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Assessment of Recreational Resources for the Development of Parasailing in Large Lakes of Mongolia

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Abstract

One of the basic concepts of tourism is the issue of natural conditions and resources. In the case of developing tourism based on any natural resource, it is important to evaluate the possibilities and potential of that resource. On the other hand, Mongolia's tourism products are built on the same model, and have no differences from each other, and are not competitive. Therefore, there is a necessity to develop new types of adventure travel and special interest travel based on natural resources. In accordance with this need, this research work was carried out in order to determine whether there are natural conditions and resources for the development of parasailing based on the large lakes of Mongolia. Methodologically, a new recreational resource evaluation system was developed based on 7 criterias: the basic natural factors required for the development of parasailing, such as the area of lake, attractiveness, natural rapids, lake water temperature, air temperature, number of clear days, and the level of lake water pollution. By selecting and evaluating the 5 largest lakes in Mongolia with this system, it was found that Buir, Uvs, Khyargas, and Khar-Us lakes have the potential to develop parasailing. It is hoped that the research results will be valuable information for future studies related to the development of parasailing in Mongolia. Those include developing parasailing itinerary and programs, conducting research on competitor, attracting markets, and ensuring safety, etc.

Keywords

Recreational Resource Assessment, Adventure Travel, Development of New Product, Tourism, Natural Resources

1. Introduction

In recent years, tourism has rapidly developed alongside hospitality, with various adventure travel products emerging as a popular choice. The tourism is a field that contributes significantly to Mongolia's economy (Ulaankhuu & Nyandag, 2018). Since 2016, the number of tourists coming to us has been constantly increasing. In 2019, before COVID-19 pandemic, the number of arrivals in Mongolia reached 577,000. However, tourism has been inactive for the past two years due to the pandemic. Efforts have been made to improve and develop the tourism industry. The recovery in this industry can be influenced greatly by creating new products and services of adventure travel and special interest tourism in the international market (MET, 2021).

On the other hand, due to the influence of Generation Z into the travel market, there is a growing need for hard adventure travel that is technology-based (MET, 2022).

The adventure tourism market size was valued at $112,227 million in 2020 and is estimated to reach the market value of $1,169,095 million by 2028, growing at a CAGR of 20.1% to from 2021-2028. By type, the soft segment was the most prominent segment accounting for $37,595 million in 2020. It is expected to reach the market size of $380,687 million by 2028 growing at a CAGR of 20.1% throughout the forecast period. By activity, the land-based activity segment was the most prominent category in 2020 and is expected to remain dominant throughout the forecast period (Sumesh & Roshan, 2021).

These statistical pieces of information show the importance and popularity of the adventure tourism.

According to the analysis of 332 travel products of 28 tour operators operating in Mongolia, 96.3% of all trips are land-based, 0.3% are air-based, and 3.9% are water-based (MET, 2022).

Therefore, it is possible to develop innovative tours that meet the needs of Generation Z and are new compared to current travels offered by tour operations.

In order to develop new products and services, this study was carried out because there is a need to evaluate the natural resources for the development of the travel.

The purpose of this research is to assess the resources for developing parasailing in the large lakes of Mongolia and to determine the possibilities of recreational resources.

2. Literature Review

Parasailing is a recreational activity where a person is towed behind a vehicle (usually a boat) while attached to a specially designed parachute, known as a parasail.

Parasailing, also known as parascending, paraskiing or parakiting, is a recreational kiting activity where a person is towed behind a vehicle while attached to a

specially designed canopy wing that resembles a parachute, known as a parasail wing (India, 2018).

Parasailing is a part of sports and adventure tourism. People think it is the best way of relaxation and entertainment (Muhsina, 2021). It is considered to be one of the most enjoyable water activities in the world. The experience of being up in the air in the middle of the ocean can truly be a feat worth trying (Deakin, 2010).

There are two types of parasailing: aquatic (over water where a motorboat is used) and terrestrial (over land towed by a jeep) (India, 2018).

Of course, parasailing has also life risk and accidents involved in it. Many accidents occur for bad weather, carelessness and lack of control. By its specification, it is clear that parasailing is a high-risk sport. On the other hand, parasailing is the wonderful way to enjoy and feel natural beauty from the top (Muhsina, 2021).

The participants usually referred to as the parascender, has very limited control over the movement of the parachute. The sport is full of adventure, thrills. The commercial parasailing sports are popular worldwide where the driver releases the low rope of the parasailers in such a way that they fall on a specific target area (Zealand, 2022).

Do not parasail in winds exceeding 50 mph. All parasailing participants need to wear life jackets to prevent drowning and helmets to prevent head injuries. There should be no obstructions (trees, other boats, mountains) in your take-off path. Parasailing requires a parasail, tow rope, boat or land vehicle with a winch. Safe parasailing takes place behind a boat that has an engine with at least 90 HP. The company that organises parasailing must provide a body harness, a canopy for the start and a towline. In addition, safe parasailing requires an experienced boat driver, a skilled observer and a ground crew (India, 2018).

The sport was developed in the late 1970s, and has been very popular ever since.

The most popular lakes for parasailing are Lake Tahoe and Lake George in the United States, Lake Como and Lake Garda in Italy, Lake Huron in Canada, and Lake Wanaka in New Zealand (MET, 2022).

The development of this travel does not require special wind power, but is possible with lakes with large area and calm waves, warm weather and clear days. The more rough the waves, it become impossible to develop parasailing (Zealand, 2022; India, 2018).

Assessment of natural resources for recreation

An important concept of recreational natural resources is its evaluation. In other words, to determine the potential of the recreation resource, it is necessary to evaluate it. Evaluation includes following steps (Dash et al., 2005):

- To determine assessment objects;
- To determine assessment subjects;
- To define evaluation criteria;
- To develop evaluation hierarchy criteria.

The evaluation hierarchy criterias show the relationship between objects and subjects, and often use a three or five levels of evaluation system. The 5 levels of recreational evaluation system are expressed as follows:

1) Very pleasant;
2) Pleasant;
3) Relatively pleasant;
4) Less pleasant;
5) Unpleasant.

Table 1. Evaluation of swimming conditions.

The width of the shallow part, m		Rocks of the shallow part		Number of days (water temperature of 18˚C - 22˚C)		Flow rate, m/s		Area occupied by aquatic plants, per 100 m%	
Criteria	Points	Criteria	Points	Criteria	Points	Criteria	Points	Criteria	Points
5 - 10	4	Sandy	4	Over 80	4	0	4	0	4
10 - 20	3	Pebbly	3	60 - 80	3	0 - 1	3	0 - 10	3
20 - 40	2	Rocky	2	50 - 60	2	1 - 2	2	10 - 50	2
40 - 100	1	Muddy	1	30 - 50	1	2 - 3	1	50 - 80	1
Over 100	0	Clay	0	Under 30	0	Over 3	0	Over 80	0

For instance, the evaluation of the suitable condition for swimming, developed by the Institute of Geography, Russian Academy of Sciences, is divided in 5 levels (See **Table 1**). The following table refers very pleasant as score of 4 (Dash et al., 2005).

During the evaluation, the data related to the criteria above of the object being evaluated are collected from secondary sources, and the average score is calculated according to the corresponding score.

Establishing criteria of water travel-recreation evaluation for river and lake is wide range concept. First of all, it is necessary to determine the possibility of swimming, fishing and boating, as well as the suitable temperature and duration for them (Bayasgalan, 2010). On the other hand, natural rapids such as rivers, waves, strong currents, falls, rocks, fallen trees, high coastal shells, and sharp turn coasts affect the psyche of travelers and attract their interests (Jennings, 2007).

Sea always attracts people with its beauty and for its coral reefs, beaches, warm climate, unique topography, and warm clear waters (Keivan Kabiri et al., 2014).

When developing water travel and water sports in any country, rivers and lakes are divided into grades, taking into account the flow characteristics, roughness and eddies. There are 5 classes of water travel on rivers in Mongolia (Gurgemjav, 1999) (See **Table 2**).

Table 2. Classification of river travel in Mongolia.

Classes	Attributes	Representation rivers
I	Smooth-flowing, steady rivers, streams, and lakes	Kherlen, Selenge, Orkhon, Tuul and its headwater, Zawkhan and its estuary
II	A river with many rocks and whirlpools, and a lake with waves	Ider, Eg, Kharaa, Yeruu, Delger
III	A mountain river with large rocks and a lake that requires boating skills, rapids and waves	Bogd, Suman, Khowd, Bulgan river, Ongi, Baidrag, Eg river and its estuary and middle part, Khuwsgul
IV	Strong currents and raging rivers in floods	Chuluut, Khowd, Orkhon, Tuul and its headwater, Zawkhan and its headwater
V	Rivers and streams with many rapids, waterfalls and gorges in rugged mountain	Turgen Uws, Uyench, Bodonch, Khowd and its headwater, Choirgo rapid in Chuluut gorge

Source: Gurgemjav, 1999.

Table 3 shows the classification of lakes in Mongolia according to their area (Tsegmid, 1969).

Table 3. Classification of lakes in Mongolia.

#	Classification	Total of Area	Compared to the all lakes in Mongolia	Compared to the water surface in Mongolia
1.	Very small 0.1 - 1 km^2	1021.0	85.0	6.5
2.	Smaller 1.1 - 10.0 km^2	1182.0	13.1	7.5
3.	Small 10.1 - 50 km^2	583.0	1.0	3.5
4.	Medium 50.1 - 100.0 km^2	723.0	0.3	4.5
5.	Big 100 - 1000 km^2	3041.0	0.4	19.4
6.	Bigger over 1000 km^2	9090.0	0.2	58.6
	Total	15640	100%	100%

Source: Tsegmid, 1969.

Scientist D. Hatchinson classified in 5 classes due to the water temperature of rivers and lakes according to the way it affects the human body. The temperature of the rivers and lakes of Mongolia in July - August was divided into categories by the above scientist (Ariunbat, 2004) (See **Table 4**).

Table 4. Evaluation of water temperature of rivers and lakes in Mongolia.

#	Classification	Water temperature	Rating	Representation rivers and lake
1.	Very cold	7˚ - 13˚	Stiffening effect 0	Dayan, Khuwsgul lake and lakes around it, Altai mountain rivers and lakes

Continued

2.	Colder	14˚ - 16˚	Appropriate 1	Uureg, Tolbo
3.	Cold	17˚ - 19˚	Appropriate 2	Telmen, Terkhiin tsagaan lake, Oigon, Sangiin dalai, Suman, Chuluut, Ider, Selenge river
4.	Warm	20˚ - 24˚	Appropriate 3	Achit, Buun Tsagaan lake, Ganga lake
5.	Warmer	25˚ - 27˚	Appropriate 4	Ubs, Khar-us, Buir, Khyargas, Orog lake

Source: Ariunbat, 2004.

3. Methodology

The method of collecting, comparing and summarizing documents was used. Based on the above studies on the rivers of Mongolia and the natural conditions required for the development of parasailing, the assessment methodology of lakes has been newly developed and presented in the table below according to the stage of evaluation methodology development by D. Dash et al.

Table 5. Lake recreation assessment criteria for developing Parasailing.

Criteria	4 points (Very pleasant)	3 points (pleasant)	2 points (Relatively pleasant)	1 points (Less pleasant)	0 points (Unpleasant)
Area of Surface	Larger, over 1000 km^2	Large, 100 - 1000 km^2	Medium, 50.1 - 100.0 km^2	Small, 10.1 - 50 km^2	Smaller, 10.0 > km^2
Attractiveness	An unique formation with a lot of natural beauty	An unique natural beauty	Unique structure with relatively less natural beauty	Few natural beauty and unique formations	No natural beauty or unique formations
Natural rapids (waves, ebbs, eddies, shore heights, shells)	No natural rapids	Less natural rapids	Relatively less natural rapids	Natural rapids	Many natural rapids
Water temperature (July - August)	Warmer (25˚ - 27˚)	Warm (20˚ - 24˚)	Cold (17˚ - 19˚)	Colder (14˚ - 16˚)	Very cold (7˚ - 13˚)
Number of days that average temperature is over 100˚C	Over 130	110 - 130	90 - 110	70 - 90	Under 70
Water polution	Unpolluted	Less polluted	Relatively less polluted	Polluted	Very polluted
Number of clear (sunny) days	Over 100	80 - 100	60 - 80	50 - 60	Under 50

Source: Created by author.

During the evaluation, the data of the lake under evaluation (relevant to the parameters specified in Table 5) are collected from secondary sources, and the average score is calculated by using the following formula according to the cor-

responding score to the criteria.

$$k = \frac{\sum A_1 + A_2 + \cdots + A_n}{n} \quad (1)$$

k—pleasure coefficient.

A_1, A_2, …A_n—Points corresponding to each A criteria.

n—number of criteria.

As k approaches 4, the lake is deemed suitable for parasailing development.

According to Sh. Tsegmed's book "Physical Geography of Mongolia", the evaluation was done by selecting the top 5 lakes in terms of area (See Table 6).

Table 6. Large lakes of Mongolia (over 500 m^2).

#	Name of the Lake	Area
1	Uvs lake	3.350
2	Khuwsgul lake	2.760
3	Khar-Us lake	1.578
4	Khyargas lake	1.407
5	Buir lake	615

4. Research Results

According to the criteria shown in Table 5, recreational evaluation of the 5 lakes in Mongolia with an area of more than 500 m^2 showed Uvs Lake 3.1, Khuvsgul Lake 2.5, Har-Us Lake 3.1, Khyargas Lake 3.1, and Buir Lake 3.2 (See Table 7). The Buir, Uvs, Khyargas, and Khar-Us lakes are suitable for parasailing.

Table 7. Recreational assessment of Lakes.

Criteria	Uvs lake		Khuwsgul lake		Khar-Us lake		Khyargas lake		Buir lake	
1	Larger, over 1000 km^2	4	Larger, over 1000 km^2	4	Larger, over 1000 km^2	4	Larger, over 1000 km^2	4	Large, 100 - 1000 km^2	3
2	An unique formation with a lot of natural beauty	4	An unique formation with a lot of natural beauty	4	An unique formation with a lot of natural beauty	4	An unique formation with a lot of natural beauty	4	An unique formation with a lot of natural beauty	4
3	Less natural rapids	3	Less natural rapids	3	Less natural rapids	3	Less natural rapids	3	Less natural rapids	3
4	Warmer (25˚ - 27˚)	4	Very cold (7˚ - 13˚)	0	Warmer (25˚ - 27˚)	4	Warmer (25˚ - 27˚)	4	Warmer (25˚ - 27˚)	4
5	90 - 110	2	90 - 110	2	90 - 110	2	90 - 110	2	110 - 130	3
6	Less polluted	3	Less polluted	3	Less polluted	3	Less polluted	3	Less polluted	3
7	60 - 80	2	60 - 80	2	60 - 80	2	60 - 80	2	80 - 100	3
Evaluation	3.1		2.5		3.1		3.1		3.2	

1. Area of surface. 2. Attractiveness. 3. Natural rapids (waves, ebbs, eddies, shore heights, shells). 4. Water temperature (July - August). 5. Number of days that average temperature is over 10˚C. 6. Water polution. 7. Number of clear (sunny) days.

Buir, Uvs, Khyargas, and Khar-Us lakes have been rated highly as suitable for the development of parasailing due to their large surface area, natural scenery, and warm water temperature in the summer season.

Although Khuvsgul Lake has a large surface area and beautiful formations, the water temperature is very cold, so it was evaluated as unsuitable for the development of parasailing.

5. Conclusion

When developing tourism based on a natural resource, it is essential to determine its resource potential (Khishigdalai Ulaankhuu et al., 2021; Khishigdalai, 2020). Mongolia's tourism industry is at a standstill due to the global pandemic. Therefore, in order to support and accelerate the activities of this industry, an assessment of new travel resources that can be developed based on the large lakes of Mongolia was carried out. The evaluation shows that it is possible to develop parasailing in Buir, Uvs, Khar-Us, and Khyargas lakes.

In the future, when developing new types of tourism, it is important to evaluate the resources of recreation and determine the resources for the development of that travel.

In this way, travel managers will be able to develop new products and services, develop routes and market them based on these resources.

This article only researched recreational resources for the development of parasailing, so future researchers can explore other issues related to the development of parasailing in Mongolia. For example, how to attract tourists, advertising tools, security, etc.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Ariunbat, G. S. (2004). *Sustainable Development and Tourism.* UB.

Bayasgalan, L. (2010). *A Comprehensive Assessment of Tourism-Recreational Capacity.* UB.

Dash, D., Mandakh, N., & Bayasgalan, L. (2005). *Recreation and Tourism.* UB.

Deakin, P. (2010). Top 5 Reasons for Parasailing. *Ezine Articles*.

Gurgemjav, E. J. (1999). *Tourism Marketing.* UB.

India, A. T. (2018). *Indian Adventure Tourism Guidelines.* https://www.diffen.com/difference/Paragliding_vs_Parasailing

Jennings, G. (2007). *Water Based Tourism, Sport, Leisure and Recreation Experiences*. Heinemann Press. https://doi.org/10.4324/9780080468310

Kabiri, K. Rezai, H., Moradi, M. et al. (2014). Coral Reefs Mapping Using Parasailing Aerial Photography-Feasibility Study: Kish Island, Persian Gulf. *Journal of Coastal Conservation, 18,* 691-699. https://doi.org/10.1007/s11852-014-0345-9

Khishigdalai, U. (2020). The Evaluation of Environmental and Socio-Cultural Impacts of

Tourism on the Khorgo-Terkhyn Tsagaan Nuur National Park. *Proceedings of the Mongolian Academy of Sciences, 60,* 233.

MET (2021). *Strategic Plan for Tourism Recovery.*

MET, M. (2022). *Strategic Plan for Development of Adventure Travel Product.*

Muhsina, K. (2021). Prospects of Parasailing Activities in Bangladesh: A Study on the Opportunities and Challenges. *International Journal of Management and Accounting, 3,* 43-51. https://doi.org/10.34104/ijma.021.043051

Sumesh, K., & Roshan, D. (2021). *Adventure Tourism Market.* https://www.alliedmarketresearch.com/adventure-tourism-market

Tsegmid, Sh. (1969). *Physical Geography of Mongolia.* UB.

Ulaankhuu, K., & Nyandag, B.-E. (2018). Results of Assessment of the Competitiveness Ranking of Mongolia's Tourism Destination. *Proceedings of the Mongolian Academy of Sciences, 58,* 77-86. https://doi.org/10.5564/pmas.v58i4.1052

Ulaankhuu, K., Nyandag, B.-E., & Erdene-Dalai, A. (2021). Issues of the Preservation and Conservation of the Petroglyph in the Khoid Tsenkher Cave. *E3S Web of Conferences, 251,* Article No. 03039. https://doi.org/10.1051/e3sconf/202125103039

Zealand, M. N. (2022). *Health and Safety Guidelines for Commercial Parasailing Operations.*