

# Projections for Quang Binh tourism and solutions for a sustainable economic development

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**Abstract.** Today, Quang Binh province is focusing its economic development on tourism industry. However, Quang Binh so far has not owned any concrete tourism projection for each region of the province as well as any overall economic projection for the province. Therefore in this article, the group of authors starts out to put forth projections for the province's economic development based on a panorama of sustainable economic development. The projection's basis mainly depends on the important tourism resource patterns: world natural heritage, projections for woodlands outside the heritage, projections for an agricultural zone, projections for an industrial urban zone, projections for sand banks and beaches. In this article we will mainly focus on the economic tourism development centers.

- The World heritage, National Park Phong Nha – Ke Bang area including the proterozoic forest zone and the buffer forest zone in which tourism economy development gets along with forestry economy.

- Sandy bar and beaches area with patterns of eco-farming economy and eco-family unit economy within sand banks, improving and projecting high-class beaches.

Hence, the projection for development of Quang Binh's tourism mainly base on its resources' characteristics, regional potentials of tourism development in order to build up tourism centers in the province.

*Keywords:* Phong Nha-Ke Bang National park, Quang Binh's tourism, economic development.

## 1. Introduction

Sustainable tourism development projection is a particular subject for Quang Binh in an overall projection to sustainable development of the province. At the moment those who are in charge and the policy makers, from the government or from the province, have not

received in hands any overall projection maps and any detailed projection maps for any arena of economic development, such as projection maps for tourism, for agriculture, for industry, for transportation, and for posts and telecommunications... In other words the overall projection maps and the partial projection maps are a prerequisite scientific foundation, and a demand for drawing out economic development strategies in the province and in the region. From which we will

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put forward suitable economic models and investment projections to boost the economy systematically. It means that the economic patterns invested and evolved within the region are neither a matter of their own nor are equalized to each other but they are classified in different ranks of privileges as a result of different specific natural strengths, environmental resources, historical and cultural features of a community, as well as there is a

systematically strong association between them. Thus, in order to archive a sustainable development for Quang Binh it is necessary to establish several types of economic projections of the province and several other projection maps of different fields of study, in which the tourism projection map is the centerfield because this field is considered as the key industry in economic development for the whole province.

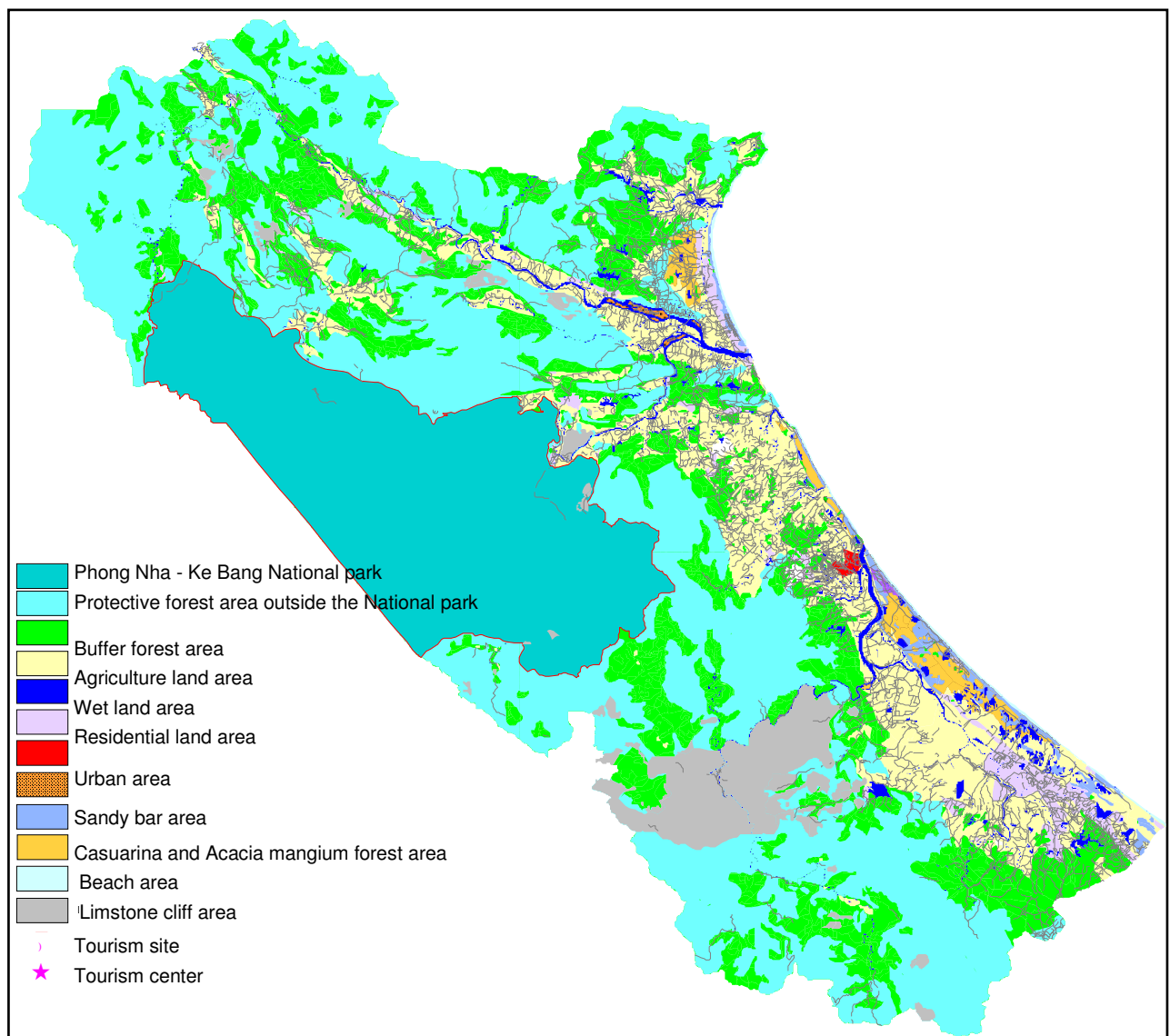


Fig.1. Planing scheme map of Phong Nha – Ke Bang Natinal Park area.

## 2. Projection for the world natural heritage zone

Projection for the heritage zone consists of the proterozoic forest zone and the buffer zone. The most privileged principle for the Phong Nha – Ke Bang National Park area is to preserve and maintain biological diversity values, national grandiose scenarios and world heritage values. Including directions for sustainable tourism development for the National Park are:

- A demand for a connection and coordination between preservation and tourism development, which means well-done preservation activities will contribute to upholding tourism resources. In contrary, tourism activities bring in wealth to contribute to the conservation mission as well as contribute to guarding the treasures of the national park (for example, building a geology park). In other words, tourism activities should be exploited only within the scope of availability provided by the national park.

- Building tourism routes: new tourism patterns not only increase the variety and attraction of the tourist site but also tempt the tourists to stay long.

- Combining tourism development with forestry projections: seed germinated gardens, wild animals' rescue depots, growing timber, raising bees, combining with land and forest delivery policies for the people who will take care of them.

- + Strict preservation of the original values of the natural park in the core zone.

- + Growing timber in the buffer zone and along river Son's banks.

- + Deploying bee raising models to get honey, creating jobs for the farmers living in the national park's vicinity.

- Having right consciousness of the role of the local community in participating in tourism activities and protection of local resources, making it easy for them to engage in tourism activities.

- + Building mechanisms encouraging the community to take part in tourism activities, making use of the efforts of the locals to maintain the resources for the long-time great economic benefits of all the people.

- + Creating good conditions helping locals to take part in tourism, by training local human resources, encouragement of manufacturing of the locally traditional products like leaf cones, handicrafts made from bamboos, ...

- + Shifting of jobs for a few groups of locals who are now exploiting stones in the national park's vicinage, restraining of exploitations of forest products (wood, log, etc)

- Carrying out an education program for the tourists, increasing their consciousness in protecting wildlife and environmental preservation.

- + There are many models applied to handle and cultivate tourists' acts according to any tourism patterns in the world. Building a center for environmental explications is commonplace, distributing leaflets, video conferences... about the areas and the values of great attraction. From that, the tourists' attention might be drawn to the prearranged goals and their consciousness improved.

- + Another way, that is to train tourist guides for every type of tourism, one goal is to create more attractive tours and the other goal is to let

the guides be more capable of handling with the tourists.

### 3. Projecting the forest land, where are not in the heritage area

The buffer forest: Those are the areas more than 200m high with steepness more than 250.

Growing timber: areas lower than 200m next to the plains.

Two types of forests have a role in increasing the thickness of the vegetable matter, also they will bring in wood supplies, paper supplies and other forest products for the region. And bee raising models as well as entrusting forest land to the people is also an appropriate solution for the region.

### 4. Projecting an agriculture area

Agricultural area is small, which is suitable for planting short - term and middle - term plants:

Fruit-trees such as: coffee tree, rubber tree,...

Plains' land for planting rice-fields

Planting vegetables in less fertile land (sand soil, hill soil, ...)

### 5. Projecting urban and industrial area:

Urban areas are projected in accordance with residential quarters, the projection issues that require attention include: urbanization development space, infrastructure (projection of water sources, space for transportation roads, telecommunications), firms, industrial zones.

## 6. Projecting sandy bars, beaches

### 6.1. Projecting the sandy bars area:

1. *Purpose:* Turning the white arid sandy bar into eco-family unit's economic system and ecological economic tourism system.

#### 2. *Fundamental solutions:*

- Planting casuarinas, 2 critical rows along the shore and the adjoining range between sand banks and fields to prevent seashore erosions, storms, flying and flowing sand.

- Digging lakes on the sand (re-delving the lagunes and the ponds that have been filled up by wind and sand), increasing the air moisture, adjusting the microclimate.

- Planting specific trees around the lakes (mostly acacia mangium) creating a higher cover rate, raising the moisture and humus in sand.

- Building roads along the seashore and also on white sand.



Fig. 2. Spa resort beach south of Nhat Le estuary, Quang Binh (Ta Hoa Phuong, 2006).





Fig. 3. Beach and sand bank south of Nhat Le estuary, Quang Binh (Ta Hoa Phuong, 2006).

3. *The ecological economic system models for sandy bar and beaches:*

a. Beach model:

- Investing in upgrading beaches to meet the standards.
- Building specific guesthouses by the seashores to serve tours.
- Expanding an economy focusing on service and tourism.

b. Raising ostrich model:

- Digging lakes on sand
- Growing acacia mangium
- Building technical and management workshops
- Building farms and playing grounds for ostriches.



Fig. 4. Pictures of ostrich raising farm models at Ba Vi – Ha Tay, where there is not appropriate conditions for raising ostriches so it is compensable to carry sand from seashores to create artificial sand banks for the ostriches (Tran Nghi).



Fig 5. Ostrich raising farm on mountain Ham Rong, Sa Pa, Lao Cai (Nguyen Thanh Lan).



Fig. 6. Riding on an ostrich at farm Vinh Sang, Vinh Long (M.P.H).

c. Family unit's eco-system economic models

A farmer's family unit is a basic unit ( Dang Trung Thuan, 1999)

- Entrusting land to the locals up to 50 years according to current policies, consistent with the characteristics of the wild sand banks.

- The steps each family should take are as follows:

+ Choosing a suitable campus: area, terrain.

+ Digging ponds for fresh water: this is a critical condition to determine the survival of a family living on sand.

+ Growing acacia mangium pursuant to the projection, mixed with fruit-trees, transforming cultivation land into a new ecological system: around houses and ponds, with trees and vegetable gardens.

+ Each family can successfully carry out raising ostriches,



Fig. 7. eco-family unit's sand-bank economy model at Trieu Phong (Quang Tri) (Ta Hoa Phuong , Tran Nghi, 2006).



Fig. 8. eco-family unit's sand-bank economy model at Trieu Phong (Quang Tri).

4. Sustainable development solutions for sandy bar

Catastrophes can usually happen to the sandy bar, affecting the economic development activities as well as ascertaining the success or failure of the model. Therefore, it is necessary to find out the solutions to diminish the catastrophes and transform the sandy bar to satisfy the sustainable economic tourism development goals.

a. The solution of planting casuarinas along beach by 2 line

- The outer forest route: planting in the line between the beaches and the sandy bar. This forest row must reach the size of 300m to 2km. This is the most important defending beach row that will critically determine the sustainable projection effect of the sand banks. It is very hard to plant casuarinas so it is advisable that the locals plant them repeatedly and patiently. In case they survive they prove to be the only type of plants that can live in sand, can bravely stand and resist the storms, beach erosions and the movement of wind and sand. The people of Quang Binh call the casuarinas forest “the hero who always stand in front of wind and waves” which gives peace to the people.

- The inner forest route: lies between the sandy bar system and the fields. This casuarinas forest is the second defense line which contributes to reducing the speed of wind before it reaches the residential areas. This line also plays an important role in reducing flying sand and sand floods that often overflow into the fields and the locals’ houses. The inner casuarinas forest must be big enough in scale so that it can resist the storms level 8 upwards.

So, in order to grow the 2 casuarinas rows mentioned it is obliged that we have 3 conditions:

- Right consciousness from the policy makers and the overall project for the whole province, of which the sand bank along the seashore is a component.

- The project for growing casuarinas must be considered as a central project, must be prepared before hand and must be considerably invested.

- Educating, training levels of professional competence, increasing awareness of protecting the beach casuarinas forest for every local.

b. Transformation sandy bar and building up ecology – tourism models

- Building lakes from ancient lagunes: below the sand banks is the place where the seashore’s sand dykes and ancient lagunes mutualize, therefore it is compulsory to re-discover the locations of these lagunes in order to build the fresh water lakes. These fresh water ponds themselves used to be the open water lagunes connecting with the isolated ancient sea water since long ago, the sand dykes from time to time covered the gates then they were transformed from brackish water ponds to fresh water ponds. The water levels of these ponds rise up and down differently in each season however they never get dried out because they are nourished by the water source inside the sand banks and sand dykes, typically Bau Tro and the ponds at Sen Thuy.

- The oval-shaped, sausage-shaped and stomach-shaped terrains of the sand valleys, which are the archeological sites of ancient lagunes that had been isolated and covered by sand, now will reproduce water when re-dug. The task of re-digging the lagunes in order to build fresh water lakes can be easily carried out with little expense by utilizing excavators, bulldozers, and even by hand.

- After that, the lakes will connect to each other to be sceneries of sandy ecological systems and will subject to the projections conformed to the models mentioned above.

Each ecological scenic unit must have at least one fresh water lake. The outer circle of the campus must be protected by a secondary casuarinas forest. Suitable perennial trees, fruit trees must be planted onto the soil and the sand



around the lakes to improve the thickness of the vegetational cover, and also to protect the underground water, lake water and to balance the climate, the moisture of the eco-system.

- The raising farms and family's unit eco-farms will particularly carry out 3 goals: supplying important ostrich food, luring the tourists, and also fulfilling one wish that the people of Quang Binh have not achieved for hundreds of generations: that wish is to turn the wild places at the seashores that often threatened the people's lives into an tourism-economy zone that brings benefits to the people.

6.2. Research plan solutions and establishment of high-standard beaches

1. The criterions to research, basic investigations into the beaches of Quang Binh

- Defining the geology structure, distribution scale and the thickness of sediments, average of grain size (Md), sorting, quartz rate (%).
- Beach height (above the tidal flat), beach depth (below the tidal flat) when the tide is up and down.
- The steepness of the beaches.
- The speed of the current when the tide is up and when it is down.
- Is there any whirling water when the tide is retreating?
- The quality of sea water: salinity, clarity, environmental quality.
- The energy of the waves.

Table 1. The criterions valuing the beaches (Pham Trung Luong, 2001)

Width of shallow beaches (m)		Bottom base of the shallow beaches		Number of summer days with average daily water temperature 18 <sup>0</sup> -20 <sup>0</sup> C		Current speed (m/s)		Square's percentage ratio of onshore water vegetation, 100m from water edges	
Characteristics	Ranking levels	Characteristics	Ranking levels	Characteristics	Ranking levels	Characteristics	Ranking levels	Characteristics	Ranking levels
>100	4	Sand	4	80	4	0	4	0	4
40-100	3	Gravel	3	60-80	3	0-1	3	0-10	3
20-40	3	Pebble	2	50-60	2	1	1-2	10-50	2
10-20	1	Clay	1	30-50	1	2-3	1	50-80	1
<10	0	Mud	0	30	0	3	0	80	0

2. Project and construct the beaches

- Building a multi-step sea dyke system to prevent erosions and let the beaches' sceneries be specific.

- Building the hotels, guesthouses and services for things such as catering service, entertainment and relaxation in the casuarinas forests near the beaches.



Table 2. The criteria classifying the quality of the beaches in Quang Binh

Order	Name of the beaches	Length (m)	Width(m)	Mud/sand	Sand thickness (m)	Steepness	Clean sand (Md/So)	Water quality <sup>(*)</sup>	Beach quality <sup>(*)</sup>
1.	Bao Ninh	5000	150-200	5/95	>20	<1 <sup>0</sup>	0.2/1.1	Cleary + Clean	Very good
2.	Nhat Le river mouth	2000	100-150	8/92	>15	<2 <sup>0</sup>	0.15/1.2	Cleary + Clean	Average
3.	North Nhat Le river mouth (Quang Phu)	5000	150-200	5/95	>10	<1.5 <sup>0</sup>	0.2/1.1	Cleary + Clean	Good
4.	Ngu Hoa, Ngu Thuy (Le Thuy)	8000	150-200	3/97	>30	<1 <sup>0</sup>	0.2/1.1	Cleary + Clean	Good
5.	Da Nhay (Ly Hoa)	3000	100-150	3/97	1-10	<2 <sup>0</sup>	0.2/1.2	Cleary + Clean	Good
6.	North of Gianh river mouth (Quang Trach)	3000	100-150	3/97	>30	<1.5 <sup>0</sup>	0.5/1.2	Cleary + Clean	Good
7.	Canh Duong	4000	150-200	3/97	10-20	<1 <sup>0</sup>	0.2/1.2	Cleary + Clean	Very good

<sup>(\*)</sup> Environmental status report of Quang Binh, 2004 [2]

## Conclusions

Developing a tourism economy is a spearhead in order to improve and boost the economy of Quang Binh based on the advantages of tourism such as world heritage zone national park Phong Nha – Ke Bang, the sand banks and the beaches. For this reason, projecting tourism is included in projecting for economic development of the whole province, focusing on these two targets, step by step, is to bring Quang Binh's tourism to a fast and sustainable development, a spearhead of sustainable economic development for the whole province.

Based on that standpoint the group of authors has built up the specific tourism-economy models, that is: tourism in coordination with forestry applied in the Heritage zone and building up a family unit's ecological economic system on the sand banks

together with raising ostriches, camels, making it easy to develop both agriculture and tourism by inviting tourists to farms, and to develop economy. The beach zone tourism model along with goals to upgrade the beaches in the region has become more attractive and appealing to the tourists.

## Proposals

- It is obliged to complete the overall practicable planing scheme map and the practicable tourism planing scheme map.

- Projection of the seashore's sand banks in order to improve the sand banks and also to safeguard the beaches is an urgent mission in order to turn this place, which is endangered to environmental risks, into specific tour resources.

- It is compulsory to show a revolutionary consciousness in estimating tour capacity, economic development, sustainable tourism and generalization of GIS technology in managing tourism network of the province and travel in the Middle Part of the country.

- Calling upon the investors to invest in the projects and carry on business in accordance with the overall projection orientations and sustainable tourism projections.

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