-based platforms.

Technology is helpful for both furnishing touristic services and sharing tourists' feedbacks about the services. An example can be the internet technology used by hotels in Hong Kong which helps travellers to easily make their purchase decisions⁶⁰.

The study of Wong and Law find out that this technology is helping the Hong Kong hoteliers to earn more profits by saving the costs of intermediaries. The same thing happened in South Korea, where hoteliers and the tourists found internet technology "advantageous, safe and fast for exchanging information"⁶¹.

During the pandemic, internet technology in many Asian destinations have helped maintaining physical distancing in terms of tour confirmation, cancellations, reservations, and refunds etc. The Asian countries have been able to maintain the tourism sector alive via 'untact' services⁶², i.e. non-material services. Smart digital devices and advanced technologies have enabled "untact" service, facilitating customer encounters without a face-to-face contact with employees'⁶³.

3.10.3. Actual and Potential Use of Some Notable Technologies in Asian Tourism

Asian countries are developing and using new technologies such as artificial intelligence, gamifications, virtual reality, robotic systems, augmented reality, machine learning, cloud computing, mobile technologies, and big data analytics, etc and they are used to facilitate the different touristic activities.

⁵⁸ Ryan & Jones, (2009)

⁵⁹ Sezgin & Aktas, (2016)

⁶⁰ Wong & Law, (2005)

⁶¹ Kim et al., (2004)

⁶² Bae & Chang, (2020)

⁶³ Lee et al., (2019)

3.10.3.a. Artificial Intelligence (AI)

With this definition we refer to computer software or automation that are able to perform activities almost like a “human” would do. The AI is growing in any sector but particularly in the tourism sector it’s growing very fast. Some Asian destinations tried the AI and appreciated the relevant benefits such as work efficiency, safety and security, analysis of travellers’ preference and behavior. Many travel companies in Asia are using AI for trip itineraries, language translations in real time, marketing, chatbots and face recognitions⁶⁴.

The study conducted by Tuo et al. (2021) on the use of AI for tourism in China showed that the AI is helpful to tourism destination governments, tourism experiences and tourists by performing high quality administrative functions, quick action like emergency rescue and touristic service demands, customized tourism services, etc.

3.10.3.b. Gamifications

This is basically a marketing tool that regulate rewards or gifts to travellers It combines game with products and services of tourism industry⁶⁵.

This practice has been frequently used by service providers such as hotel and airlines . Many Asian airlines and hotel use gamifications to attract travellers. A practical example is the strategy adopted by Singapore airline: the winning travellers obtain a prioritized check-in, seat selection, boarding, food, accommodation, free or discounted tickets.

Gamification strategy is being widely used in China. However, this strategy is also criticized because of the frequent undesired emails and invitations from service providers received by travellers.

Asian service providers are more likely to use gamifications strategy since many destinations are emerging as touristic destination and are trying to brand themselves with marketing strategies.

⁶⁴ Chandran, (2020)

⁶⁵ Chung et al., (2015)

3.10.3.c. Virtual Reality

It uses computer-generated 3D environment that customers can navigate and interact with. It generates real-time simulation of “one or more of the user’s five senses”⁶⁶. Its popularity is growing because it consents the virtual travellers to visit and enjoy places without considering geographical demarcation or distance. Tourists are also able to obtain real-time experience on airlines and hotels, understanding the whereabouts of the destination before even moving to the destination⁶⁷. For example, Atlantis Dubai Hotel offers tourists the facilities of virtual reality before starting to travel with the hotel and its collaborators (travel agent, airlines and car companies etc.)⁶⁸.

Many Asian tourism destinations are becoming very popular in terms of using VR technologies. China, Singapore, South Korea, Malaysia, Thailand, and Indonesia are growing very fast in terms of VR applications in the recent past, particularly for to theme parks and natural attractions. technology. Further study is required to have better understanding on how Asian tourism destinations can render more customized services to different age ⁶⁹ religious and gender groups ⁷⁰ through the applications of VR technologies. Not so different from the VR is the Augmented Reality, “AR”. The main difference is that AR is the combination of real world with machine-generated content, while the VR is entirely digital. The application of AR have the purpose of augmenting a tourist’s experiences.

3.10.3.d. Mobile Technology

It plays a very important role in the advancement of tourism. In the 21st century, mobile technology effectively reduces the need for face-to-face interactions in the provision of many travel services, including flight booking, hotel booking, destination description and catering selection, etc.

⁶⁶ Guttentag, (2010)

⁶⁷ Samala et al., (2020)

⁶⁸ Samala et al., (2020)

⁶⁹ Jung et al., (2015)

⁷⁰ Tavakoli & Mura, (2015)

The Asian Trade Center (2017) reported that with the application of mobile technology, tourists can get various options sort by cost, location, star rating or customer reviews; compare prices and finally book.

The use of mobile devices is spreading among Asian tourists to carry out various tourism activities. For example, around 78% of Chinese travellers use mobile devices to book travel and dining⁷¹. Navigation apps in smartphones are an effective means for many tourists who drive or walk to find directions to destinations. Different types of mobile navigation applications have been developed or used in different countries in the Asian region to assist domestic and foreign tourists.

Tourists from different corners of the world can get various information to make travel decisions in Asian countries. Furthermore, mobile technology is an effective tool to manage tourism and emergency safety issues in this region. The tourist police in various Asian destinations have a special number for these services. Mobile payment applications also make tourist financial transactions easy and convenient in the region.

“Smartphones have become the dominant service delivery points for tourists and are currently used as GPS, cameras, music players, dictionaries, notepads and translators”⁷². Said the above, it is also true that many Asian tourists and small tourism-related businesses are still far away from using different mobile applications, in view of some sort of barriers in terms of using mobile applications in Asia.

In addition to the above-mentioned modern technologies, there are many other technologies used by tourism organizations in Asia.

3.11. Touristic Functions for Technology Use

Tourism is a highly fragmented industry⁷³ because it combines several sectors including accommodation, catering, transport, travel agencies, management of tourist attractions and sports etc. (as is stated in the scheme). Marketing organisations and tourism enterprises have to perform a wide variety of functions⁷⁴ to satisfy tourists. For

⁷¹ Jing Daily, (2015)

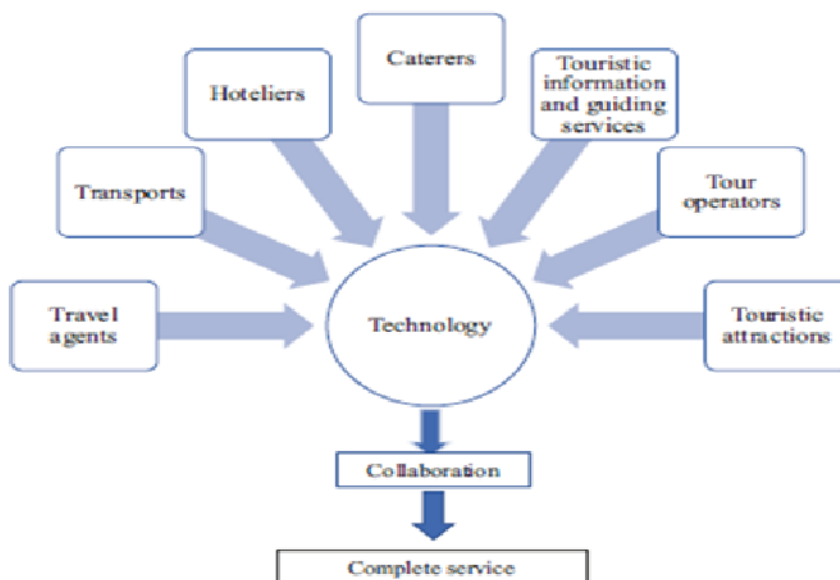
⁷² Abolfazli et al., (2015)

⁷³ Zapata & Hall, (2012)

⁷⁴ Zairi, (1997)

example, collaboration, marketing, finance, human resources and product development etc. are the most important functions in the tourism industry⁷⁵. It is important to note that, several functions are enabled by technology.

Tab 3.13. Technology enabled collaboration to produce a complete service



Source: A. Hussan (2022)

3.12. Collaboration

In the tourism sector, collaboration is necessary due to the involvement of different stakeholders to render a comprehensive service. Creating and maintaining collaboration in a traditional way is a difficult task due to different stakeholders and the fact that they may not have sufficient time and there is lack of communication⁷⁶.

Frequent collaboration and communication between tour operators, hoteliers, restaurateurs, transport providers and tourists etc. could potentially be easily developed with the assistance of technology.

Currently, many tour operators in Asia collaborate with related tourism businesses (accommodation, catering and transport providers, etc.) Thus, a tourist can easily

⁷⁵ Dollinger et al., (2010); Hojaghan & Esfangareh, (2011)

⁷⁶ Jiang & Ritchie, (2017)

purchase or book almost all the necessary services from one station with the help of technology. In Asia, technology is considered helpful to bring all tourism-related partners together in one platform. Online travel agents in many Asian countries are able to respond to millions of tourist enquiries within a minute⁷⁷. In this regard, China's Ctrip and Indonesia's Traveloka are the “model” to consider.

3.13. Digital marketing

Currently, digital marketing is one of the most important factor for tourism businesses. Considering the current tourism business environment and the tastes and preferences of tourists, digital marketing has gained popularity among tourism product and service providers⁷⁸.

Digital marketing has the function to process functions via technologies to generate and deliver value to tourists and related tourism businesses⁷⁹.

In the Asian region, the most popular digital marketing tools are websites, SMS, blogs, and social media platforms⁸⁰. There are also different social media marketing practices in almost all Asian countries to promote tourism: Facebook and Instagram are the most popular means among Asian tourism stakeholders, despite some local social media platforms.

Said the above, this region needs to develop a policy for the adoption and implementation of digital marketing practices since the development remain slow as of now.

3.14. Finance and Human Resources

As of today, almost all tourism via to tourism services through technology (debit cards, credit cards and via smartphone). The users in Asia are increasing day by day. In South Asia in particular, 49% of the various urban customers use the e-Wallet (Bosting Consulting Group, 2020).

⁷⁷ Asian Trade Center, (2017)

⁷⁸ Hassan & Ramos, (2021)

⁷⁹ Riyadi et al., (2019)

⁸⁰ Sharma et al., (2020)

For example, Alipay and WeChat are popular with Chinese tourists, restaurants, travel agencies and other small tourism businesses to process and receive payments (TechinAsia, 2017). However, small tourism businesses such as restaurants, hotels and car rentals in Asia have a poor understanding of the digital payment process due to their lack of education.

The tourism industry faces issues in the employment of the staff because of the seasonality of tourism activities such as food, accommodation, transport and attractions has an impact on recruitment.

The hiring and firing of personnel in the tourism sector in Asia is disorganised and highly volatile. Consequently, the recruitment process creates issues to the staff and generates inefficiency in the performances and the organisation.

Applying the technology in recruitment and selection, development and training, performance appraisal and reward can reduce the investment of money, time and effort (United Nations Development Programme, 2018).

3.15. Challenges of Technology Use in Tourism in Asia

Adopting and implementing the technology in almost all sectors, including tourism, foresees costs and certain skills or technological knowledge of both suppliers and users.

In Asia, most managers in the tourism sector does not fully support the development of technology., they have a negative attitude towards technology adoption because of the huge financial costs, legal complexity, risks, small business size and lack of technological knowledge.

Said the above, the trend is now changing and service providers in the region are starting to adopt technologies more and more frequently. Some Asian countries like Singapore, South Korea and Hong Kong are remarkable and exemplary in the world in terms of technology application in tourism sector.

The adoption of technology has several challenges, but the Asian tourism sector has potential to overcome the challenges. Service providers have in fact started to realize the long-term benefits of technology adoption. It is highly expected that the diffusion of technology in the region's tourism businesses will rapidly increase.

3.16. Travelers' possibility to choose "smarter" options to reduce their environmental footprint

Nowadays, not only companies but also tourists have many options to positively impact on sustainability. The global tourism market is growing significantly, and any action taken by tourist in this direction can help achieving the goal of net-zero emission by 2060. Basically, travellers may have these opportunities at all stages of their journey (booking, transportation, accommodation, dining, and activities).

With regard to booking, It all begins by choosing certified service providers, which are evaluated and certified calculating how they affect and preserve the environment and local communities. Tourist should carefully visit the websites and make sure that their travel services are certifies to meet specific sustainability criteria. By spending more time in one destination before moving to the next stop of the journey., tourists can alleviate the environmental pressure caused by traveling to many different locations. The positive effect for travellers is that they can fully appreciate the culture and experiences of one destination.

Furthermore, Tourist have the option to adapt their journey using sustainable transport modes. For example, the rail transport can be used to reach the closest destination (to the starting point) instead of using air transport. Walking and cycling and taking pooled or public transport during the journey may also be a wise choice to reduce the emissions caused by land transport. Other options available would-be renting cars that run on renewable energy sources and booking flights with lower carbon emissions. Related to transport, we can also consider ancillary services to reduce environmental impact. For example, choosing to renounce to the meal served during the flights flight meal, travellers would save tons of waste per year.

Tourists have also the option to choose sustainable buildings (hotels, B&B, houses, apartments) that operate sustainably. A clear sign to recognize a building that operates sustainably is for example an award with a platinum Leadership in Energy and Environmental Design (LEED) certification from the U.S. Green Building Council, it certifies that they save around 25% on energy. More in general, tourist can recognize a sustainable building by looking out for a certification symbol on the hotel's website or a plate exposed in the lobby of the building.

Also, the habits of tourists, albeit to a lesser extent, can actually make the difference.

For example, emissions can be reduced by turning down the air conditioning and heating and choose more sustainable options such as fans. They can also turn off the unnecessary electronic stuff, save water by taking shorter showers and avoid changing towels or bedding every day. Travelers can avoid the use of disposable plastic items provided by hotels, such as toothbrushes, toiletries, shampoo, combs, and bottled water.

By ordering only as much food as needed, tourist would be able to reduce the relevant waste. The cooperation in this sense may directly come from restaurants which mention the recommended portions to help customers taking a decision and even mention in the menu the carbon emissions of their dishes.

By coming prepared with reusable items such as water bottles, cutlery, containers, straws, shopping bags, etc., travellers avoid buying single-use plastic items.

Trying the local cuisine and the food produced nearby, tourists may contribute to cut down carbon emissions from logistics and reduce packaging waste. This will also give an added to the trip experience by living “like a local”.

Finally, travelers may opt for activities or attractions that involve local culture and environmental conservation. For example, Singapore’s Sentosa Island is certified as sustainable destination, in view of the fact that it hosts 30 heritage trees and more than 20 conserved colonial buildings. One aim of island is the conservation of mature trees and the purpose of the visit for tourists is to raise the awareness about environmental and sustainability issues. Travelers should also take into consideration the sustainable shopping. In fact, they can avoid wastes by bringing their own carrier bags and buying durable souvenirs.

3.16.1. Business opportunities for tourism service providers to reduce their environmental footprint

As for any other sector, in the tourism field we have sustainability pioneers that have already started taking actions to help travellers making smarter choices.

We have to take into account that all tourists may not be yet willing to pay a premium for sustainable options. Tourism providers are in fact responding to travellers that have a

desire for green travel and have now the possibility to take the lead in in the niche market of sustainable tourism and attract other travellers, whom are not yet into it.

Service provider can help travellers by simply making sustainable options more visible. These are usually not easy to find and therefore providers could use technology platforms to engage travelers and make sustainable travel more visible online, for example, by hosting websites dedicated to sustainable tourism. Providers could also support the use of tools like carbon emission calculators and personal carbon credit accounts. Doing this, they would also help tourists to understand the effect of their travel on the environment.

A good example of sustainable tourism provider is Trip.com Group, a no-profit organization that provides transparent sustainability reporting. It helps travellers to source the more sustainable options for their trip, calculated using sophisticated analytics taking into account aircraft type, route, and cabin class. Another practical action that providers can make is to use labelling to educate travellers on the environmental consequences of their actions. For example, food labelling can indicate suggested portion sizes and carbon emissions. Tourists could also be provided with the option to choose reusable toiletries in hotels.

To conclude, we could say that service providers may guide tourists towards climate-friendly options with the right incentives. Providers may establish rewards programs if tourists reach some standard sustainability goals. Airlines like China Southern Airlines and Hainan Airlines are able to offer travellers the chance to renounce to meals in exchange for loyalty program points. Hotels may grant discounts or free days of stay to guests who reduce the frequency of laundry, their waste generation and water usage during their stay. Tourism providers could also train they employees to a sustainability mindset into their work and incentivise them with bonuses.

IV. Focusing on Hospitality Sector in China

4.1. Past and new trends of the hotel industry

"The hotel and resort's sector is the most globalised and territorialised business in the international tourism system, at the same level as Tour Operators (TOs) and airlines industry"⁸¹. The hotel and resort sector sees its main distinguishing feature in the number of beds it can offer, the vast majority of which are provided by the hotel sector. The hotel and resort industry has undergone rapid expansion in recent years, mainly due to the spread of 'space distribution' strategies that have given these types of establishments the opportunity to set up their own locations worldwide.

Another feature that has not been slow to develop are the important segmentation strategies that have been implemented by tourism companies involved in hospitality-related activities to differentiate their product and/or service from that of their competitors. This has meant that the companies that have managed to exploit these strategies have had large profit margins in the long run and a defensible competitive advantage in the market⁸².

The size of the hotel industry inland along the coastal areas is so vast that it is difficult to measure. Moreover, the increase in tourists and their travel needs has been a driving force for the development of this industry, which has grown considerably along with the tourism sector, making its performance even more difficult to gauge. All of this has meant that there are more and more new emerging markets given the new types of facilities required, new business opportunities and the countless need to satisfy the new stimuli that visitors have, which attract foreign investors. Capital invested in tourism, and more specifically in hotels and resorts, will not only be directed towards the creation of new buildings (in terms of real estate) and ancillary facilities, but also and indeed, above all, will be directed towards new needs such as the management of electricity production, commercial areas connected to resorts, and other activities to be carried out on the coast that might require an overnight stay in hotels or similar facilities.

⁸¹ Tonazzini, D., Fosse J., Morales E. et al (2019)

⁸² Rogerson J.M. (2013)

The hospitality context is highly diverse, ranging from small family-run businesses with a few rooms and a limited range of ancillary services offered to huge multinationals capable of accommodating tourists in hundreds and hundreds of rooms. In fact, we can consider a subdivision of hotels into two groups: the so-called independent hotels (since they are not involved in multinational groups), which make up about 85% of all existing hotels, and the hotels that are part of large groups, which make up the minority, about 15% of the total number of hotels⁸³. In addition to the type of hotel, it is also necessary to take into account the multifaceted nature of the types of services that can be offered by them. They can vary from highly customised luxury services to services related to mass tourism and standardised tourism.

We can say that at a global level, the total demand for accommodation is held by three main powers, named US, Europe and China. It is no coincidence that these are also the regions that, in recent years, have proven to be able to attract the largest segment of tourists and that consequently hold the package of knowledge and know-how necessary to offer unique services developed through the most sophisticated technologies. All this would not be possible if the hospitality industry did not benefit from the benefits and low financial risks currently guaranteed by local governments, which strongly support the development of hospitality tourism, recognising its vast business opportunities.

Thanks to the economic support of the government together with the factor of globalisation, many companies have been able to invest their profits in the expansion of their hotel chains in underdeveloped places in order to have a gain in terms of more advantageous prices for the construction of the necessary facilities to start the business and, at the same time, the revaluation of the area. In the latter case just described, we have an example of how tourism in the hotel sector acts as a driver for economic development not only for the company that manages to expand but also for the place that undergoes the construction of the hotel and from which it benefits greatly.

Among the 10 best hotel corporations of 2017, three were from the People's Republic of China. They are Jin Jiang International Hotel Group Co, BTG Homeinns Hotel (Group) Co. and China Lodging Group (Huazu Hotels Group Ltd). From the diagram below, we

⁸³ Niewiadomski, P. (2014)

can see the composition of the aforementioned hotel groups in terms of their exact ranking, number of rooms and the total number of hotels they consist of.

Tab. 4.1: Ranking of the top 3 Chinese hotel corporations (2017)

Ranking Position	Company Name	Tot. N° of rooms	Tot. N° of hotels
5	Jin Jiang International Hotel Group Co.	680.111	6,794
8	BTG Homeinns Hotels Group) Co.	384.743	3.712
9	China Lodging Group (Huazu Hotels Group Ltd)	379.675	3.746

Source: personal interpretation based on Hotelmag, 2018

In the last 15 years, a particular type of hotels and resorts has become popular, namely those that provide the all-inclusive formula. At one time, this type of solution was considered one of the most economical. Today, even the big brands of the hotel industry include such solutions in their package offers as it allows them to guarantee a sophisticated and customised experience through a wide range of services and comforts to satisfy several types of consumers within a single structure. The growth of this sector seems to have slowed down only in 2008, following the financial crisis, but since then, revenues from all-inclusive holidays have increased from 5% to 7% per year . As we have analysed in previous chapters, to date the fastest growing demand segment is that for travel experiences that allow tourists to enjoy one-of-a-kind experiences (and which we have categorised under the heading of "experiential tourism"). Typically, hotels selling all-inclusive travel solutions tend to keep visitors inside their facilities for most of the time, since in addition to providing basic services related to accommodation and catering, they are able to offer a whole series of services that should basically be ancillary to the travel experience, but which increasingly tend to be part of the company's core business.

It is precisely for this reason that hotel brands tend, through an increasing effort, to develop superior travel programmes in both hotels and resorts, so that guests can feel immersed in the tourism experience from the very first encounter with the establishment.

The financing of hotels and resorts has a very diverse origin. Among the dominant financiers are banks and financial institutions but also different types of funds (such as equity funds, pension funds, etc.) as well as the contribution of private investors. It is precisely the latter that are revolutionizing the all-inclusive resort sector by dedicating a large amount of private equity, which is giving them great potential for returns⁸⁴.

Besides the all-inclusive hotel trend in recent times, there has been a growing trend for alternative accommodation such as whole rooms or flats made available as tourist accommodation on online platforms. These peer-to-peer platforms work in a different way than traditional platforms for booking accommodation or rooms in accommodations⁸⁵.

Such facilities may be paid ones such as those made available through platforms such as Airbnb, Homeaway or other free 'hospitality networks' such as CouchSurfing or digital platforms through which it is possible to book for the Yujiale activity described in chapter 3 of this paper. The advantages of this type of accommodation, in addition to the purely economic ones, are the opportunity to interact with the local population and at the same time feel like never having left home. This type of accommodation considered as 'hybrid' has spread globally and, as one can easily deduce, has a pressing impact on the local population. To date, despite its widespread diffusion, the legislative framework for the new types of housing described above is almost totally absent. While this might seem to be a negative aspect, on the other hand it makes it easier for phenomena such as a structural extension of hotel buildings and an increase in the prices offered.

4.2. Environmental consequences of the hotel industry

A first impact to consider is related to the generation of solid waste. This leads to an increase in waste at the urban level which not only leads to problems with its management but, above all, leads to increased costs caused by the large storage areas

⁸⁴ Melissen et al., 2016

⁸⁵ Karlsson et al., 2017

required. This leads to congestion of the waste management system at the urban level, which can cause inconvenience to the local population.

An important resource used on a large scale by the tree industry is water, which can lead to water stress, physical supply problems and the deterioration of water suppliers. To cope with water scarcity, especially in some areas of the world, the technique of water desalination has been developed. Although this can be seen as a positive spin-off brought by the hotel industry, the costs for such equipment are quite substantial, as are the costs for their maintenance and for the checks necessary to verify the quality of the water according to the regulations in force.

Also related to the topic of water source management is the monitoring of 'grey waters' and 'water discharge'. These are the major causes of the marine alteration of biodiversity to the point of partial or even total loss of some marine species. Waters that are considered 'grey' when poured into the sea without an adequate purification system, severely damage the environment in which the marine fauna lives, causing various problems in the food chain and even harming human beings when they consume animals from polluted ecosystems in their diet.

The hotel sector, as well as the cruise sector, is one of the most energy consumptive. This, together with the use of heavy fossil fuels, makes this sector particularly impactful in terms of air pollution, greenhouse gas emissions and above all makes it one of the sectors that contributes most to climate change.

We have talked extensively about the issue of 'land use', which is obviously affected by the hotel industry because we have already addressed the tendency of these facilities to be equipped with ancillary structures that occupy space, taking it away from nature and local communities.

The maintenance of hotels and related facilities can also cause various environmental consequences. Take, for example, the pesticides and artificial fertilisers used in the maintenance of gardens or golf courses that often surround resorts and leisure facilities. Again, although it might seem a minor phenomenon, these facilities contribute to the alteration of environmental biodiversity.

4.3. Analysis of case studies through reporting

In this paragraph, we are going to analyse the sustainability reports issued by two Chinese companies, giants of the hospitality industry, and their techniques and strategies implemented to counter the difficulties faced by the hospitality sector, as detailed in the last paragraph. The comparison between these two realities, both listed (one in the Shanghai stock exchange and the other in the Hong Kong stock exchange), appears particularly interesting since the first business that will be analysed, i.e., CK Asset Holdings Limited is a hotel industry that also deals with the management of buildings such as pubs and clubs; the second company, i.e., Galaxy Entertainment Group is involved in hospitality activities and also in the related gaming activities. We will therefore have the opportunity to analyse two companies operating in the same sector but also involved in two sub-sectors with different characteristics. The Sustainability Report issued by the company CK Asset Holdings Limited and the Annual Report issued by the company Galaxy Entertainment Group will be used for comparison; both reports refer to the same year of publication, i.e. 2022.

4.3.1. CK Asset Holdings Limited

With its foundation laid over 70 years ago, the Group is a leading multinational conglomerate that has diverse capabilities with business activities presently encompassing property development and investment, hotel and serviced suite operation, pub operation and investment in infrastructure and utility asset operation, as well as interests in three listed real estate investment trusts. The Group's purpose is to enrich lives through an array of assets and services it offers in the current and other sectors and geographies in which its businesses operate, and may operate as the opportunity arises, while sharing its corporate and financial successes with shareholders and creating long-term value for stakeholders through the sustainable development of its businesses

We will focus on hotels and serviced suite operation, which are mainly located in Hong Kong. Some of them are including Harbour Grand Hotels, Harbour Plaza Hotels & Resorts, Horizon Hotels & Suites, Sheraton Hong Kong Hotel & Towers, The Kowloon Hotel⁸⁶.

⁸⁶ CK Asset Holdings Limited website

The Group considers the importance of mitigating climate change and environmental impact as a focal point of its activities. Indeed, in 2022, it decided to adopt internal strategies and engage an external consultant in order to comply with the guidelines of the Task Force on Climate-Related Financial Disclosures (TCFD) regulatory framework. These regulations are made up of 11 recommendations under four main headings: Governance, Strategy, Risks Management and Targets. The CK Assets Group's commitment can be seen in the governance organisation under Climate Management, which consists of 3 main bodies:

- The Board: is responsible for the actions of the entire group in the area of environmental sustainability and is responsible for considering the risks and opportunities associated with it. It also has the power to ensure that strategies are formulated to curb this problem and to ensure that corporate policies are adopted to support this issue.
- Sustainability Committee: this has the fundamental task of supporting the board, updating it on the policies and practices implemented by the group and reporting any critical issues.
- Sustainability Working Group: this is made up of members appointed by the sustainability committee and the board and has the task of implementing the company policies and strategies drawn up by the aforementioned bodies.

The company under review claims in its Sustainability report to adopt a corporate governance approach that includes environmental protection and considers employees and local communities as key-factors in the decision-making process. Therefore, the company considers a conversion of the workforce and the creation of high workplaces, committed to building a low-carbon economy, to be fundamental. Through the two procedures of decarbonisation and sustainable development, the group continues to uphold and respect the commitments and needs of its workers and the totality of stakeholders, always respecting human rights along its entire value chain. We could therefore consider a three-pronged corporate strategy that is based on the interaction of Sustainable Business Operation, Corporate Governance and employees and social communities.

In order to achieve its goals in terms of sustainability, the group has established a robust

corporate governance structure that defines the roles and responsibilities of its constituents, ensuring the promotion of the principles of trust, transparency and accountability, both in internal and external relationships that the company supports. The company also ensures continuous monitoring of socio-environmental issues that may arise along with events that may negatively impact business performance and this has enabled the company to implement an efficient and responsive risk management system.

CK Asset Holdings is committed to various investments that can produce positive impacts on the company and reduce the above-mentioned risks. As stipulated by the Corporate Social Responsibility environmental policies, the so-called ESG (Economic, Social and Government) performance is one of the first key factors to be taken into account when investing company profits in a new project. There are many indicators in the area of ESG performance that are taken into consideration, for example: compliance with government regulations of the investment, the consequences it can bring in terms of the working environment, the supply chain and customer relations.

The company under consideration is one of that group of companies that decides to set up an internal committee to monitor and audit its actual ESG performance, how new investments have impacted it, and provide management with the information it needs to improve its performance. To have a concrete example in terms of green investments initiated by the company, we have to take into account the company's commitment to decarbonisation and the construction of buildings with the lowest possible impact. In addition to the construction of hotels, the company is involved in the construction of various types of housing, and the pivotal investment that has given an example of its commitment to green investment is the project for Hong Kong's multiple residents. In addition to tackling an innovative form of investment, the company also decided not to charge the so-called 'premium price' for those who chose a green alternative for their housing, but on the contrary, decided to offer the housing at a more competitive price than could be found on the market.

4.3.1.a. Sustainability Milestones and future targets

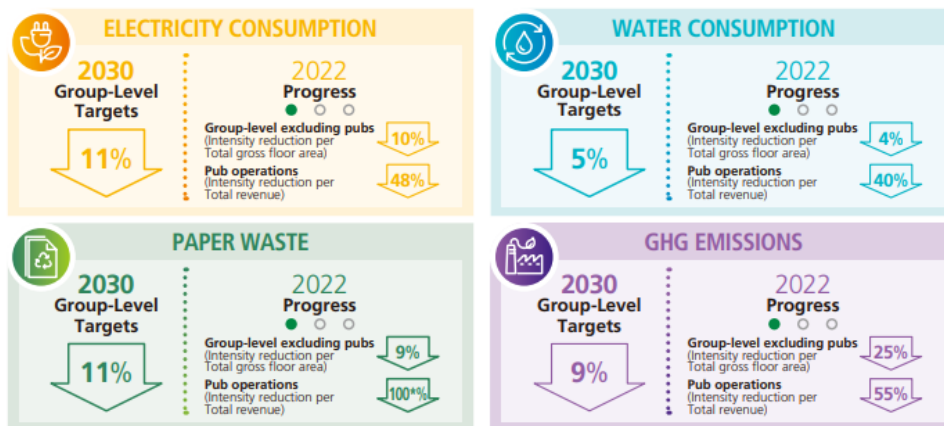
The company is a carbon neutrality partner of the Hong Kong Special Administrative Region. Thanks to this partnership, the company achieved an important milestone in 2021

by setting its corporate commitment to sustainability issues. The targets the company has set facilitate stakeholders in assessing the Group's efforts to combat climate change and pursue decarbonisation. An important indicator of the company's progress is the significant reduction in greenhouse gas emissions compared to previous years (and, in particular, to the pre-Cold War period from Covid-19, in 2019-2020). With regard to the management of energy resources for all the businesses in which the company operates (i.e. not only for hotel management but also for luxury and office facilities), the company recorded a decrease of 10% and 4% in energy and water consumption, respectively, compared to the above-mentioned reference period. This is a great achievement when one considers that part of the company's business consists of activities such as bars and clubs, which have resumed to welcome the flow of tourists in a big way in the last period, following the removal of anti-Covid 19 regulations. In addition, despite the period of inactivity due to the pandemic crisis, the company had entered into agreements with suppliers for the fixed use of resources (such as lighting), which resulted in a higher consumption than the targets that could be expected during the time period under review. As a result, this also benefited greenhouse gas emissions, which decreased by a range of about 55%. In order to achieve these positive targets, the company obviously put in place a series of measures to save energy and water by improving the equipment it was equipped with, as we will see in more detail later.

The Group recognises the importance of aligning its targets with the latest climate knowledge in order to make significant progress in reducing greenhouse gas emissions. Therefore, the Group will review its targets regularly and as appropriate, and may seek to adapt them over time to new requirements. At the same time, the Group is considering the possibility of setting science-based targets for its property development and related activities that would in turn enhance its current greenhouse gas emission reduction targets and mitigate its impact on climate change, driving its path to a zero-carbon economy through innovation and sustainable growth.

Below is an outline of the reductions we have just discussed.

Tab. 4.2: Consumptions reductions and sustainability targets within 2030



Source: CK Assets Holding Limited Sustainability Report 2022⁸⁷

4.3.1.b. Green buildings and Energy Management System

The Green Business Model of the CK Assets Holdings Limited group can be easily observed through the system of 'green' buildings they involve. The buildings are constructed in such a way as to reduce energy and water consumption and consequently costs. For example, the building facades are equipped with high-performance cladding that increases the thermal insulation of the environment. This means that these buildings are less susceptible to absorbing UV rays and the resulting heat in the summer, saving on air conditioning cooling costs, and likewise allow the interior heat to be retained in the winter, saving on heating costs. In addition, walls structured in this way allow maximum utilisation of solar energy, saving on lighting costs. Hotels incorporate a large amount of vegetation, usually amounting to at least 20 per cent of the total area of the site, both to make the environment more comfortable and pleasant and to communicate the company's commitment to the environment to its customers. The very design of the building,

⁸⁷ The reference period for measuring performance and setting targets is based on a comparison with 2019 data for property management and hotel activities and 2020 data for pub activities. The year 2019 was chosen as the reference year for hotel activities as it is the most representative, as it is not affected by the consequences of the pandemic. On the other hand, the choice of the year 2020 for measuring the performance of the pubs is purely for a technical reason since the management of the pubs was not owned by the group in previous years. The targets to be achieved in the area of GHG emissions are closely related to the goals set for electricity consumption since it is from the latter that most of the group's gas emissions are derived.

although it may seem a trivial element, is instead particularly suited to influence sustainability itself. In fact, the hotel group relies on specialised building designers to provide a minimum building width to reduce heat loss to the environment.

Also popular is the application of canopies equipped with UV panels that even convert the sun's rays into energy that can be used to recharge the electric cars of guests and staff. The lighting system, in addition to being powered by the current from the generators that convert the light from the solar panels just mentioned, is equipped with LED lights that optimise energy consumption compared to traditional lighting systems. A particularly important example of corporate commitment is one of the pub companies closely linked to the tourism sector, namely 'Greene King', which has committed to converting its energy sources 80% to renewable energy by 2025 and totally by 2030.

Most of the hotels within the CK Assets Holdings group are equipped with intelligent systems that include the use of the "internet of things" (analysed in the previous chapter). The application of the Internet and smart devices in this sense support all the strategies that the company seeks to pursue. In particular, smart devices make it possible, for example, to automatically turn off the flow of taps when they are not in use, or the automatic switching off of lights when they are on for a period of time longer than that established and considered appropriate for the normal use of the lighting system. This allows for large cost savings that can usually be generated as a result of customer forgetfulness or lack of attention to environmental issues.

In order to make sure that we have as little impact as possible throughout the entire service delivery process, the CK Group checks the environmental performance of its facilities even during the construction of the buildings that will be used for accommodation, hotels or resorts. This is possible either through a formal request to the construction company for information on the level of emissions caused by the project or by requesting the collaboration of an external specialist company. The Group is also able to establish an environmental management plan with the construction company, promoting their awareness of this and, above all, ensuring that certain standards are met at every stage of the project's implementation.

The controls we have just mentioned, which are basically related to the mere construction

of the infrastructure required to deliver the service, are also called 'construction-related'. However, we have a whole series of indicators that the company has an interest in monitoring and which fall into the category of parameters termed 'non-construction-related'. Examples include: selecting environmentally friendly refrigerants for air conditioners and chillers in hotel operations, setting up a technical management committee to monitor energy and waste consumption and to create an energy-saving policy, conducting annual sample carbon audits on some of the group's facilities to assess overall greenhouse gas emissions, and many others.

4.3.1.b.i. Heart Hour 2022

In 2022, managed properties and serviced hotels and suites participated in the Earth Hour that year, organised by the WWF. This initiative, with a purely symbolic value, consisted of switching off non-essential lights for one hour as a gesture of solidarity with the aim of supporting and caring for the future of our planet. Through the event, the participants wish to encourage and remind the public to act on environmental issues in their daily lives and to protect the planet.

4.3.1.c. GHG Emissions and Waste Reduction Management

The company's Corporate Social Responsibility policy outlines the social responsibility of the company, including the commitment to comply with environmental regulations regarding dirty water discharges and waste production. On this topic, the group has been awarded a number of certificates and certifications by international organisations. Some of these recognitions are the ISO 14001, the 'BOCHK Corporate Environmental Leadership Awards' and the 'Wood Recycling & Tree Conservation Scheme Certificate'.

It is globally known that the Group recognises the environmental impact of waste disposal caused by its activities and is committed to managing it, whether hazardous or not. As per the environmental policy, the CK Group encourages reuse or recycling in day-to-day operations, alternatively exploring the use of sustainable materials for maximum waste reduction. Although disposable materials such as courtesy kits have been converted to environmentally friendly materials, their disposal is the real challenge to be faced, and

therefore the CK company is committed to taking all necessary precautions to ensure that the disposal of waste, especially the most particulate, is done in a manner that complies with all applicable regulations.

It is important for the company to have an internal and supportive commitment to its environmental policies, but, as has repeatedly emerged in the discussion of this paper, one of the most important aspects is the communication of these policies to its stakeholders. Precisely for this reason, the group pursues campaigns to disseminate its environmental ideologies, but above all to raise awareness among its stakeholders and customers.

Below we will analyse some of the waste management initiatives of 'Citybase', one of the Group's property management companies, and of Greene King mentioned above.

4.3.1.d. Adoption of smart bins Technology to recycle food waste for agricultural use

Fortune Metropolis, one of the shopping centres managed by Citybase, encourages hotel guests to participate in its food waste recycling programme to reduce organic waste in landfills and raise awareness of the need and benefits of recycling. The food waste that is collected is either converted into organic fertiliser or eco-enzymes are extracted from it and used to clean hotels.

In 2022, in order to expand the scope of food recycling, some properties managed by Citybase applied to participate in the Recycling Fund project, funded by the Department of Environmental Protection ('EPD'). It envisaged the adoption of smart waste bins in buildings and especially in hotels, capable of separating recyclable food from the rest that could not be recycled.

4.3.1.e. Application of Electronic Incident Report (ERI) APP

During the reporting period detailed above, a system for reporting incidents and complaints was rolled out in the hotels belonging to the CK group through the implementation of an ad hoc application. This made it possible, on the one hand, to streamline the reporting of problems that customers might encounter and, on the other

hand, to reduce the paper used for reporting. In order to ensure the development of these technologies, it was necessary to conduct training on the staff and also at management level so that everyone would be able to operate the network thus composed. As of September 2022, the application of this efficiency system was tested on a total of 61 hotels and the results seem very positive.

4.3.1.f. Supporting initiatives about waste reduction and recycling

Citybase, which we have already mentioned, participated in initiatives promoting recycling in order to spread the importance of the culture of reuse within the community. To convey this message, recycling stands were set up at all CK Group properties to facilitate this process. The staff involved had the objective of conveying these values within the hotel facilities so that it was the travellers themselves who decided, on a voluntary basis and driven by the importance of the corporate values conveyed, to avoid food wastage and mismanagement of their waste.

4.3.1.g. Greene King and Tub2Pub recycling scheme

Greene King's influence on environmental impact is crucial as the company is particularly active in conveying to their customers the importance of having an environmentally sustainable attitude and helping them to make choices along these lines. Tub2pup is the recycling programme they have implemented, which has had very positive results even though it was tested more as an experiment than a structured project in 2021, the year of its inception. The basic programme involves the recycling of some particular types of cake and biscuit packaging that are particularly difficult to dispose of. More than 1500 collection points were organised to collect all the packaging brought in by customers. This initiative also has a double value: in addition to a positive impact on the environment and a considerable increase in recycling activity, all the proceeds from the recycling activity were donated to the Macmillan Cancer Support organisation. This further reinforces the company's social and environmental commitment.

4.3.1.h. Paper Saving Campaign

Citybase did not only think about the most obvious waste but also focused on campaigns to reduce the use of paper, both in the form of sheets for printing documents and forms

but also as paper used in the toilets. As a symbol of this new campaign, in support of reducing waste and misuse of paper, each employee was given a towel in place of handkerchiefs as an incentive to reuse. The campaign also sets a target to reduce paper consumption by at least 3% in 2022, compared to the base year 2019, for managed properties.

4.2.3. Galaxy Entertainment Group Limited

Galaxy Entertainment Group is one of the world's leading resorts, hospitality and gaming companies. The Group primarily develops and operates a large portfolio of integrated resorts, retail, dining, hotel and gaming facilities in Macao. The Group is listed on the Hong Kong Stock Exchange and is a constituent stock of the Hang Seng Index⁸⁸.

The Group belongs to one of the three gaming giants, originally from Macau, which were granted a concession to operate after the liberalisation of China's gambling laws in 2002. As of today, the Group has won a new tender that will allow it to pursue its business for the period between the 1st of January 2023 and the 1st of December 2032.

GEG⁸⁹ operates three of the most influential tourist destinations in Macau, respectively the 'Galaxy Macau', the 'Broadway Macau' and the 'StarWorld Hotel', a 5-star luxury hotel.

While ensuring high standards of quality and service excellence, GEG communicates to its stakeholders a strong commitment to reducing its environmental impact by including green strategies within its business model, mission and vision. For all three of the structures we have mentioned, the Group guarantees effective management of environmental performance through the establishment of departments within the company specialised in these assessments, as well as a team of external experts who, as we have seen in the case of the CK Group, emphasise the transparency and truthfulness of the information that is communicated to its stakeholders. In addition, the Group has established an Energy and Environmental Management Committee with the aim of being

⁸⁸ Galaxy Entertainment Group, Annual Report (2022)

⁸⁹ Acronym for Galaxy Entertainment Group

able to collaborate with other business functions in order to structure structured and efficient sustainability programmes. This Committee, together with internal and external auditors, also has the power to assess the reported performance and approve or deny the results.

4.2.3.a. Energy Management

The GEG group promotes initiatives and alternative solutions in order to reduce the energy consumption under the ISO 50001 Energy Management System. During 2022, the year in which the Annual Report, which is the reference for the discussion of this article, was compiled, several strategies were implemented by GEG to enable energy efficiency to be maintained or improved.

Firstly, the interventions concerned the management of the air conditioning area: the central air conditioning system in Broadway Macau was considered not efficient enough as the average annual temperature was more than 24°. For this reason, ad hoc measures were studied in all the Group's facilities so that the temperature of the internal rooms would be adapted to the weather conditions and the temperature of the external environment.

Also noteworthy are the initiatives related to the lighting framework. We have already seen that it is a very common practice of hotels, but of all accommodation facilities in general, to equip themselves with LED lighting systems capable of replacing traditional equipment. This technique has been imported into all GEG's facilities.

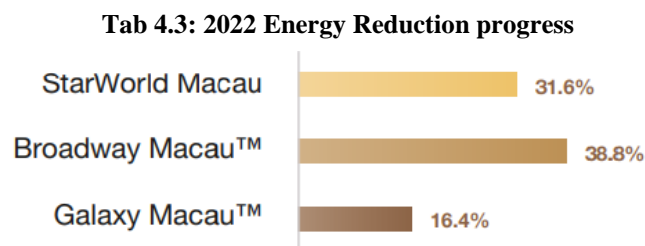
In addition, the Galaxy Macau and the Broadway Macau were equipped with automatic detection systems to turn the lights on and off in the dining areas (dining hall and common rooms), based on the presence or absence of people using the dining areas. A very similar technology has also been extended to StarWorld Macao, but instead of referring only to the dining areas, the system implemented in the latter hotel includes the possibility of having all lighting devices automatically switch off in the temporarily unoccupied spaces of the hotel (i.e. rooms, game rooms, relaxation rooms, etc.).

It is well known that some companies use lighting as a marketing tool, to attract customers and create a welcoming atmosphere. This was also applied to the Galaxy Macau, Broadway Macau and StarWorld Macau hotels, but due to the great success of these complexes and the close loyalty of their customers, the light effects of the exterior signage were minimised. While this may seem like a minor intervention in energy conservation, we must take into account that the facilities under consideration can occupy hundreds and hundreds of hectares of land, and outdoor lighting therefore entails a not inconsiderable expenditure.

Another point that should not be overlooked for energy efficiency is certainly the temperature. The strategies put in place relate firstly to the installation of highly accurate sensors for the refrigeration systems in Galaxy Macau and Broadway macau and for the walk-in freezers in Starworld macau. Lastly, a conversion of all analogue temperature detection systems to digital ones was carried out in all facilities belonging to the group.

The most innovative intervention within the group is the use of renewable energy. In fact, GEG is actively participating in achieving the transition to a low-carbon system. In 2022, the group installed a solar panel system primarily in the Starworld Macau hotel to power its LED lighting systems. GEG's solar panels generate about 630 kWh of renewable energy per month, saving an average of 7, kWh each year.

GEG had set targets to meet, regarding energy efficiency, of 3% energy savings compared to emissions in the year 2016, and the same target was set for the year 2023. The most surprising result was that at the time of the 2022 Annual Report, GEG had reduced its emissions by an average of 33% compared to the figures quoted in the previous year's report. The different impact on this reduction of each hotel examined is summarised in the graph below:



Source: GEG, Annual Report (2022)

4.2.3.b. Water Management

As with energy efficiency, the GEG group is committed to safeguarding water and reducing waste of this precious resource. The internal policy for efficiency in the management of the resource of water foresees two strategies to be achieved simultaneously: one is aimed at reducing the use of this resource and the second foresees very particular techniques for its reuse.

Starting from the analysis of the techniques put in place to reduce water waste, the group invested in the purchase of intelligent taps in the external parts of the facilities and water flow reducers for all internal sink taps. As these facilities have entertainment activities at the forefront, especially in the outdoor areas, the operators are used to entertain adults and children with shows and water games, so a reduction of these and a conversion of entertainment shows by the staff has allowed the hotels to make significant savings. Finally, the gardens and green areas of the three hotels were equipped with smart watering devices that not only allow a reasonable daily watering time to be set, but are also able to self-regulate according to weather conditions. This means that in case of rain, without any need for human intervention, they are able to switch off automatically.

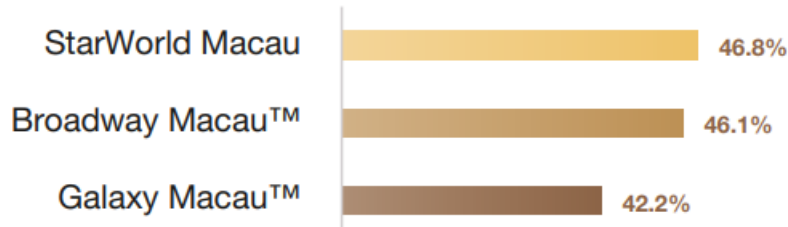
As far as water re-use techniques are concerned, we will obviously see that most innovations have been introduced for grey water or swimming pool management. The former, in fact, is collected in a single tank and used to wash facilities such as parking areas or rubbish storage areas; the latter, on the other hand, is mainly reused only in the StarWorld Macau facility and is used for washing floors as the chlorine it contains gives it extensive disinfectant powers.

Also with regard to water management, the committee in charge of its control is the Energy and Environmental Management Committee, which, together with the more experienced staff (such as the Facility management Senior Vice President) are responsible for implementing and improving the water programmes, as well as adapting them in relation to the results achieved or changes in needs that may occur over time.

The water waste reduction standards that GEG aims to achieve are not far off in terms of percentage of waste, compared to what has already been made explicit for the

management of energy resources. The progress made in reducing water use is shown in the diagram below:

Tab. 4.4: Water Reduction Progress



Source: GEG, annual Report (2022)

To continue to ensure these standards, GEG will continue to take water conservation measures, including:

- the installation of a descaling system in the hot water production process,
- increasing the cycle of concentration of the cooling tower
- the implementation of a plan to hibernate and suspend the water features and all free areas of Galaxy Macau and Broadway Macau,
- the monitoring of water use in all properties to avoid overuse.

4.2.3.c. Waste Reduction and Recycling

Group facilities are responsible for both hazardous waste (such as lube oil, printer cartridges and light tubes) and non-hazardous waste. The Group's commitment to the reduction or even total elimination of waste is evident from the so-called 4Rs (Reduce, Reuse, Recycle and Recovery) policy.

In order to monitor its activities in this field as well, the facilities are monitored and assisted by third-party entities that are responsible for waste-related handling operations. The great commitment to the achievement of waste and unusable waste reduction targets can be seen in the initiatives that the company proposes in this area. An example of this is the charity initiatives the company has carried out through the sale of bags made from recycled plastic for the 'Green Future Macau' campaign.

The direction of the company's policy would be to reach the target of the 'Zero Waste Strategy and Programme'. In order to achieve the desired results, the Group has converted and restructured the courtesy kit provided in the hotels and the shampoo and soap bottle material into a bio-sustainable version. In addition, staff in all facilities engage in the collection of unused resources in all rooms, such as liquid soap residues and toilet paper, and instead of traditional disposal practices, these materials are reused later in their back-of-house areas.

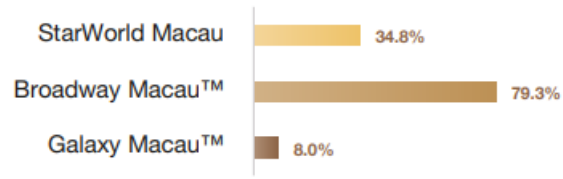
In 2022, the areas in which action should be taken to achieve the targets set in terms of waste reduction have been established and these are: paper, plastic and food.

The strategies that fall under the paper-saving framework include both paperless ticketing systems for parking spaces within Galaxy Macau, and the use of digitised systems for warehouse management, so as to reduce the number of pages used, for example, for sending and receiving documents, inventory, etc.

The actions implemented to ensure less use of plastic primarily involve a necessary reduction of the plastic bags used in all hotel rooms and offices within the hotel facilities, replacing them with biodegradable alternatives. This saves more than 100,000 bags each year. Obviously, since we are dealing with hotel facilities, we must not overlook the extensive consumption of plastic material that takes place in the dining areas and the need to replace disposable crockery, cutlery and tablecloths with sustainable and, above all, reusable alternatives. Also helping to achieve the aforementioned goals were the water dispensers installed on all floors of the Broadway Macau, going against the traditional practice of distributing plastic bottles to visitors.

Keeping with the theme of waste in the hospitality area, there are also issues related to food waste. In order to counter this trend or, at least, to reduce the negative impacts resulting from it, the EYG has decided to install in all the buildings under its jurisdiction instruments capable of dehumidifying the food now thrown away, reducing its volume by up to 90%. The volume reduction is particularly important during the waste incineration phase, which will be less impactful the smaller the mass of waste burnt. In addition, all leftover food that is not distributed to customers is donated daily to the 'caritas Macau' association in order to redistribute foodstuffs according to the needs of the neediest and least well-off local population.

Tab. 4.5: Water Reduction Progress



Source: GEG, annual Report (2022)

Conclusion

The aim of the paper was to provide an overall view of the tourism context relating to an area of the world where this sector has not long been the subject of study in past literature: China. The first objective was therefore the desire to divulge and inform readers about a subject that is little discussed and known, but which actually represents a huge, and by no means negligible, slice of the 'dragon' country's global economy. In addition, the growth in the discussion of sustainability has made it necessary to analyse the sensitivity to the socio-environmental impact of a country like China, whose sudden development has been mainly driven by the industrial sector that has led it to be one of the world's major powers, if not the largest. What the paper expresses is that the combination of the development of the tourism sector and the reduction of pressure on the environment is possible and is supported by important strategies, sustained mainly by the active intervention of the government. Thus, not only is China participating and responsive to initiatives aimed at increasing environmental sustainability through its tourism services, but it has even become an example for some new forms of tourism, as we have seen during the discussion of 'Yujiale'. Furthermore, the hotel sector, which was the only component of the larger category of tourism services to be examined through current reports, proved to be perfectly in line with the social and environmental needs required for the creation of a healthier and less impactful global tourism environment.

Bibliography and Sitography

I. Introduction

Giuliano Noci, 2022 “la sostenibilità ambientale della Cina: la transazione verde del paese più inquinante della terra”, *geotrade: rivista di geopolitica e commercio estero*, vol. 3, pag 24-27

P. Tarantino, 2017 “Sviluppo economico e degrado ambientale in Cina: il ruolo dell’attivismo ambientale con caratteristiche cinesi”, Università Cattolica di Venezia

I. Musu, 2001 “Ambiente e sviluppo sostenibile”, pag 1000-1014

II. Global framework of the tourism sector and the consequences on the planet

Tong, Y.; Zhang, R.; He, B. The Carbon Emission Reduction Effect of Tourism Economy and Its Formation Mechanism: An Empirical Study of China’s 92 Tourism-Dependent Cities. *Int. J. Environ. Res. Public Health* 2022, 19, 1824. (<https://doi.org/10.3390/ijerph19031824>)

Tonazzini, D., Fosse, J., Morales, E., Gonzàlez, A., Klerwein, S., Moukaddem, K., Louveau, O., 2019 “Blue Tourism. Towards a sustainable coastal and maritime tourism in world marine regions”. Edited by eco-union, Barcelona

Mehmet Ali Koseoglu, Ali Uyar, Merve Kilic, Cemil Kuzey , Abdullah S. Karaman, 2020 “Exploring the connections among CSR performance, reporting, and external assurance: Evidence from the hospitality and tourism industry”, *International Journal of Hospitality Management* 94. (<https://doi.org/10.1016/j.ijhm.2020.102819>)

David Crowther, Guler Aras & Ventus Publishing ApS, 2008 “Corporate Social Responsibility”, ISBN 978-87-7691-415-1

Jonathan Woetzel, Steve Saxon, Jackey Yu, Spencer Liu, Monica Li, 2023 “The path toward eco-friendly travel in China”, *Joint research in travel sustainability in China*. Trip.com Group

Vivienne Hallaux, Servizio di ricerca del Parlamento Europeo, Briefing, 2017
“Turismo Sostenibile. La dimensione ambientale”

Kletia Noti, LL.M. (Columbia), Prof. Federico M. Mucciarelli, Prof. Carlo Angelici,
Dr. Virginia dalla Pozza, Mattia Pillinini, 2020 “Corporate Social Responsibility
(CSR) and its implementation into EU Company Law”

Global Sustainability Standards Board, 2018 “Principi di Rendicontazione 2016”

III. Green Strategies applications and new form of tourism in China

“China: Fuel Sulphur Cap and Emission control Areas, 2020” www.nepia.com

Yao, S.; Cao, G.; Zhan, Z.; Cao, Q.; Fu, H.; Dong, W. “Construction of Low-Carbon
Ferry—A Case of Jingning, China”. *Int. J. Environ. Res. Public Health* 2022, 19, 6451.
(<https://doi.org/10.3390/ijerph19116451>)

Julian Atchison, 2022 “Ammonia-ready vessel: new contracts & deliveries in China”,
Ammonia Energy Association (ammoniaenergy.com)

Guidance on “implementation scheme of 2020 global marine fuel oil sulphur cap”,
2019 (www.huataimarine.com)

Wang, Y.; Wright, L.A. “A Comparative Review of Alternative Fuels for the
Maritime Sector: Economic, Technology, and Policy Challenges for Clean Energy
Implementation”. *World* 2021, 2, 456–481. (<https://doi.org/10.3390/world2040029>)

Zhang Wei, Li Hulin, An Xuebing, 2011 “Ecological Civilization Construction is the
Fundamental Way to Develop Low-carbon Economy”, School of Economics,
university of jinan, 250022, Jinan, China

Alencastro, L.A.; Carvache-Franco, M.; Carvache-Franco, W. “Preferences of
Experiential Fishing Tourism in a Marine Protected Area: A Study in the Galapagos
Islands”, Ecuador. *Sustainability* 2023, 15, 1382. (<https://doi.org/10.3390/su15021382>)

Ming Ming Su a, Geoffrey Wall b , Min Jin a, “Island livelihoods: Tourism and fishing at Long Islands, Shandong Province, China”, *Ocean & Coastal Management* 122 (2016), pag 20-29

Haoxuan Sa, Michael Fabinyi, 2022 “From a fishing village to tourist destination. Hongjia Village in Northeastern China”, (www.shimajournal.org)

OU Xunmin, YUAN Zhiyi, WANG Yanzhe, REN Lei, “The Development of High-Speed Rail in China. Impact Research on Transportation modal Shift and CO₂ Emission Reduction Potential”, 2022, published by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Chengpeng Wan & Xinping Yan & Di Zhang & Jing Shi & Shanshan Fu & Adolf K. Y. Ng, 2015 “Emerging LNG-fueled ships in the Chinese shipping industry: a hybrid analysis on its prospects”

Azizul Hussan, 2022 “Technology Application in Tourism in Asia. Innovations, Theories and Practices”, Springer

Ming Ming Su, Geoffrey Wall, Sangui Wang, 2017 “Yujiale fishing tourism and island development in Changshan Archipelago, Changdao, China”, article published in *island Studies Journal*

IV. Focusing on hospitality sector in China

Tonazzini, D., Fosse, J., Morales, E., González, A., Klarwein, S., Moukaddem, K., Louveau, O. (2019) “Blue Tourism. Towards a sustainable coastal and maritime tourism in world marine regions. Edited by eco-union. Barcelona”.

World travel & Tourism Council, 2022 “Green Lodging Trends Report 2022”

CK Asset Holdings Limited, stock code: 1113, 2022 “Sustainability Report 2022”

Galaxy Entertainment Group limited, Stock code:27, 2022 “Annual Report 2022”