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# Strategies of Marine Tourism Development in Talaud Islands Regency, Indonesia

**Dian Wijayanto<sup>1</sup>, Imam Triarso<sup>1</sup>, Nur Taufiq SPJ<sup>1</sup> and Denny Nugroho Sugiarto<sup>1</sup>**

<sup>1</sup>Faculty of Fisheries and Marine Science, Diponegoro University, JL. Prof Sudarto, SH, Semarang

Corresponding author: dianwijayanto@gmail.com

**Abstract.** Talaud Islands regency has high potential in marine tourism. But, this potential is yet to be optimized for socio-economic development of Talaud Islands regency. The purpose of research was to develop the strategies of marine tourism development in Talaud Islands Regency. This research used observation, discussion with key stakeholders, and reference study to collect the data. This research used SWOT analysis, and QSPM to develop the strategies of marine tourism. The recommendation of marine tourism development strategy in Talaud Islands Regency are (1) people development, (2) improvement of infrastructure, (3) increase tourism investors, (4) control of environmental impacts, (5) development of marine tourism destinations, (6) tourism promotion, (7) earthquake and tsunami disaster mitigation, (8) development of culinary tourism and (9) development of local souvenirs.

## 1. Introduction

Talaud Islands Regency is one of the regencies in Indonesia where has the outer islands and borders with other countries (especially with Philippines). Talaud Islands Regency is located at coordinates of 3°38'00" to 5°33'00" N and 126°38'00" to 127°10'00" E [1]. In general, the regional development in the border areas of Indonesia has not been intensively than Java island, including the Talaud Islands Regency. But, there has been increasing attention from the Government of Indonesia to develop the border areas.

Talaud Islands Regency has a big potential of marine economic, including marine tourism. Several islands in the Talaud Islands have white sandy beaches and clean seawaters. There are several spots of coral reefs, underwater historic sites of World War II (warplanes and warships) and coastal cultural traditions that can be developed as a tourist attraction.

At present, tourism in the Talaud Islands Regency is relatively undeveloped. In 2014, tourism visits in Talaud Islands Regency were 2,569 visitors per year and dominated by local tourists. The proportion of tourists visiting in the Talaud Islands reached 97% in 2014. The number of foreign tourists were only 69 persons per year and most of them were from ASEAN countries (25 people), while others were from Western Europe, USA, Australia and Japan. It shows that tourism in Talaud Islands still small. So, tourism development in Talaud Islands Regency needs to be optimized by exploiting the potential of marine tourism. The purpose of this research was to develop the strategies of marine tourism development in Talaud Islands Regency.

## 2. Research methods



This research is an applied research to find solution about the development of marine tourism in Talaud Islands Regency [2]. The research object is marine tourism in Talaud Islands Regency, both coastal, underwater tourism, water-sport, and supported by culture of coastal community, culinary and souvenir as a tourism portfolio.

### *2.1. Data collection*

This research used combination of observation, interview, discussion, and literature study to collect the data. The objects of observation were several destination, infrastructures and tourism business actors. Infrastructure to support marine tourism is include transportation facilities (sea, land and air), communications, electricity, clean water, and waste management. Interviews and discussions were conducted with key persons, both government, businessman, and community leaders. While the literature study used statistical data and related journals.

### *2.2. Data analysis*

This research employed SWOT analysis, for both internal and external environment. SWOT analysis and TOWS matrix were used to develop an alternative marine tourism development strategy. This research used the QSPM methods to determine the strategy priorities [3, 4]. Several researchers used the SWOT analysis methods [5, 6, 7]. Suharto [8] had use the SWOT analysis and combined with QSPM for the development of tourism strategies. This research used paired comparison method to set the weight of key factors in QSPM, both internal environment factors and external environmental factors.

In this research, the internal environmental factors were factors that can be controlled by the stakeholders of Talaud Islands tourism, both government, local investors, tourism actors and citizens of Talaud Islands Regency as a collective unity who have interest in tourism of Talaud Islands. While the external environmental factors were natural resources, competition and tourism markets, both national, and international. According to Wheelen and Hunger [4], natural resources, social environments (including economics, politics, culture and technology) and industry analysis are included in external environments that generate opportunities and threats.

## **3. Result and discussion**

Talaud Islands has 17 islands, both 7 inhabited islands and 10 uninhabited islands. The inhabited islands are island of Marampit, Karatung, Kakorotan, Karakelang, Salibabu, Kabaruan and Miangas. While the uninhabited islands are island of Malo, Mangupung, Intata, Garat, Wora, Nusa Dolong, Nusa Topor, Sara Besar, Sara Kecil and Napombalu. Talaud Islands regency has 19 districts, 11 subdistricts and 142 villages. Miangas island is closest to Philippines and the smallest district with a land area of 2.39 km<sup>2</sup> (0.19% of the land area Talaud Islands). Talaud Islands have three major islands, i.e. Karakelang, Salibabu, and Kabaruan. Karakelang Island is the largest island (921 km<sup>2</sup>).

### *3.1. Internal environments*

The Government of Talaud Islands Regency and the house of representatives have a goodwill to develop marine tourism in Talaud Islands Regency. In the Regional Regulation Talaud Islands No. 1 of 2014, the government set the several areas of tourism destination. This tourism destinations include: Ampapitu waterfall, Rane waterfall, Intata island, Wettadi cave, Masare cave, Mane'e cave, Lengane cave, Totombatu cave, Arandangan cave, Wuidduanne cave, Tabang geach, Tiwudda beach, Maririk beach, Binalang beach, Riung beach, and Melonguane beach. The regulation set the development areas of coastal marine tourism including Karang Napombaru Island, Sara Kecil Island, Sara Besar Island, Nusa Dolor Island, Nusa Topor Island, Intata Island, Kakorotan Island, Karatung Island, Garat Island, and Miangas Island.

The community friendliness of Talaud Islands and the low level of crime can be a force for the development of marine tourism in Talaud Islands. There was only 1% of the population who recorded became victims of crimes between March 2014 to February 2015 [9].

The government of Talaud Island Regency face big challenges for tourism development. The infrastructure condition of Talaud Islands Regency still needs a lot of development, including transportation infrastructure, electricity, clean water, communications, internet and lodging. It is important to support an increasing competitiveness of tourist destinations in the Talaud Islands.

The length of the road in Talaud Islands Regency in 2014 was 353,811 Km. Several of the road are still in need of repair. The damaged provincial roads reached 77%. The damaged district roads were 21% and very damaged were 52%. While the national roads in damaged condition were 14% and very damaged were 12% [1]. It shows that the road infrastructure in Talaud Islands Regency is still unsporing tourism.

Talaud Islands Regency has Airport and harbor infrastructure. At present, there are several airlines that serves the routes to Melonguane Airport in Talaud Islands Regency, including Garuda Indonesia, Wings Air and Express Air. While there are several ships that serves the route to Talaud Islands Regency including 'Elisabeth III' Ship and 'Queen Mary' Ship. The transportation infrastructure is still inadequate and become barrier to tourists visiting Talaud Islands Regency. The flight and passenger have trends to increase, there are 342 trips of aircraft coming and going in 2014, with passengers coming of 15,305 persons and leaving of 16,450 persons.

In 2018, Talaud Islands Regency has several power plants (diesel power plant). The power plants are located in Lirung (capacity of 1,145 KW), Mangaran (560 KW), Miangas (70 KW), Karatung (119 KW), Marampit (73 KW), Beo (860 KW), Essang (398 KW), Melonguane (790 KW), and Dapalan (285 KW). The characteristic of the archipelago in Talaud Island pushed the decentralized power generation in each island with small capacity. However, the electricity supply in Talaud Islands Regency is still deficit. Periodic blackouts still occurred in Talaud Islands Regency. Therefore, it is necessary to develop electrical power to be able to supply the electricity demand.

The supply of clean water in the Talaud Islands Regency comes from rivers, lakes, springs, wells, and rainwater reservoirs. There are 60 small rivers in the Talaud Islands with long river range between 0.7 - 16.2 km. The is regional water supply company (PDAM) in Talaud Islands Regency, but the trend of clean water supply has decreased. In 2010 the total clean water production of PDAM in Talaud Islands Regency was 520,548 m<sup>3</sup> decreased to 329,075 m<sup>3</sup> in 2014.

The communications and internet infrastructure in Talaud Islands Regency are still inadequate. Telecommunication based on fix lines have not been well distributed in certain regions. Telecommunication signals have not reached in certain locations. The number of hotels in Talaud Islands Regency is only 12 units of non-star hotels that have 136 rooms and 204 beds. There are no star hotels in Talaud Islands Regency yet. There were only 20 restaurants in 2014. Handcrafted souvenirs and culinary have not developed to support the tourism industry.

The Talaud Islands Regency is vulnerable to the tsunami disaster. The readiness of government and citizens to face disasters is still inadequate. There are 17 persons who working at the Regional Disaster Management Agency. In the regulation of zonation, the government has been set the disaster prone areas, both landslide, tsunami, floods, tornadoes, and earthquakes. However, early warning systems, evacuation routes, and shelter area have not been provided optimally.

Awareness of residents to maintain the environment still needs to be improved. Waste management is not optimal yet. Residents still carry out a lot of littering and burning garbage in the fields. Based on data from BPS Kabupaten Talaud Islands [9], there were only 79.96% of residents who have private toilets, and only 47.63% of residents who have septic tanks.

The capital capability of local investors is weak. The poverty rate is still relatively high, reached of 11.38% in 2014. The population growth rate of Talaud Islands Regency in 2011 to 2015 was 1.3% per year. The population is one of the economic forces and has contribution in the market size and employment. However, the population should be combined with the quality of human resources (HR).

The mean years schooling of the Talaud Islands people is 8.82 years. While the literacy rate reach 99.3%, so it is important to push it to 100%. Population who graduated from university or college is 5.79%. The unemployment rate is 2.02%. The proportion of employment types are 66.11% agriculture, 4.87% industry and 29.02% services. English language skills of Talaud Islands residents are weak, but it is necessary to serve foreign tourists. The income per capita of Talaud Islands is still relatively low, that were only IDR 7,439,001 per year in 2014 [1, 9].

Based on the above description, we identify strengths and weaknesses. The strengths of tourism stakeholders in Talaud Regency are government goodwill (code: S1), political support (S2), resident friendliness (S3) and low crime rate (S4). While several weaknesses are: transportation infrastructure (W1), electricity infrastructure (W2), clean water infrastructure (W3), communications and internet infrastructure (W4), hotel and guest house facilities (W5), undeveloped souvenirs (W6), undeveloped culinary (W7), government and residents readiness to face the tsunami disaster (W8), awareness of resident to maintain the environmental (W9), limited local investor capacity (W10), and tourism competence of residents (W11).

### 3.2. External environments

Talaud Islands Regency has beautiful beaches. Talaud Islands has clean seawaters and the seabed are beautiful like in an aquarium. Sara Besar and Sara Kecil Islands have beautiful beaches with white sand. The tourists could see coral reefs and coral fish clearly above the seawater surface. Sara Islands can be used for diving and snorkeling but should be careful to the strong currents.

Kakorotan, Intata and Malo Islands can become a major tourist destination. In 1628, tsunami separated Kakorotan, Intata and Malo Islands where originally, they were merged as one island. There are Mane'e tradition in Kakorotan and Intata Islands where men collect fish by only using coconut leaves. This tradition was established long time ago since the 16<sup>th</sup> century. Mane'e tradition conducted between May and June. There is also Mannami tradition in Miangas Island that similar with Mane'e tradition.

Coral reefs can be found in seawater of Kakorotan island that dominated by *Porites* and *Montipora* genera. There is 'ketam kenari' or coconut crab (*Birgus latro*) in Malo Island as endemic crabs. Coconut crab is included in the IUCN red list. The coconut crab is reported have extinct status in Mauritius [10].

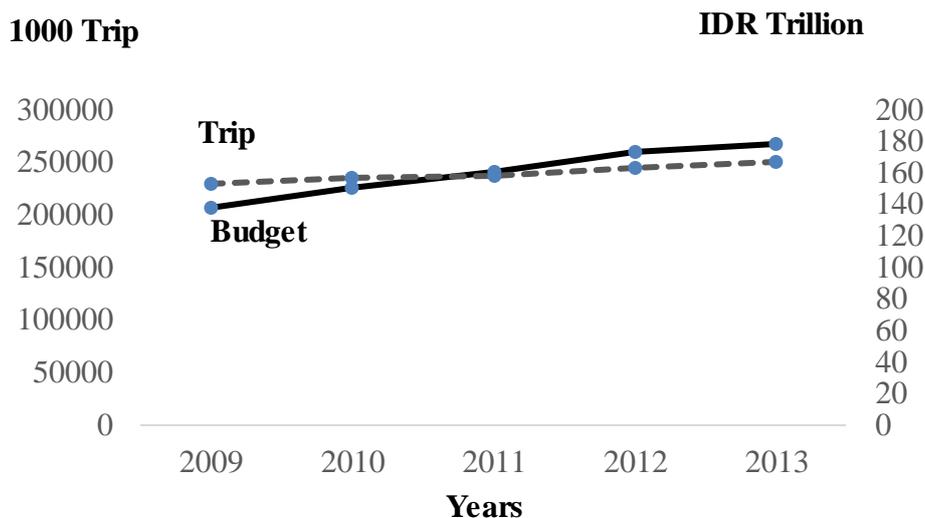
Melonguane beach has a beautiful beach with white sand and clear seawater, so it is can be a major tourist destination. Melonguane beach located in the city center of Talaud Islands Regency. The tourist is could enjoy the seafood culinary at Melonguane beach. There are several spots of diving and snorkeling in Nusa island, Intata island, and Matandik Marine Park. The beach tourism can be developed in Sara Islands, Nusa Island, Malo Island, Garat Island, Melonguane beach, Tiwuda beach, Mangaran beach, Tambione beach and Tabang beach. Historical tourism of Japanese warship (World War II) could be developed in Mala village, and Japanese warplane in Sawang village.

The above description shows that the Talaud Islands have many alternative tourism destinations. There is a local agate of Talaud, and the handy crafter of Talaud's agate can be found in Tarun Village. The sampiri birds (red-and-blue lory or *Eos histrio*) is an endemic animal from the Talaud Islands. The sampiri bird is included in the IUCN red list [11]. It is a beautiful bird and can be set as the icon of tourism in Talaud. Coconut crab and 'sampiri' bird should be protected to maintain their sustainability in the wild.

The demand increasing, both national and international tourism could be the opportunity for tourism stakeholders of Talaud Islands. The number of foreign tourists in Indonesia have a trend tends to increase. In 2011, there were 7,649,731 tourists and increase to 9,435,411 in 2014. While the number of domestic tourists is fluctuated with the tendency to increase. In 2001, the number of domestic tourists were 195.77 million trips and increased to 250.04 million trips in 2013. Similarly, the expenditure of domestic tourists increased, from IDR 58.71 trillion in 2001 to IDR.177.84 trillion in 2013. Direct labor absorbed in Indonesia's tourism were 3,325,800 labors in 2014, while the total number of tourism workers reached 9,813,900 persons [12].

Unfortunately, Talaud Islands tourism is not well known, both nationally and internationally. The Talaud Islands is not set as the priority of national tourism development yet. There is an increasing of tourism business competition, both national and international, that is a challenge to Talaud Islands tourism stakeholders.

Tourism in the Talaud Islands is dominated by local tourists with limited purchasing power. The consumption pattern of the Talaud Islands residents is 63.13% for food, and 24.42% for housing. While the budget of goods and services spending is only 6.03%, including for recreation. The percentage of Talaud Islands residents who traveling for recreation is only 6.21% [9]. It shows that the allocation of resident budget for tourism is relatively small.



Source: [12]

**Figure 1.** Progress of trip and travelling cost of national tourists

**Table 1.** Indonesia tourism progress

Indicators	2010	2013
Foreign exchange (USD million)	7 603	10 054
Average tourist spending (USD)	1 086	1 142
Average time of tourist stay (days)	8.04	7.65

Source: [12]

According to WEF [13], the ranking of tourism and travel global competitiveness for Indonesia was 50 from 141 countries surveyed. The weakest of tourism in Indonesia were service infrastructure for tourists and environmental sustainability. While the highest strength of Indonesia is competitive price of goods and services in Indonesia that are considered cheap by international tourists. The tourism ranking of Indonesia is still inferior than Singapore (ranking of 11), Malaysia (25) and Thailand (35). There are several components that should be improved, i.e. protection to endangered species, terrorism, capacity of hospital, internet access, construction license, car rental, cost of starting a business, drinking water access, sanitation and quantity of hotel room. Nevertheless, there are significant progress in the ranking of global competitiveness, because Indonesia had still rank of 72 from 139 countries surveyed in 2011 [12].

According to WEF [13], the number of foreign tourist arrivals to Indonesia in 2013 were 8.8 million people with a value of USD 9,119.2 million with the average expenditure per tourist was USD 1,036. The tourism and travel industry are estimated to contribute USD 27,058.7 million (3.1% of

GDP) with a growth rate of 5.3% per year while employment is absorbed by 3,042,500 jobs (2.7% nationally).

Talau Islands has high fisheries resources that can be used to support tourism, including culinary tourism and fishing recreation. The big pelagic fish such as tuna and skipjack tuna can be found in the Talau Islands seawaters. Demersal and reef fish can be found in Talau Island seawater, such as grouper, and snapper.

The government of Talau Island Regency needs to anticipate the possible negative consequences of tourism activities if they would seriously develop tourism, including control of pollution, environmental degradation, economic inequality, and the risk of social conflict. The tsunami disaster should also be anticipated since it can be a threat for tourism development in Talau Islands Regency.

Based on the above description, it can be concluded the opportunities and threats in the development of marine tourism in Talau Islands. Several of the opportunities are the beauty of the coastal area and sea of Talau Island (code: O1), under-seawater beauty (O2), coconut crab (O3), 'sampiri' birds (O4), local agate of Talau (O5), Mane'e and Mannami culture (O6), national tourism demand (O7), international tourism demand (O8), and fish supply (O9). However, there are several of the threats that should be anticipated include: Talau Islands tourism is not yet nationally recognized (T1), Talau Islands tourism is not internationally recognized (T2), competition of national tourism business (T3), competition of international tourism business (T4), tsunami risk (T5) and the negative impact of tourism activities to environment (T6).

### 3.3. The alternative of strategies

Base on SWOT analysis, it can be developed the alternative of tourism development strategy in Talau Islands. The alternative strategies can be seen in the TOWS matrix

**Table 2.** TOWS matrix

		Strengths: S1 to S3	Weaknesses: W1 to W11
Opportunities: O1 to O9	SO: development of marine tourism destinations (S1, S2, O1, O2, O3, O4, O5, O6, O7, O8)		WO1: tourism investors gathering (W5, W6, W7, W10, O1, O2, O3, O4, O5, O6, O7, O8, O9) WO2: development of local souvenirs (W6, O5, O7, O8) WO3: development of culinary tourism (W7, O7, O8, O9)
Threats: T1 to T6	ST: promotion of tourism (S1, S2, S3, S4, T1, T2, T3, T4)		WT1: infrastructures development (W1, W2, W3, W4, W5, T3, T4) WT2: people development (W6, W7, W9, W11, T3, T4, T5, T6) WT3: mitigation of earthquake and tsunami disaster (W8, T3, T4, T5) WT4: Controlling of the negative impacts of tourism (W9, T6)

According to Williams [14], tourism is a resource-based industry, that very dependent on natural and cultural attraction as an inheritance. The beauty of nature is a physical attribute, that can include climate, landscape, flora, and fauna. The social-cultural can attract tourists to learn, or enjoy entertainment, including visiting historic sites, and enjoy the art and food. So, the development of tourism should be comprehensively approached.

A development of marine tourism destinations in the Talau Islands could enhance the tourist attraction. The construction of exclusive resorts and villas could be developed, including Sara Besar Island, and Sara Kecil Island. Representative pier and other facilities are important to be developed to increase the tourist comfort, but it should not damage the coral reefs. The coastal park can be developed, including on Tambione beach, Tiwuda beach, Melonguane beach, Mangaran beach and

Tabang beach. Historical tourism base from World War II needs to be developed, i.e. Japanese warships in seawaters around the Mala village, and Japanese warships in seawaters around the Sawang village. Mane'e and Mannami traditions are needs to be maintain and develop, by make an annual festival.

Water-sport tourism development is prospectively developed, including banana boat, and speed boat with still pay attention to a safety of tourists. Development of coastal village tourism can be done to attract tourists who want to enjoy a life of origin peoples. Development of maritime tourism can be developed synergically with non-marine tourism to develop an alternative tourist destination. While the traditional arts of Talaud Islands that are needed to be developed, among others are: Tatumaina dance, Bara'a dance, Wuundaren dance, Sasaroho dance, Entel music, and Tambur music.

Gathering and selection of tourism investors could accelerate the development of tourism in the Talaud Islands. The local and national investors are preferred to develop tourism in the Talaud Islands to optimize regional and national economic growth. In the development of tourism destination, the local and national investors can benchmark with the world-famous tourism sites, but still maintain the uniqueness of Talaud Islands. The foreign investors can be involved in development of Talaud Island tourism related to develop international tourism networks. There are several kinds of investment for investors, including resorts, hotels, restaurants, villas, parks, water-sport services, and other supporting facilities, such as transportation, communication, water and electricity.

The local souvenir development is important by utilizing the local content, including Talaud local agate, and shells. According to Zakariah, et al. [15], there is a high correlation between local culinary and tourism. The development of culinary can use fish resources of Talaud Islands. The residents of Talaud Islands have preference for fresh fish to cook, but not fond a preserved fish, such as salted fish, dried fish and smoked fish. However, when the fish harvest is abundant, then the fish can be processed into salted fish, dried fish, 'abon' dried shredded fish and smoked fish as a local culinary of Talaud Islands. The government of Talaud Islands Regency could perform culinary and local souvenirs festivals to generate creativity of the Talaud Island community.

Tourism promotion can be done by following tourism promotion events, both national and international. According to Alfian, et al [16], interest in tourist location is influenced by promotion, public relations, personal marketing, and advertising. Talaud Sail should be used as promotion event. Promotion in an interesting website is important, because it is efficient to publish Talaud Island tourism in the world. Cooperation with the tourism bureau, both national and international, could be done to increase tourist visits to the Talaud Islands.

Improvement of tourism support facilities is very important. According to Alfian et al [16] the decision to visit a tourism sites is influenced by the representative location, condition of the tourism location, access road, price and tourism product offered. Therefore, the development of airports, aviation routes, and ports is needed to increase tourist access to the Talaud Islands. Infrastructures of power plants, telecommunications and clean water needs to be developed in accordance with the regional plan that set by the government. Government of Talaud Islands Regency has arranged the power plant development, including electric steam power plant in Tarun village (2x3000 KW), and several solar power plant in Marampit (125 KWpik), Miangas (80 KWpik), and Karakatung (310 KWpik). The government has planned the construction of wireless network stations. According to Williams [14], infrastructure is indispensable in tourism development, both accommodation (including lodging), transportation services (including ports, airports and land transportation), and other public facilities.

Extension, training and assistance to human resources are needed for the improvement of human resource competence. Several types of competencies that need to be improved including international language skills, tourism business management, technical skills (such as diving techniques and water-sport equipment maintenance), hospitality, waste management, and disaster mitigation.

Mitigation of earthquake and tsunami disasters needs to be well prepared to reduce the risk. The government should prepare the tsunami early warning systems, evacuation routes, evacuation points,

disaster simulation training, and others evacuation facilities. Earthquake and tsunami resistant buildings is important to be developed for reduce the risk.

Control of environmental impact because tourism activities is needs to be done, such as waste management, wastewater treatment plant, and conservations (such as ‘sampiri’ bird, coconut crabs and coral reef) to reduce the negative impact of tourism. Investors who build hotels, resorts, villas and parks need to prepare waste management and wastewater treatment plants. It can reduce a several waste, including soap, detergent, oil, plastic and organic waste into aquatic environments.

According to Zaei and Zaei [17], the positive impacts of tourism development are including increasing national and regional income, increasing investment opportunities, balancing regional development, reducing poverty, improving education, increasing tax revenues, improving living standards and welfare. While the negative impacts are vegetation clearance, erosion, flooding, decreased species diversity, coral reef damage, and increased pollution. Therefore, sustainable tourism principles are developed, such as: ensuring renewable resources are utilized not beyond the carrying capacity of nature, maintaining biological biodiversity, maintaining environmental aesthetics, respecting local culture, involving local people in tourism development process, and encouraging distribution economy between tourism developers and local resident. Tourism development should take into account the carrying capacity of the environment, both physical carrying capacity, ecology and perception [14].

#### 3.4. The strategies priority

It is necessary to set priorities of strategies to develop marine tourism in Talaud Islands. But, the implementation of strategies can be run simultaneously and synergized. The priorities of strategies could set base on QSPM analysis (Table 3). To determine the priority of tourism development, it is necessary to weight key factors (Table 2).

**Table 3.** Weight of key factors

Code	Internal Key Factors	Weight	Code	External Key Factors	Weight
S1	Goodwill of government	7.4%	O1	The beauty of the coastal and sea	6.0%
S2	Political support	7.4%	O2	Underwater natural beauty	6.0%
S3	The friendliness of local resident	7.4%	O3	Coconut crab	6.0%
S4	Low crime rate	7.4%	O4	‘Sampiri’ bird	6.0%
W1	Transportation infrastructure	6.9%	O5	Talaud local agate	3.6%
W2	Electricity infrastructure	6.0%	O6	The uniqueness of Manee and Mannami culture	5.7%
W3	Fresh water infrastructure	7.9%	O7	Increased demand for national tourism	9.0%
W4	Communication and internet infrastructure	5.7%	O8	Increased demand for international tourism	7.6%
W5	Hotels	6.4%	O9	Fish supply	3.6%
W6	Crafts souvenirs	5.0%	T1	Brand of Talaud Island tourism is not famous in national yet	8.1%
W7	Local culinary	5.5%	T2	Brand of Talaud Island tourism is not famous in international yet	6.2%
W8	Readiness of government and citizens to face disaster	7.6%	T3	The competition of national tourism business	8.6%
W9	People awareness to	7.6%	T4	The competition of international	7.1%

Code	Internal Key Factors	Weight	Code	External Key Factors	Weight
	maintain the clean environment			tourism business	
W10	Capital capacity of local investors	5.0%	T5	Tsunami risk	8.6%
W11	Competence of citizens in tourism business	6.9%	T6	The negative impact of tourism activities to environment	8.1%

**Table 4.** Value of strategies and priority of strategies

Code	Strategies	Value	Priority
WT 2	Extension, training and assistance to human resources	5.99	1
WT 1	Improvement of infrastructures to support the marine tourism	5.85	2
WO1	Tourism investors gathering	5.68	3
WT 4	Controlling of tourism environmental impacts	5.51	4
SO	Development of marine tourism destinations	5.39	5
ST	Tourism promotion	5.24	6
WT 3	Earthquake and tsunami disaster mitigation	4.90	7
WO3	Culinary tourism development	4.16	8
WO2	Local souvenir development.	4.06	9

HR is the main and most important asset in development, including tourism development. The superior human resources can create innovation and excellence of tourism competitiveness. The natural beauty and culture of the Talaud Islands should be maintained, because the nature and culture of Talaud Islands is the basic material in tourism development in the Talaud Islands.

#### 4. Conclusion

Based on the research results, it can be concluded that there are several alternatives of strategies to develop the marine tourism in the Talaud Islands that can be synergized. The priorities of marine tourism development strategies are (1) extension, training and assistance to human resources, (2) improvement of infrastructure to support the marine tourism, (3) tourism investors gathering, (4) controlling of tourism environmental impacts, (5) development of marine tourism destinations, (6) tourism promotion, (7) earthquake and tsunami disaster mitigation, (8) culinary tourism development and (9) local souvenir development.

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#### References

- [1] BPS Kabupaten Kepulauan Talaud 2015 *Indikator Kesejahteraan Kepulauan Talaud Tahun 2015 (Welfare Indicators of Talaud Islands Regency in 2015)* (Talaud Islands: BPS Kabupaten Kepulauan Talaud) p 52 [Bahasa Indonesia]
- [2] Kothari CR 2004 *Research Methodology, Methods and Techniques* (India: New Age International (P) Ltd., Publishers) p 401.
- [3] David FR 2011 *Strategic Management, Concepts and Cases* (USA: Pearson Education, Inc).
- [4] Wheelen TL and Hunger JD 2012 *Strategic Management and Business Policy: Toward Global*

- Sustainability* (USA: Pearson Education, Inc) p 913.
- [5] Wijayanto D, Nuriasih DM, Huda MN, and Pamuntjak CR 2013 Strategi Pengembangan Pariwisata Mangrove Di Kawasan Konservasi Perairan Nusa Penida (The Strategies of Mangrove Tourism Development in Marine Protected Area of Nusa Penida) *Jurnal Saintek Perikanan* **8(2)** 25-32 [Bahasa Indonesia]
- [6] Vladi ME 2014 *European Journal of Sustainable Development* **3(1)** 167-178.
- [7] Bulatovic I and Markovic AT 2015 *Turizam* **19(3)** 127–138.
- [8] Suharto B 2016 Strategi Pengembangan Wisata Agro Di Banyuwangi (The Strategies of Agro-Tourism Development in Banyuwangi) *Jurnal Ilmiah Pariwisata-STP Trisakti* **21(1)** 1-18. [Bahasa Indonesia]
- [9] BPS Kabupaten Kepulauan Talaud 2016 *Kepulauan Talaud Dalam Angka 2015 (Talaud Islands in Figures 2015)* (Talaud Islands: BPS Kabupaten Kepulauan Talaud) p 318 [Bahasa Indonesia]
- [10] Eldredge LG 1996 *Birgus latro* The IUCN Red List of Threatened Species 1996: e.T2811A9484078.
- [11] BirdLife International 2016 *Eos histrio*. The IUCN Red List of Threatened Species 2016: e.T22684502A93032979.
- [12] Kementerian Pariwisata 2015 *Rencana Strategis Pengembangan Destinasi dan Industri Pariwisata, Kementerian Pariwisata Tahun 2015-2019 (The Strategic Plan of Destination and Tourism Industries Development, Tourism Department 2015-2019)* (Jakarta: Kementerian Pariwisata) p 89 [Bahasa Indonesia]
- [13] WEF 2015 *The Travel and Tourism Competitiveness Report 2015, Growth Through Shocks*. (USA: World Economic Forum) p 508
- [14] Williams S 1998 *Tourism Geography* (USA: Routledge) p 212.
- [15] Zakariah Z, Mohamad RK and Mohammad W 2012 *IPEDR* **55(36)** 178-183.
- [16] Alfian R, Soelistyono and Nugroho I 2017. *Journal of Indonesian Tourism and Development Studies* **5(1)** 35-40.
- [17] Zaei ME and Zaei ME 2013 *European Journal of Tourism Hospitality and Research* **1(2)** 12-21.