

Divers and Dive Tourism: A view from Havelock, Andaman & Nicobar Islands, India

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Abstract—*The destination of Andaman and Nicobar can be compared to any of the best tourism destinations of India and rather amongst the best tourist destinations of South East Asia. The Andaman Islands is renowned for its natural beauty and culture. These qualities are much sought after traits in tourism industries but need to be protected as the industry develops. Supporting the culture and environment, there are a diverse range of products available to people travelling, from adventure tour options to relaxing honeymoon packages and these products are well dispersed. Despite of major disadvantage in terms of connectivity with mainland India, these islands have been able to attract an ever increasing numbers of tourists from all age groups and scores of life to its some of the unique attractions, man made as well as natural, for the visitors. These islands have been able to offer newer tourism products like dive tourism or innovative approaches in the existing tourism products to act as new offerings to tourists. This paper is an attempt to understand how Andaman and Nicobar Islands have positioned themselves as a preferred dive destination and has got a major chunk of divers attracted towards it from all across the country. Data for the study is collected from primary and secondary sources through structured questionnaire. The results of the study edify to concentrate on the infrastructure and allied service components of tourism for better results.*

Keywords: *destinations, connectivity, tourism products, dive tourism.*

1. INTRODUCTION

Indian tourism has grown leaps and bounds during the last decade and the nation as a whole, has been able to establish itself as a preferred tourist destination amongst the domestic as well as foreigner tourists. Various destinations of the country have been able to attract tourists of various age groups and that too, with varied interests. At the time when a downfall was being recorded in the starting of 2008 which reached its peak in 2009 because of terrorism, pandemics and times of political and economic unrest, Indian tourism industry was not so badly affected and statistics from 2010 show that the industry has bounced back to an all time high. Countries recovered at different paces, with economically developing countries like India, China and Brazil leading in growth [1].

This shift in the focus was possible only because most of the destinations attempted to take a step further and developed or modified tourism products so as to attract the visitor. This growth of travellers came as a boon for many of the established destinations of India who cashed in the situation and took the advantage of the already existing position and infrastructure available with them. Many of the lesser known destinations tried to catch up with others either by creating new tourism products or by improvising upon the existing products. Andaman and Nicobar Islands of India can be termed as one such destination which took a full-fledged advantage of the situation as it was already on its way of transforming the domestic tourism scenario by introducing newer forms of tourism products and was developing the existing infrastructure. The tourism industry of the islands saw an exponential growth which was fuelled by the government assistance. Exploiting the situation of coral bleaching in the Andaman sea of Thailand in 2010[2], Andaman and Nicobar Islands offered themselves as a good alternative to the diving community of the world and has been able to attract the divers from all around, since then. This article examines the status of dive tourism at Havelock, which is the most favoured destination for diving around Port Blair in the islands and at the same time, also tries to Fig. out the level of satisfaction amongst the divers as against their expectations of such a beautiful and memorable experience of theirs.

Objectives of the study

- To conduct a situational analysis of the identified area.
- To do the profiling of the visitors and their satisfaction level about the facilities of the study area.

Survey Methods

The present study was conducted in the Havelock village of South Andaman district in order to assess the tourist's experience in the Havelock Island and the responses from the tourists were recorded at the various places of tourist interest. The sample size of the study was 100 tourists. The survey has been conducted using structured questionnaire based on the

categorical as well as scale variables based on the five point Likert scale.

2. LITERATURE REVIEW

Over the last decades, the tourists across the globe have inclined towards eco tourism or any of its related forms of tourism out of which marine tourism has gained a good popularity amongst the tourists because of the advance technology used under water. Most of the countries across the globe have established Marine Protected Areas (MPAs) as 'tools' for the conservation and safeguarding of the marine environment and biodiversity [3-5]. Alongside with the potential environmental benefits, MPAs are usually expected to profit local communities and contribute to the increase of economic revenues, through the replenishment of fisheries, and the development of marine tourism.

The positive ecological consequences resulting from the protection of biodiversity attract a large number of visitors not only within the protected zones but in the adjacent regions as well [6-7]. Environmental friendly tourism in MPAs is commonly promoted through marine recreational activities, such as snorkelling and SCUBA diving. Economic surveys [8] have indicated that MPAs support the development of sub-aquatic tourism that subsequently favours the installation of new facilities and the creation of new employment opportunities [9]. As the tourism industry heavily depends upon the coastal zone [10], marine related tourism constitutes an important source of income for many coastal and insular areas globally (e.g. Caribbean, many Mediterranean MPAs and small island states such as the Maldives).

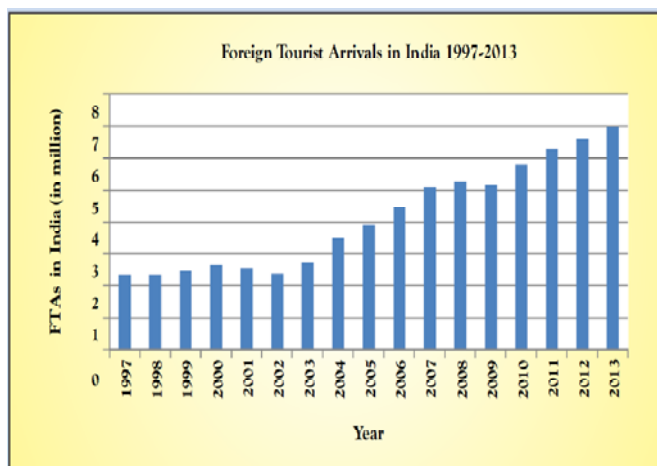
With regards to diving tourism several measures have been proposed worldwide, in order to eliminate the potential negative impacts of the aforementioned activities. These measures usually include diving restrictions (e.g. limitations posed to the number of SCUBA divers or dives per day; closing of vulnerable marine areas; rotation of dive sites) [11-12], special training and briefings in order to increase environmental awareness and ameliorate divers' behaviour [13], concentration of divers in low vulnerability habitats during the initial part of the dive and procedure to more vulnerable habitats only when they have adjusted properly their buoyancy [14], confining training courses and low level dives to less vulnerable sites [15] or in areas of artificially constructed reefs and underwater theme parks that also present interest for diving [16], spatial control of divers and snorkelers through the establishment of specified underwater paths [17], adoption of specific regulations for underwater photography since photographers usually come into direct contact with the substrate in order to take a picture [18], detailed mapping is considered necessary in order to identify and quantify the level of vulnerability of the different marine habitats to anthropogenic impacts, record the environmental factors that could potentially boost or hinder marine recreational activities, mark the main sources of pollution and define the ecological state of the natural environment [19].

3. ABOUT THE STUDY AREA

Indian Tourism Scenario

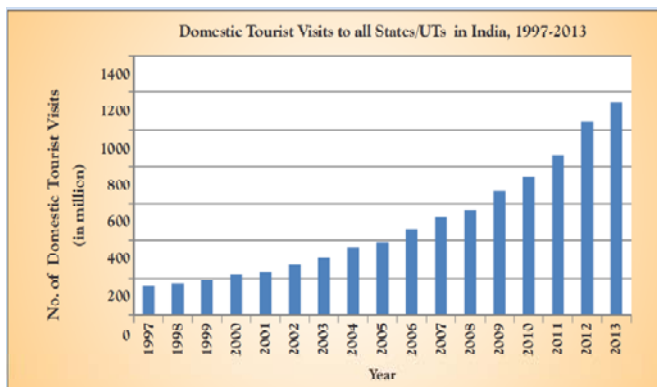
A healthy growth of 5.9% was recorded in the year 2013 taking the number of foreign tourists visiting India to 6.97 million which is well ahead than the average growth rate of 5% all across the globe. The outbound tourists were recorded at 16.63 million during the same year. The domestic tourism became the largest share holder of the Indian tourism in 2013 and saw an amazingly high Fig. of 1145 million domestic tourist criss-crossing India.

Table 1: Foreign Tourist Arrivals in India



Source: India Tourism Statistics, MoT, Govt. of India.

Table 2: Foreign Tourist Arrivals in India



Source: India Tourism Statistics, MoT, Govt. of India.

About Andaman & Nicobar Islands

Geographically, the Andaman Islands are located in Bay of Bengal at 92° to 94° East Longitude 6° to 14° North Latitude covering a total area of 8,249 sq.km. out of which Andaman Islands are spread across 6408 sq.kms. and the Nicobar is in 1841 sq.km.. Andaman & Nicobar Islands are a chain of 572 islands stretching 700 kilometers in length and 52 kilometers at the maximum width. The largest islands in the archipelago are North Andaman, Middle Andaman, South Andaman, the

deceptively named Little Andaman, and Great Nicobar. International tourism is not permitted in the Nicobar Islands and domestic tourism is only allowed if a special permit is obtained. Middle Andaman is the largest island in the archipelago covering 1536 square kilometers [20-21]. Out of 572 islands, only 37 are inhabited and the altitude varies from sea level to 732 meters, highest being Saddle Peak (North Andaman Island, 732 Meters) in Andaman Islands and Mount Thullier (Great Nicobar Island, 642 Meters) in Nicobar Islands. These islands have an extensively thick Forest Cover of around 92 % and the climate is tropical and humid. Humidity ranges between 70% and 90% with a gentle breeze blowing at all times. The weather is generally pleasant with a minimum temperature of 23°C and maximum 30°C. Heavy rainfall is received in these islands with an annual average of 3000 mm and the relative humidity remains at about 70% to 90%.

Tourism industry on the Andaman Islands is quite young as they have only been liberated in the past sixty six years. The island chain was ruled by the British Empire and was used as a penal colony from the mid 1800s. In 1942 it became a Naval Base for the Japanese Military, and finally gained independence in 1945 [22]. The biggest resources for these beautiful islands are their natural habitat. The sandy beaches and thick, dense and sub tropical forests as well as the flora and fauna that inhabit them, are significant attractions for tourists. However, the islands also have a dark side in the history arising out of the British and Japanese rule and this historical element and this historical element attract good number of international as well as domestic tourists [23]. Tourism industry has grown manifolds in last couple of decades and there are good numbers of standard tourist facilities and has a vast range of amenities which are capable to cater to any tourist segment but unfortunately, barring few, most of the islands lack in infrastructure such as roads, proper waste disposal etc. which have not advanced proportionately.

Domestic tourism is the largest section of the Andaman Islands tourism industry at 243703 visitors in 2014. Foreign arrivals for the same year were just over 6% of domestic visitors and accounted for 14742 visitors. Although the growth was small, there has still been positive growth in tourist arrivals from 2013 which saw 240607 domestic travellers and 17811 international tourists (Table 1). The industry has proved resilient to natural disaster and has more than doubled since 1980 [24].

The inhabitants of the Andamans are a mix of nationalities. Some natives of the Andamans have a likeness to the Australian Aborigines and others are of a Mongoloid origin. There are six ethnic tribes still living in the Andaman and Nicobar Islands: Jarawas, Great Andamanese Onges, Sentinelese, Nicobarese and Shompens. Hindi, the mother tongue of 15% of locals, is the most commonly spoken language in the Andamans with the other 85% divided between around 24 different languages including Tamil,

Malayalam and Urdu. However, English is the official language [25]. The population of the Andaman and Nicobar Islands is 379944 (Census 2011) with a high literacy rate of 86.27%.

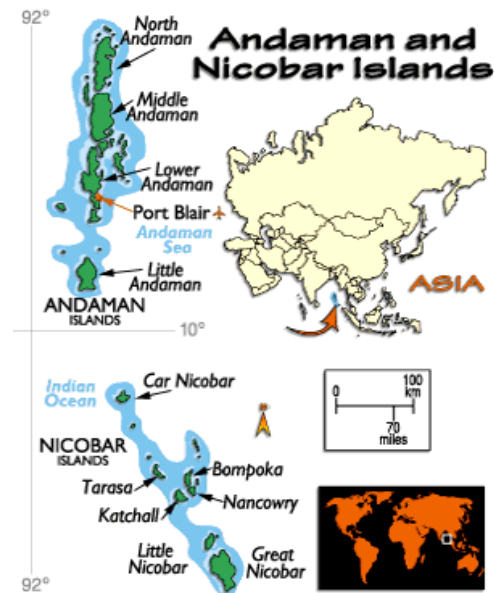


Fig. 1: Map of Andaman and Nicobar Islands

Table 3: Tourist Arrivals in A & N Islands

Year	Number of Domestic Tourists	Number of Foreign Tourists	Total number of Tourists	Difference over previous year (%)
2014	243703	14742	258445	0.01 (P)
2013	240607	17811	258418	5.17
2012	230732	14981	245713	12.69
2011	202221	15814	218035	11.59
2010	180781	14615	195396	25.47
2009	142042	13684	155726	14.15
2008	123914	12512	136426	(-) 7.19
2007	136015	10975	146990	15.11
2006	118648	9051	127699	294.36
2005	30225	2156	32381	(-) 70.45
2004	105004	4578	109582	11.61

Source: Department of IP&T, A&N Administration.

(P) – Provisional

Havelock

The island is named after a British General, Henry Havelock. With an area of 113.93 km², it is the largest of the islands that comprise Ritchie's Archipelago, a chain of islands to the east of Great Andaman in the Andaman Islands. Havelock is situated 57 km north east of the capital city, Port Blair. It is one of the few places that the administration of the Andaman and Nicobar Islands, India has permitted and encouraged development of tourism, with a focus on promoting eco-tourism. Havelock Island avoided much of the devastation by the 2004 Indian Ocean earthquake and its resulting tsunami,

and there were no documented casualties. On the western coast of Havelock island lies "Radha Nagar" Beach, which is one of the most popular beaches on Havelock and was named "Best Beach in Asia" by *Time* in 2004[26]. Other notable beaches include Elephant Beach on the northwest coast and Vijaynagar Beach, Beach No. 3 and Beach No. 1 on the east coast. Kalapathar is another famous beach. This island is frequented by almost every tourist visiting Andaman & Nicobar Islands and has got a wide range of tourism products. The island has got the products which are enjoyed and liked by the honeymooners along with the products desired by the adventure tourists who believe in water sports, scuba diving, snorkeling, fishing, etc. Havelock is considered as one of the best diving sites in the South-East Asia and has got many diving sites suiting the taste and level of divers.



Fig. 2: Diving sites at Havelock Island

4. RESEARCH FINDINGS & DISCUSSIONS

Table 4: Demographic Profile of Tourists

Variable	%age	Mean	Standard Deviation
AGE			
Below 18	08	2.41	.827
18 – 35	40		
36 – 50	28		
Above 50	24		
GENDER			

Male	60	1.2	.483
Female	40		
MARITAL STATUS			
Married	80	1.3	.524
Unmarried	20		
EDUCATIONAL QUALIFICATION			
Non Metric	1	3.76	1.867
Metric	8		
Intermediate	17		
Graduate	45		
Professional	29		
OCCUPATION			
Government Service	42	2.51	1.432
Private Service	27		
Business	21		
Others	10		

The table above shows the age of the respondents and it can be interpreted that about 8% were below the age of 18 years; 40% were between the between 18 to 35 years; 28% were between 36 to 50 years and 24% of them were above the age of 50 years. It was also recorded that 60% of the respondents were male and 40% of the respondents were female. The table shows the data of the marital status of the respondents and it was observed that 80% of the visitors to be married while only 20% of them were unmarried. The table above also shows the qualification of the respondents and it was observed that there were 1% non – metric, 8% metric, 17% intermediate, 45% graduate and 29% with professional qualifications. The data recoded also revealed that 42% of the tourists were government employees, 27% were employees of private companies, 21% were businessman and 10% were from other professions.

The following table (Table – 5) represents the information related to the present visit of the tourists. It was observed that 39% of the tourists were inclined towards Dive Tourism whereas 12 % had an inclination towards Leisure Tourism, 34% were here for Nature Tourism, 11% for Adventure Tourism and 4% were not clear of the tourism types. 32% of the respondents were travelling individually and 68% were travelling in a group. 63% of the visitors were here along with their family members, 21% with their friends, 5% were on a tour, 9% were with a tour group and 2 % were all alone. 71% of the respondents showed their concern about the approachability of whereas only 29% said that it was easy to approach. 36% of the tourists were here as day visitors whereas 42% were here for 1-2 days. 18% of the tourists were here for 3-4 days and 4% of the tourists were here for 5 or more days. 7% of the respondents have reached here by mode of air (sea plane), 43% by ships (government owned) and 50% by cruise (privately owned). 66% of the respondents were found to be staying in the hotels (includes all types of hotels and resorts along with tentage accommodation provided by hotels on their private beaches) where as 34% have managed their bookings in the guest houses of the locality. 37% of the visitors judge the available accommodation as good, 44% as

fair and 19% of the respondents judge the available accommodation as poor.

Table 5: Details of Present Visit of the Tourists

Variable	Percentage	Mean	Standard Deviation
PURPOSE OF VISIT			
Dive Tourism	39	2.63	1.36
Leisure Tourism	12		
Nature Tourism	34		
Adventure Tourism	11		
Don't Know	4		
TRAVELLING INDIVIDUALLY / GROUP			
Individually	32	1.74	.431
Group	68		
ACCOMPANYING MEMBERS			
Family	63	2.040	.876
Friends	21		
Tour	5		
Group	9		
Others	2		
EASY TO APPROACH			
Yes	29	1.72	.552
No	71		
LENGTH OF STAY			
same day	36	1.91	.914
1-2 days	42		
3-4 days	18		
5 days or more	4		
MODE OF TRAVEL			
By Air	7	2.45	.398
By Ship	43		
By Cruise	50		
ACCOMMODATION TYPE			
Hotels	66	1.57	.794
Guest House	34		
ACCOMMODATION QUALITY			
Good	37	1.38	.443
Fair	44		
Poor	19		

The following table (Table – 6) represents the information related to the level of awareness amongst the dive tourists visiting the study area. It was observed that 62% of the visitors were already aware about Havelock being a dive destination whereas 38% of the tourists were not aware about this fact. 57% of the total respondents were visiting to enjoy a dive as against 43% who were here because of other interests. A majority of the share with 56% of the respondents have already enjoyed diving before whereas 44% of the tourists had not been through diving before. 34% of the tourists were repeat guests whereas 66% were visiting Havelock for the first time. Of the total surveyed population

Table 6: Awareness about Dive Tourism

Variable	Percentage	Mean	Standard Deviation
Are you aware that island is famous for dive tourism?			
Yes	62	1.723	.467

No	38		
Have you come here for dive tourism?			
Yes	57	1.912	.442
No	43		
How many times have you been to diving?			
Once	21	3.265	1.360
Twice	17		
Thrice	12		
More	6		
Not even once	44		
Have you been to this island before?			
Yes	34	1.778	.402
No	66		
How did you become aware of this dive destination?			
Family & Friends	11	3.131	1.928
Electronic Media	4		
Print Media	7		
Travel Agents	31		
Web portals	36		
Others	11		

Various facilities and amenities for the tourists were assessed in the following table (Table – 7). It was observed that the accommodation availability at the island was judged as 'very good' by 9%, 'good' by 26%, 'average' by 47%, 'poor' by 13% and 'very poor' by 5% of the tourists. The availability of information for the tourists was judged as 'very good' by 7%, 'good' by 17%, 'average' by 63%, 'poor' by 7% and 'very poor' by 6% of the tourists. 18% of the tourists were of opinion that the availability of dive operators at the island is 'very good', 56% opined it as 'good', 24% opined it as 'average' and 2% opined it as 'poor'. The availability of shops for local requirements was judged as 'very good' by 6%, 'good' by 12%, 'average' by 36%, 'poor' by 26% and 'very poor' by 20% of the tourists. The dining facilities available at the island were given 'very good' by 12%, 'good' by 31%, 'average' by 43%, 'poor' by 18% and 'very poor' by 6% of the visitors. The civic facilities and amenities were judged as 'very good' by 12%, 'good' by 38%, 'average' by 27%, 'poor' by 18% and 'very poor' by 5% of the tourists. 9% of the tourists were of opinion that the roads and support infrastructure at the island is 'very good', 11% opined it as 'good', 41% opined it as 'average', 27% opined it as 'poor' and 12% said it to be 'very poor'. The attitude of the locals towards tourists was given 'very good' by 15%, 'good' by 62%, 'average' by 15%, 'poor' by 6% and 'very poor' by 2% of the visitors. The cleanliness of the area was judged as 'very good' by 14%, 'good' by 59%, 'average' by 18%, 'poor' by 7% and 'very poor' by 2% of the tourists. 42% of the tourists gave 'very good' to their diving experience, 46% gave it a 'good' and 2% gave it an 'average'.

Table 7: Evaluation of facilities and amenities by tourists

Factors	Very Good (%)	Good (%)	Avg. (%)	Poor (%)	Very Poor (%)
Accommodation availability	9	26	47	13	5

Availability of information	7	17	63	7	6
Availability of Dive Operators	18	56	24	2	0
Shops for daily requirements	6	12	36	26	20
Dining Facilities	12	31	43	18	6
Civic amenities & facilities	12	38	27	18	5
Roads & Infrastructure	9	11	41	27	12
Attitude of locals	15	62	15	6	2
Cleanliness of the area	14	59	18	7	2
Diving experience	42	46	2	0	0

After a long discussion with the tourists on all points mentioned in the above tables, an attempt was made to understand their overall experience of the destination. The observations are recorded in the following table (Table – 8). 68% of the tourists interacted were of opinion that they are going back as satisfied tourists and they have completely enjoyed their visit as against 32% with a negative answer to it. The tourists enjoyed this place to the fullest and 73% said that they will recommend this destination to their friends and relatives as against 27% of the tourists who said that they will not recommend it to their known ones. Despite of the location disadvantage and poor connectivity, 54% of the tourists are of opinion to come back where as 46% replied in a negative..

Table 8: Overall Experience

Statement	Yes	No
Are you going to go back as a satisfied tourist?	68%	32%
Will you recommend this destination to your friends and relatives?	73%	27%
Will you yourself come back again with more time to spare?	54%	46%

The study reveals that the study area is a very popular destination amongst the tourists and in fact, it has become a synonym for Andaman & Nicobar Islands as a whole. The destination is mainly famous for its white sandy beaches (Radhanagar & Kalapathar), jungle treks (Vijaynagar), cycling (Main market), sunrise and sunset points rather than being known for its diving sites. The domestic tourists visiting here are mainly interested in enjoying other activities like snorkeling, water sports, etc and very few of them would like to go for diving. This is mainly because of the fear factor followed by the pricing factor involved. The destination is very much popular amongst foreign tourists mainly Israelis and Eurasians. Many of the accommodation units, dive centers and market establishments are totally dedicated for the service of foreign clients and they have recruited the employees who are well conversant in foreign languages. The destination is gaining much popularity amongst the divers and young enthusiasts for all sorts of tourism activities.

The basic tourism infrastructure is quite alright in the island and majority of the tourists were satisfied with the level of services provided but road infrastructure of the island needs to be more strengthened. The connectivity of the island from the capital city of Port Blair needs to be improved as the boats, ships and cruise operated by government operator seems to be insufficient and people generally do not get the tickets or they are forced to travel in private boats or cruises. This problem results in shortening of the visit of the tourists thus are reducing the average expenditure of the guests. Also, this leaves a guest dissatisfied.

Trained guides and certified divers are available in this island for the tourists who are fluent in more than one language and hence, provides a unique opportunity for tourists to understand the flora, fauna and under water phenomenon in their native language. But regular trainings for service providers is required at short intervals. Capacity Building exercises needs to be taken along with the arrangements to fight the natural disasters. To ensure the successful development and continued support for dive tourism, it is important to involve the local community from the beginning to ensure a sense of ownership and a level of responsibility.

5. CONCLUSION & RECOMMENDATIONS

The Havelock Island is unique in its natural wealth and have all the qualities to attract high value dive tourists and has got the potential to compete with any of the dive locations all across the world, to generate a substantial volume of income to the local people of the study area.

In short, we can conclude that the study area has a huge potential for marine tourism development. But there is a need to develop basic support infrastructure like roads, lighting, accommodation units, connectivity, interpretation center, museum showcasing the natural heritage in the region. Also, the other components like branding and packaging, marketing campaigns skill development programmes for stake holders, etc are must for the development of the destination in a sustainable manner.

1. The connectivity from the capital should be improved.
2. Private operators should be given options to carry out eco tourism activities near Radha Nagar beach, Elephanta beach and Kala Pathar beach.
3. Attempt should be made to increase the length of stay of the tourists.
4. Forest department or Marine department should develop a museum at local level to showcase the natural heritage which will create awareness amongst the visitors.
5. Various activity specific itineraries should be developed by the government agencies and should be marketed well.
6. The local administration along with Ministry of Tourism, Government of India should create awareness campaigns in all the leading fairs across the country and worldwide.

7. Unlike other states, the Andamans should run an advertisement campaign on the national television for the general public.

By implementing the above recommendations, the government can promote the tourism in the islands in a big way which will be beneficial for one and all.

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