

ARTICLE

Cultural aspects of sustainability challenges of island-like territories: case study of Macau, China

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Abstract - Sustainability challenges and reactions are not new in the history of human communities but there is a substantial difference between the earlier periods and the present situation: in the earlier periods of human history sustainability depended on the geographic situation and natural resources, today the economic performance and competitiveness are determinative instead of the earlier factors. Economic, social and environmental situations that seem unsustainable could be manageable well if a given land or territory finds that market niche where it could operate successfully, could generate new diversification paths and could create products and services that are interesting and marketable for the outside world. This article is focusing on the sustainability challenges of Macau, China. The case study shows how this special, island-like territory tries to find balance between the economic, social and environmental processes, the management of the present cultural supply and the way that Macau creates new cultural products and services that could be competitive factors in the next years.

Keywords - Macau, sustainability, resources, economy, environment, competitiveness

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Foreword

From the second half of the 20th century humankind has had to face serious sustainability challenges: the negative effects of the more and more intensive economic, social and environmental processes all over the world have resulted in a slow revaluation of the role and impact of the human activities in many fields and generated the idea of sustainability and sustainable development.

According to some points of view, the appearance of the idea of sustainability and sustainable development are cultural phenomena, a self-reflection for the economic, social and environmental challenges and problems generated by human culture.¹ People are born in different cultures and later they live in the framework of symbolic, objectified and institutional structures of those cultures. These cultures are shaped by the permanently changing challenges (similar to any of the earlier periods of human history), so those adaptive models and strategies that respond to these challenges are integral parts of human culture.

These sustainability challenges and reactions are not new in the history of human communities but there is a substantial difference between the earlier periods and the present situation: the economic, social and environmental challenges are much more global instead of local in an interdependent, interconnected world. In the earlier periods in human history sustainability depended on the geographic situation and natural resources. Today economic performance and

competitiveness are determinative instead of the factors considered important earlier.



Figure 1. Macau city view

The most typical competitive factors can be determined by the previous states of economy, economic and social connections and structures. This certainly means that economic, social and environmental situations that seem unsustainable could be manageable well if a given land, region or settlement finds that market niche where these territories could operate successfully, could generate new diversification paths and could create competitive factors and produce products and services which are interesting and marketable for the outside world. A given land could manage to find this way and these products and services

¹ Fésű J. Gy. – Nagy M. (2005), 11. p.

marketable, only if they depend on the priorities of the given community for which they pay enough attention and not only for the social and environmental dimensions of sustainability. Many examples show that this doesn't mean to maintain the original state of the environment but rather manage environment-sensitively the already changed, artificial nature, parallel with finding balance between the economic, social and environmental processes of a given land or territory.

Although the logic of these adaptation attempts is basically the same in every situation, these processes can be seen more expressively when we examine the economic, social and environmental processes of islands: the effects of positive and negative feedbacks are stronger, faster and the answers given by the communities can be observable more intensively than the continental areas.

Sustainability challenges of islands and island-like territories

Research of island economies appear in economic studies in the second half of the last century. The first studies are mainly focusing on Pacific islands, formerly under colonial rule, where the questions of sustainability and competitiveness are parallel with the examination of the challenges of independence, changing socio-economic status and later the research and analysis extend to other islands of the world and island-like territories as well.

Most of these economies have a multitude of experiments and attempts to establish a more or less successful, sustainable economy in the longer term. These observations certainly do not result a universal model that can be used in every situation and action plans, but at the same time, some island strategies can serve other economic, social and environmental situations to consider.

According to the Eurostat definition islands are defined as territories surrounded by water and having:

- a minimum surface of 1 km²;
- a minimum distance between the island and the mainland of 1 km;
- a resident population of more than 50 inhabitants;
- no fixed link (bridge, tunnel, dyke) between the island and the mainland.²

Due to the geographical fact that these lands are surrounded by water certainly result special economic, social and environmental characteristic. In case of continental areas this fact is missing although certain geographic, economic, legal or cultural delimitation or demarcation of a given land could result insular, island-like territories where the special characteristics disserve this land from other parts of lands or territories. This, often theoretical delimitation and a possible special status of a given land frequently operated and still could operate as a competitive factor that could result successful economic and social situations in a long run. It is

² ECOSTAT. http://ec.europa.eu/eurostat/statistics-explained/index.php?title=Regional_typologies_overview&oldid=264977#Island_regions

important to note that the origins and the working mechanisms of the theoretical, fictitious spatial human constructions go back long to the human history and certainly has developed from human territoriality and human territorial behaviors. The human delimitation of these physical or theoretical areas often lead to different legal constructions: a piece of land in a shorter or longer period of time has variant legal regulations and status compared with the outside world. To continue this way of thinking there are plenty of other human constructions, spatial imaginations, abstract delimitations or demarcations which formation certainly depend on the level of economic, social or environmental exclusivity of the given territory, its operation depend on the level of acceptance of the wider community.

The next island features can be observed in the case of many island-like territories as well:

- The economic activities tend to less diversified and more specialized, and the small local markets offer only limited opportunities for economic development;
- End market characteristic, with limited supply;
- Openness and dependence on basic resources in most of the cases is great, which could lead economic and social instability and vulnerability;
- Export activities are geographically concentrated (former colonial countries, parent states, dominant, close markets, etc.);
- The balance of payments is often show deficits, which only can be balanced with foreign aid, or financial support from other outside resources. Due to the economies of scale, a part of the investment is simply not economical;
- Education, health, social welfare system and administrative services are generally operate with higher costs and less advanced services;
- A given area can find the economic activity, which is able to ensure the well-being of the local population in the longer term. This situation, however, in the case of the islands many times can be fragile and sensitive, can show seasonalisation and independence, and external factors may result in changes that block the previously significant and successful activities;
- Possible negative effects of Dutch disease;³
- Employment and human resources issues: economic activities not necessarily offer jobs, for which the islanders have the right qualifications, but it is also possible that a highly qualified labor force couldn't find a job;
- There are many islands where there are illegal workers, and/or seasonal workers, parallel with challenges in the field of education, as well as immigration. The population

³ According to the Financial Times definition, Dutch disease is the negative impact on an economy of anything that gives rise to a sharp inflow of foreign currency, such as the discovery of large oil reserves. The currency inflows lead to currency appreciation, making the country's other products less price competitive on the export market. It also leads to higher levels of cheap imports and can lead to de-industrialization as industries apart from resource exploitation are moved to cheaper locations. The origin of the phrase is the Dutch economic crisis of the 1960s following the discovery of North Sea natural gas.

<http://lexicon.ft.com/Term?term=dutch-disease>

density, age structure, the presence of various sectors, or the lack of it is also a serious influence on the quality and quantity of human resources;

- Challenges of natural resources, environmental issues: negative feedbacks appear much more intensively and the geographical isolation often has resulted special environmental conditions;
- However, the original, natural ecosystems have been destroyed by the increasing population, urbanization processes, and the exploitation of the resources. On the other hand, a less prosperous and overpopulated island cannot afford the "luxury" to create and maintain conservation areas, or make efforts to restore the original ecosystems as an actual priority;
- In case of seasonal economic activities in the high season, the environmental pressures often deplete the reserves;
- Beyond the island-specific ecological questions the outside challenges could be also crucial (environmental changes, climate change impact of sea-level rise, etc.).

What are the areas where effective management is appropriate to achieve economic, social and environmental sustainability? Based on the above mentioned general features the following areas are remarkable:

- Connections to the outside world (past-present-future);
- Available resources, resource management;
- Maintaining economic competitiveness, specialization, adaptation to new challenges;
- Population growth, population control, demographic trends;
- Employment, educational issues;
- Infrastructure, reducing crowding;
- Focus on environmental protection, environmental challenges.

Beside the above mentioned fields the location, geostrategic position of the given land and historical incidences have also a great importance in connection with sustainability. To illustrate the role of these factors, a good example is the English Channel Islands where the same processes could be seen if we overview the last, more than 800-year history of these islands: the origins of the present success and competitiveness certainly goes back to 1204 when the English King John was driven out of Normandy by the French King Philip II.

The islands, which were the part of Normandy, in this new situation, were forced to decide whether to continue allegiance to the French king or to go over to the English Sovereign. In the end the islands remained loyal to the English Crown and in return for this loyalty in 1215 King John (from that time the Lackland) granted certain rights and privileges that enabled them to be a self-governing crown dependency under a Bailiwick system. This special legal situation and the high level of autonomy became later the basis of the special 'in and out' status within the United Kingdom and the proper management of this status has contributed to the further development and competitiveness of the islands. Despite of the fact that other islands from this region like French coastal islands basically had the same resources as a 'starting kit', without this special status have never reached or have never ever approximated the level of

development and community well-being of the Channel Islands.

Between the competitive factors, the territories also could find and use cultural patterns that help to manage the given resource that means sustainable methods, models, techniques and practices in a given community that could ensure the competitiveness in the long run. On the other hand if a given land has earlier marketable cultural elements it has a potential possibility to manage this cultural supply or it is also possible to change the earlier traditions and create new cultural products and services that could operate as new diversification paths, competitive factors and new development directions. This supply of cultural products and services, in an optimal situation certainly could result well operating cultural sector and cultural industry as well.

The next part of the study is focusing on the sustainability challenges of Macau, China. This case study shows how this special, island-like territory tries to find balance between the economic, social and environmental processes, the management of the present cultural supply and the way that Macau creates new cultural products and services that could be competitive factors in the next years.

Sustainability Challenges of island-like territories: case study of Macau, China

Macau today is a Special Administrative Region of the People's Republic of China. Macau is situated on the western side of the Pearl River Delta, on the Macau Peninsula itself and the islands of Taipa and Coloane, which are now connected by landfill forming Cotai. Macau is next to Hong Kong, which is 60 kilometers to the east, and bordered by Mainland China (only 310 meters of land border with Guangdong, Zhuhai Special Economic Zone of Mainland China) to the north and the South China Sea to the south.



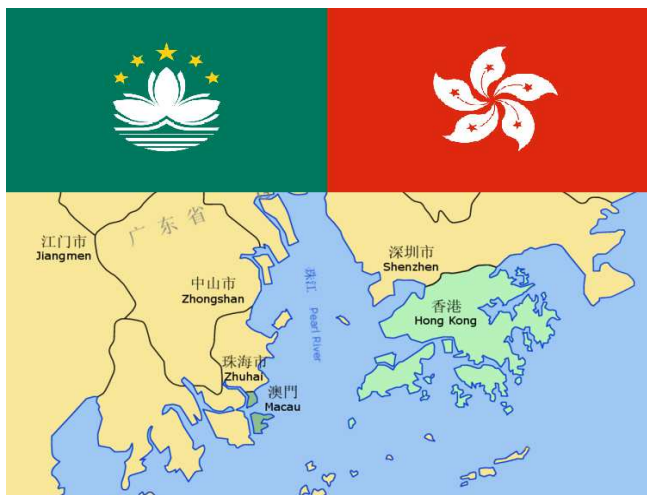
Source:

<http://www.worldtrading.eu/wp-content/uploads/Map2.png>

The population of Macau is 643,100 (September 2015) living in an area of 30.3 km², which means that this land is the most densely populated territory in the world (21,224/km²).

The peninsula where Macau is today was earlier an island, but the drift of the Pearl River and human land reclamation changed the island into a peninsula. Nowadays the land reclamation is still an ongoing, permanent process to get

more land to meet the increasing needs of this high densely populated area. Due to the present, overcrowded urban environment, the original nature is almost missing; there are no forests or arable land. Both the peninsula and the islands consist of small granite hills surrounded by limited areas of flatland, which is used for agriculture. The original natural vegetation was evergreen tropical forest before the hills were stripped for firewood and construction. No part of Macau reaches any great elevation; the highest point, 565 feet (172 meters), is at Coloane Peak (Coloane Alto) on Coloane. There are no permanent rivers, and water is either collected during rains or piped in from the mainland.⁴ Macau has subtropical and humid climate, monsoons and occasional typhoons are effected the local weather very much.



Macau flags and location on the map.

Source:

https://upload.wikimedia.org/wikipedia/commons/3/38/Hong_Kong_%26_Macau_flags_and_map.PNG

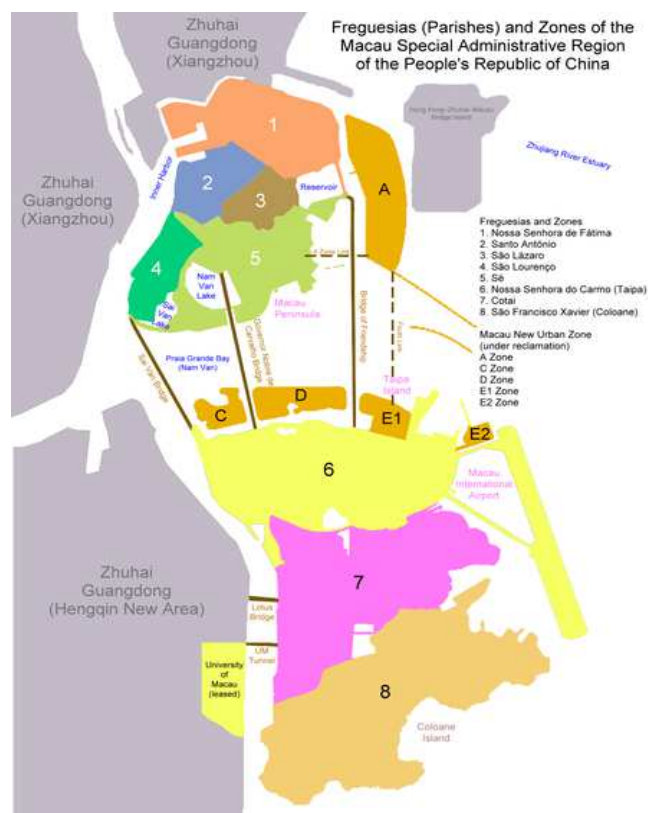
Although the area was inhabited before the arrival of the Portuguese, this land hadn't got a great importance; it was just a small fishing village on the coast of the Pearl River. The name Macau is derived from the Chinese: Ma Ge Miao/A Ma Gao (Bay of A-Ma): A-ma was the name of a Chinese goddess, popular with the Chinese seafarers and fishermen who had a temple on the peninsula when the Portuguese first anchored there in 1513⁵.

Jorge Alvarez was the first European 'explorer' and the first Portuguese who reached the present day Macao and Hong Kong by sea. The reason of this first contact was – as everywhere on the new founding lands - to establish a trade and get to the local markets. Macau was an ideal place for the Portuguese as the location had a lack of value in the eyes of the Chinese. In 1535, Portuguese traders obtained the rights to anchor ships in Macau's harbors and to carry out trading activities, though not the right to stay onshore.

⁴ Encyclopædia Britannica: Macau. <http://www.britannica.com/place/Macau-administrative-region-China>

⁵ Culture of Macau. <http://www.everyculture.com/Ja-Ma/Macau.html>

Around 1552–1553, they obtained temporary permission to erect storage sheds onshore, in order to dry out goods drenched by sea water; they soon built rudimentary stone houses around the area now called Nam Van. In 1557, the Portuguese established a permanent settlement in Macau, paying an annual rent of 500 taels (18.9 kilograms / 41.6 pounds) of silver.⁶



Administrative division of Macau.

Source:

https://upload.wikimedia.org/wikipedia/commons/thumb/4/4d/Administrative_Division_of_Macau.png/444px-Administrative_Division_of_Macau.png

From this time Portuguese Macau as an interesting mixture of the Western and Eastern influences became an important trading center and a free port in Southern China administered by the Portuguese Empire. The more and more intensive trade activities, the special status, and the relatively safe character made this place attractive for merchants, refugees, soldiers of fortune and smugglers from Mainland China and from Europe as well. The Chinese population in Macau was significant from the 18th Century. The exclusive role of the Portuguese colony attracted the competitors as well: the Dutch merchants had several attempts to take over the positions of the Portuguese in Macau but finally they failed. The Chinese-Macanese connections, although there were certain dissidences, the partners always managed to arrange these differences. The greatest shock in the peaceful and sleepy life of this Portuguese colony was the first opium war between China and British East India Company/Great Britain. In 1841 the

⁶ Macau History. <http://www.asianinfo.org/asianinfo/macau/history.htm>

British occupied Hong Kong Island on the other bank of the Pearl River and in the Treaty of Nanking in 1842, the first from the so called unequal treaties, granted indemnity and extraterritoriality to Britain, with opening five treaty ports, and the cession of Hong Kong Island as well.⁷ Hong Kong soon exceeded the earlier strategic and economic positions of Macau and the economic performance of the colony started to decline quickly. As a potential answer for this challenge, the already existing gambling became legal in Macau in 1844 as an attempt to generate revenues for the government, and leading a new direction for the declining colony. This decision was also resulted the revival of many types of semi legal and illegal activities as well. From this time casino-business and gambling parallel with the related tourism has remained dominant in the economy of Macau. On the other hand, the successful activities of the British also encouraged Portugal to rethink the links between China and Macau. Chinese government and Portugal finally had a new treaty and Portugal received full sovereignty over Macau from China in 1877.

The comparative advantages of Macau, the gambling, the tourist attractions, the trading and smuggling, the greater autonomy than Mainland China, the low taxation, the certainly milder legal background and restrictions made the colony permanently attractive for those who were seeking leisure, legal or semi legal businesses or asylum in the shadow and backwater of Hong Kong. It is important to point out that the development of the casino-business boosted organized crime, prostitution, gang wars, and financial crime as well.

This favorable situation lasted for more than a century, even in the years of the II. World war Macau remained relatively undisturbed since Portugal has neutrality and opposite to Hong Kong this territory was not attacked and occupied by the Japanese. The special status has resulted relatively great numbers of refugees, just like after 1949 when the People's Republic of China was formed. People's Republic of China didn't disturb the status quo of Macau and Hong Kong until the 1970s.

First, the British government started negotiations on returning the New Territories, Kowloon and Hong Kong back to China working out the „one country, two systems” model that also stated that for fifty years the capitalist economy could operate in Hong Kong with a relatively high-level of autonomy after the handover. In case of Hong Kong this happened in 1997 and this process was certainly a model for Macau as well. As a result, on December 20, 1999 Macau became the last colony to be handed back over to China and ending Portuguese colonial rule. The joint declaration similar to Hong Kong guarantees that Macau would operate with a high degree of autonomy until at least 2049; China is responsible for defense and foreign affairs while Macau maintains its own legal system, the public security force, monetary system, customs policy, and immigration policy as well.

⁷ Encyclopædia Britannica. Unequal Treaty - Chinese History. <http://www.britannica.com/event/Unequal-Treaty>

Today Macau is one of the world's richest territories: according to the data of the World Bank, in 2014 GDP per capita by purchasing power parity was the second highest in the world with 139,767.3 dollars, just after Qatar.⁸ Macau in the last decades has become one of the world's largest gambling centers. Although in the 1970s and in the 1980s there was a rapid development in its manufacturing sector mainly as a result of Hong Kong direct investments, these activities started to decline in the 1990s and gambling and tourism remained the main sector of the economy.

After the handover in 1999, there has been a rapid rise in the number of mainland visitors due to China's easing of travel restrictions, together with the liberalization of Macau's gaming industry in 2001 that induces significant investment inflows to the territory.⁹ Between 1962 and 2002 the gambling industry had been operated under a government-issued monopoly license by Stanley Ho's Sociedade de Turismo e Diversões de Macau. The monopoly ended in 2002 when six casino operating concessions and sub concessions are granted and some casino owners from Las Vegas entered to the market. The number of visitors is very high, from 16.6 million visitors in 2004, arrivals to Macau has grown to 31.5 million visitors in 2014,¹⁰ although this is not a steady growth, there are certain drops due to the actual state of the economy of the world and the main sending countries. Macau's economy slowed dramatically in 2009 as a result of the global economic slowdown, but strong growth resumed in 2010-13, largely on the back of tourism from mainland China and the gaming sectors. Most of the visitors are coming from Mainland China and Hong Kong. In 2014, this city of 636,200 hosted nearly 31.5 million visitors, almost 67% came from mainland China. In 2014, Macau's gaming-related taxes accounted for more than 83% of total government revenue. Macau continues to face the challenges of managing its growing casino industry, risks from money-laundering activities, and the need to diversify the economy away from heavy dependence on gaming revenues.¹¹

Sustainability challenges of Macau

In the first part, the most important areas where effective management is appropriate in a given territory to achieve economic, social and environmental sustainability were the next:

- Connections to the outside world (past-present-future);
- Available resources, resource management;

⁸ World Bank GDP per capita, PPP http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?order=wbapi_data_value_2014+wbapi_data_value+wbapi_data_value-last&sort=asc

⁹ Country Stats - Macau. <http://www.country-stats.com/en/countries/asia/macau/10339-macau-economy.htm>

¹⁰ 2014 Yearbook of Statistics. Government of Macao SAR Statistics and Census Service

¹¹ CIA Factbook – Macau. <https://www.cia.gov/library/publications/the-world-factbook/geos/mc.html>

- Maintaining economic competitiveness, specialization, adaptation to new challenges;
- Population growth, population control, demographic trends;
- Employment, educational issues;
- Infrastructure, reducing crowding;
- Focus on environmental protection, environmental challenges.

In the next pages, these fields will be in focus, considering the cultural aspects of sustainability challenges of Macau as well and pay attention to those facts, which are closely related to these areas.

Connections to the outside world

The present situation is very favorable with the strong background of Mainland China and Hong Kong: from China there is a permanent interest for the tourist attractions and the casino industry of Macau, millions and millions of people are coming from China to spend their time and money there and experience Macau's special supply. Many tourists from other parts of the world are first landing in Hong Kong and visit Macau as well; Hong Kong residents traditionally use the possibilities of Macau as a pleasure resort. There is a strong demand for interesting, extraordinary places of the world and Macau with its historical background and its present supply is certainly an amazing place is worth to visit and where everybody has the possibility to go offshore for a shorter or longer time. China's attitude towards Macau is basically positive; China also takes the advantages of its special administrative regions and concerned to keep up the present situation and the special, atypical conditions at least until 2049. The charming offshore character means that this tiny little piece of land (which certainly could be anywhere else in the world) has for almost 500 years different rules, legal regulations and status compared with the outside world, the stakeholders have a strong interest to keep up the situation, and the outside world is paying a permanent attention for the local, especial offer and exterritorial feeling. According to Palan, the aim, generally speaking, is to achieve the highest degree of legitimacy with as little regulation as possible play by the rules of the advanced industrial countries that by represent business interests. From this play both side receives profits and these types of offshore economies simply supply the public demand in the terms and conditions of capitalism.¹² Of course there are certain points where the interests of the participants are changing: some parts of the Macau economy are a growing concern for global financial institutions and for the United States, which has identified Macau as a major center of money laundering and financial crime.¹³

Available resources, resource management

¹² Palan, R. (2003): *The Offshore World. Sovereign Markets, virtual places, and nomad millionaires.* Cornell University Press, Ithaca and London.

¹³ Culture of Macau. <http://www.everyculture.com/Ja-Ma/Macau.html>

Macau has no natural resources, technically almost every resource and raw material the local activities need is imported. In this overcrowded urban environment the original nature is almost missing, there are no forests or no arable land at all. Due to the lack of the basic resources, efficient water, waste and energy management is needed. The present situation shows that there are intensive initiatives to operate a more efficient, economized resource management but it is not easy to change the way of thinking that from the revenues there it is always possible to buy the missing and needed resources.



Casino in Macau

On the other hand, there are two important resources there: the financial resources mainly due to the permanently growing revenues from the gambling and tourism give the possibility to buy every other missing resources and materials from oil to water, from gas to wood and so on. This process is a normal way of operation in Macau and the needs are constantly growing: in 2004 the import was almost 28 billion MOP¹⁴/3.5 billion USD and ten years later, in 2014 the same number was almost 90 billion MOP/11.25 billion USD for a city of 643.100 inhabitants. The level of export has become negligible compared to the imports, it was 22,5 billion MOP in 2004 and 9.9 billion MOP in 2014. The other resource which is widely available is the permanently growing human resources: there is a nonstop, legal and illegal supply from Mainland China and from other countries of the region (Philippines, Vietnam, etc.). It is also important to point out that the ratio of those who were born outside of Macau is permanently growing. Results of the 2011 Population Census indicated that 326,376 (59.1%) of the population were born in different places. Most of these migrants are working in the tourism, hospitality and gambling sector.

Realistically speaking, Macau could not be self-sufficient and this could not be an aim in the future but the present situation certainly results a strong dependence and vulnerability and only could work if the present, well-functioning sectors permanently operate.

¹⁴ Macau pataca, local currency

Maintaining economic competitiveness, specialization, adaptation to new challenges

Macau has become one of the biggest casino centers of the world in the last decades. The present overspecialized character of the economy and the earlier mentioned, so called Dutch disease could be a risk although with Mainland China in the background it seems to be manageable in a long run. It is interesting to toy with the idea that instead of the present well operating sectors what could a Macau-like territory do to maintain the economic competitiveness and in case of overspecialization it is possible to find new diversification paths at all? There are many examples all over the world that even big cities and highly urbanized areas have not been successful to react correctly for these type of challenges and the disappearance or outsourcing of the earlier successful economic activities lead a dramatic reduction of the population and people who have remained in that territory just try to survive somehow (e.g. Detroit). Of course there are positive examples as well, but these precedents usually show that this type of adaptation is not possible alone, the active assistance and financial help of the government or other outside resources are needed to reach better economic and social performance again. In case of Macau there are still ongoing initiatives especially focusing on expanding the number of tourist attractions: beside the gambling and visiting historical sites there are cultural products, art fairs, film festivals and auto, horse and dog races as well.

Population growth, population control, demographic trends

The population of Macau is permanently growing. Between 2004 and 2015 the growth was almost 40% from 462.600 to 643.100. The growth of population mainly relies on immigrants from Mainland China and the constant influx of overseas workers. Immigration from China's mainland has always been significant, fueled by the opportunities of Macau's international trade and dynamic urban economy (especially in the twentieth century there was an exponential growth of immigration).¹⁵ Macau is the most densely populated region in the world, with a population density 21,224/km². The majority, Macau's population is Chinese (97%); another 3% is of Portuguese and/or mixed Chinese/Portuguese descent, an ethnic group often referred to as Macanese.¹⁶

Beside the steadily growing population, the number of visitors has been doubled between 2004 and 2014 (from 16.6 to 31.5 million). 67% of the visitors are coming from Mainland China and more than 20% from Hong Kong. Although the visitors contribute significantly to the economic performance of Macau (total visitor spending was 61,7 billion MOP/7,7 billion USD in 2014), they also make a relatively great pressure on urban environment, utilities and resources, traffic and crowding.

¹⁵ <http://www.encyclopedia.com/ssc/107767-chinese-political-geography.html>

¹⁶ Country facts – Macau Demographics <http://www.country-facts.com/en/countries/asia/macau/10341-macau-demographics.html>

The capacities and the receptivity of the city is terminate, so in the longer run Macau has to face with this challenge, control the immigration more strictly, regulate the labor market and reduce the number of working permissions or housing licenses.

Most of land in Macau is private property. Land prices are high due to great scarcity. Since the 1920s there have been permanent efforts for land reclamation, financed by both the government and private funds. These activities could also reduce crowding in the future although these artificial islands totally change the already heavily transformed landscape.

Traffic, transportation challenges

Macau has a well operating public transport network connecting the main parts of the territory, Macau Peninsula, Cotai, Taipa Island and Coloane Island. Beside the public transportation system there are free casino shuttle buses in Macau as well. Due to the fact that tourism is an important priority in Macau, most of the larger hotels provide free round trip shuttle bus services which cover the major tourist sites including the airport, ferry terminals and the Macau/Mainland China border gate as well. In Macau, just like in Hong Kong, traffic drives on the left. Macau has one active international airport opened in 1995 and located on an artificial island. The airport serves as a transit hub in the region. The city also has ferry, hydrofoil and helicopter service to the neighboring islands, China, and Hong Kong. Right now there is a huge bridge-project under construction since 2009: the Hong Kong – Zhuhai – Macau Bridge will be ready for 2017. The 29.6 km long bridge and a 6.7 km long tunnel will connect the two banks of the Pearl River, Hong Kong with Macau. A new metro system (Macau Light Rapid Transit or Macau LRT) is under construction as well.

Despite of the good public transportation possibilities, there are 108.000 cars and 125.000 motorcycles run in Macau (2014) which results (together with the pollution is coming from the mainland) an intensive air in this area. It is possible to enter to Macau by car but the vehicle (cars only, no motorcycles) has both Macau and mainland China number plates and the driver carries both Macau and China driver's licenses. This is not too typical so most of the incoming and outgoing passengers use the other possibilities when they enter or leave Macau. Due to the permanent interest, the pedestrian crossing at the border gate is very intensive all day long.

It is clear, that similar to the demographical challenges the capacities of the territory are not unlimited: probably that is the reason why Macau government together with private investors is working on improving the public transportation in the next years.

Employment, educational issues

As it turned out earlier, the expanding economy of Macau needs a strong human resource background and a kind of brain drain to meet the needs of the local labor market and economy. The labor force participation rate is around 73.8%, the unemployment rate is 1.7%. The Macau school system operates well, run by the government and private institutions/organizations, although the education level is

still relatively low. About 25 percent of the population has secondary education degree, and less than 5 percent are attending higher education programs.

To meet the needs of the local labor market is also permanently an important challenge. These needs are connected closely with those economic activities, usually with market niches where the given territories are or could be relatively successful and competitive which often cause the overspecialization and the lack of flexibility of the education system. The sustainability of the local educational system is an important question everywhere but in smaller countries and insular places in spite of the less number of students the same quality of education has to be ensured with maintaining the similar size of educational management system. This type of economic overspecialization basically restricts to one sector the large share of demand of the local labor market which could cause disorders as it is not likely that everyone who study wants to work in this developing sector while the demand of the other sectors is limited or permanently declining. This situation results certain compromises (i.e. how many archaeologists are needed in a territory like Macau?). On the other hand the education system of Macau could exploit the advantages of having the possibility to recruit students from Mainland China as well. This could guarantee the safe operation of state and private institutions as well, if they manage to attract the potential students from 'abroad'. The education institutions in Macau certainly have this supply (foreign language courses, strong popular programs like business and administration, joint degree programs with European and American Universities, online courses, etc.). However, Macau is not alone in this market and stands in the shadow of Hong Kong, which has more education institutions, research facilities and other attractions a well.

Despite of the lack of 'serious' present labor market problems, the demand and the supply of the labor market doesn't match perfectly, from time to time there is an extra need for employees from the seasonal workers to highly qualified white collar to satisfy the labor market demand. Because of the permanent immigration, those who are already in may try to defend their existing labor market positions and it could be a government policy as well to limit the further growth of the population in this overpopulated, tiny land.

Labor market related social work has strong tradition in Macau and among others; Catholic Church and its institutions supplement social safety-net provisions implemented by the government.

Focus on environmental protection, environmental challenges

The natural ecosystems of the Macau disappeared in the earlier centuries due to the human activities, urban infrastructure and buildings have filled up most of the available space, and almost all of the original forest was used for construction and industrial purposes. After the first land reclamation projects of the 1920s, at the end of the 20th century new projects have started creating space for new housing and industries, doubling the surface area of the city. The biggest project was to connect Taipa Island and Coloane Island into one land. We also can't speak about

maintaining of the remaining untouched environment and sustaining the specific biodiversity of the islands and Macau peninsula, because pollution from Mainland China and also from Macau almost totally destroyed the original nature.

In connection with environmental pollution Macau have a relatively bad position, the government, after the intensifying negative feedbacks, just in the last years has started to pay real attention to manage air, waste and water pollution. Before that, just like the mainland counterparts, the city emitted everything without cleaning to the air and coastal sea or burned or 'exported' to the continent.

Macau has to manage the internal environmental problems with appropriate environmental policies, restrictions and control, but there are already existing external emerging issues where these effective policies and good practices are not able to help. In these cases Macau must keep up with the changes, start the adaptation, or just prepare for the external processes which could affect the environment and other activities badly. One possible critical problem is the climate change. The rise of the sea level could cause serious problems as some of the population lives in lower areas on the coast, and Macau has to secure the newly reclaimed flatlands as well.

Cultural aspects of sustainability challenges

Today Macau is dominantly a Chinese society, with certain influences of Portuguese traditions. After founding of Macau until the 18th century Portuguese were dominant in the city but from this time due to the significant migration the Chinese population started to grow and soon some of the 'newcomers' became the part of the economic, cultural life and elite. Nowadays 97% of the population is Chinese, 3% Portuguese, or member of a Creole group.

The most significant sign of the earlier Portuguese and Chinese-Portuguese culture is the old urban architecture of Macau. Macau was built by the Portuguese, but the Mediterranean-European designs were always given an Oriental slant in actual building, and the Chinese made their own contribution in the form of shrines, temples, and Chinese gardens. The combination has charmed almost all visitors to the place; Macau's historical old city, its churches, forts, statues, parks, monuments, and government palaces give the city a romantic character. But this unique architecture is now also under threat, because massive modernization, population growth, and urban renewal have led to the demolishing and crowding out of many old buildings and neighborhoods. Before and after the handover of Macau to China, several statues and landmarks disappeared (some of them were even shipped to Portugal).¹⁷

The colonial heritage is not a living heritage any more. Churches, houses, fortifications are there but most of the present population has nothing to do with it. The remaining facade of Saint Paul's Cathedral, one of the main emblems of the city could be a perfect symbol of Macau's past and

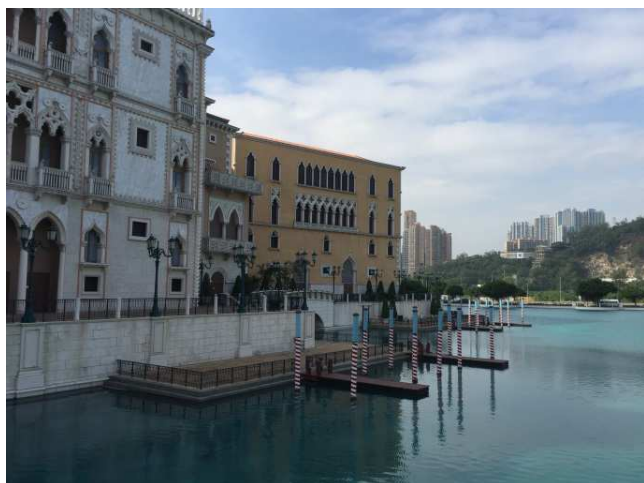
¹⁷Macau Culture <http://www.everyculture.com/Ja-Ma/Macau.html>

this cultural change. Macau has to decide how to use these heritage-elements that once were an integral part of the everyday life of Macau citizens, the built heritage, the European-Christian identity, the mixed, frontier and exterritorial character of the city, because it seems from the visitor arrivals that these elements are interesting for the outside world.

Of course to keep this cultural heritage and generate products and services which are interesting and marketable a strong and relatively continuous community is needed – this also starts to be the part of past as the migration is permanent, and almost 60% of the population was born outside of Macau without strong cultural ties and connections to the traditions and culture of the city.



“Paris” under construction



“Venice” in Macau

According to Daniel Odess (Assistant Associate Director for Cultural Resources, National Park Service, United States), cultural resources are resources that important to a culture. In the 1980s the heritage law of Macau (1984) indicated the importance before the takeover and the huge development of the next years. The restoration of churches, buildings, fortifications is also a sign of this preference. If as a result of the present cultural transformation the newly shaped culture of Macau prefers the elements of the traditional culture, it could remain and could become an integral part of the new cultural image of the city. There are many signs that these

cultural elements also have an importance today, and as a significant step, historic center of Macau became World Heritage site in 2005. Unfortunately, not everything can be saved: the local Macanese language which was a typical mixed Creole language, without well operating communities, significance and interest it died out in these transformation years. Another simple, but good initiative is the introduction of the bilingual street signs on designed color tiles that also shows the common heritage.



Facade of Saint Paul’s Cathedral



Macau street sign

Parallel with the traditional elements culture as an important competitive factor that could be an integral part of the image of Macau and together with the rise of the casino-business a new type of 'copy' heritage starts to evolve in the city: just like in Las Vegas in the Nevada desert, visitors could find

here some of the outstanding built heritage sites and remarkable buildings from all over the world.



Fortaleza do Monte

These old-new, continuously erected buildings serve as hotels, casinos, restaurants, shops, public places or places for entertainment. Visitors could find a slice of Rome, Venice, Prague, Paris (now under construction) or the Hollywood-style, Gotham City inspired brand new luxury hotel and casino Studio City with its 4D Batman Dark Flight just opened on the 27th of October, 2015. In an optimal situation, instead of fighting, this two, totally different dimension of culture together would determine the cultural supply, products and services of Macau in the future.

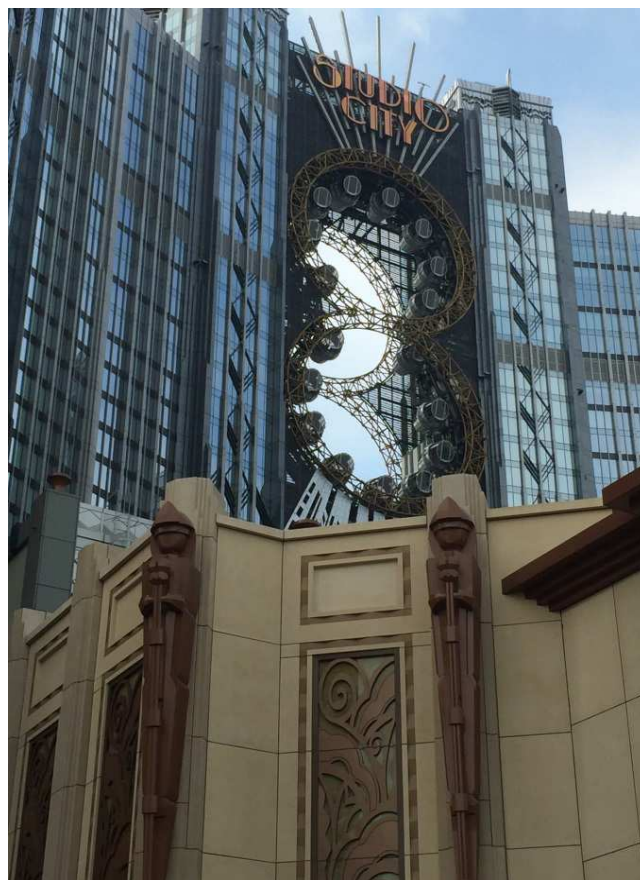
Summary

As we have seen, the dominance of the tourism and gambling sector is significant in Macau and the traditional sectors and industries are permanently declining in the past few years and losing their earlier importance from year to year in the economic performance of the territory.

The economic history of Macau from the beginning to the present day is basically a story of a successful adaptation. The favorable geostrategic position and the specific autonomy results the development of special economic activities. The changing external economic trends and the internal socioeconomic situation create new and new economic transitions and diversification processes resulting basically a long term socioeconomic sustainability of the land.

These activities could only be conceivable with the internalization of external resources, and with the

maintaining of the special 'in and out' status as a Special Administrative Region of the People's Republic of China. The adaptation and diversification processes come time to time and islands and island-like territories have to keep up with the changes and prepare themselves for the new challenges.



The new casino hotel, Studio City

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