

Shibabrata Choudhury, Rajive Mohan Pant, Saibal Chatterjee,  
and Asha Nanding

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## Abstract

The purpose of this study is to determine the potentiality of destination branding through bio-tourism in Ziro of Arunachal Pradesh. The study has focussed on various aspects of the bio-tourism such as the scope for bio-tourism, selection of site for bio-tourism project, and features of bio-tourism project. The data was collected through secondary sources as well as through interview of various officials of the Department of Tourism, National Information Centre, and personnel of *Bulyang* (local governing body). Research design proceeds in an orderly and specific manner. A formal study type was being adopted to find out the answers for the research questions. Collected data was analysed by observed vis-à-vis expected value of attracting tourists of various districts of Arunachal Pradesh.

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## Keywords

Destination branding • Bio-tourism • Ziro

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S. Choudhury (✉) • A. Nanding  
Centre for Management Studies, North Eastern Regional  
Institute of Science and Technology, Nirjuli 791109,  
Arunachal Pradesh, India  
e-mail: [shibabrata.choudhury@gmail.com](mailto:shibabrata.choudhury@gmail.com)

R.M. Pant  
National Institute of Rural Development and Panchayat  
Raj, Guwahati, Assam, India  
e-mail: [rajivenerist@gmail.com](mailto:rajivenerist@gmail.com)

S. Chatterjee  
Department of Electrical Engineering, North Eastern  
Regional Institute of Science and Technology, Nirjuli  
791109, Arunachal Pradesh, India  
e-mail: [sc@nerist.ac.in](mailto:sc@nerist.ac.in)

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## 21.1 Introduction

Ziro valley is situated in the Lower Subansiri district of Arunachal Pradesh. It has been shortlisted for world heritage site tentatively on 12 December 2012 because of its scenic beauty. Ziro is surrounded by hillocks, lush paddy fields, pine grooves, and bamboo grooves; it has been blessed with rich flora and fauna Elwin (1965). Ziro is an exemplary case for indigenous biodiversity through the optimum utilisation of land areas. For years, wet rice cultivation along with fish cultivation in the same land is being practised.

Conservation of the forest is something in the blood of the local people of Ziro. This in turn allows perennial watershed for the daily usage of the peoples of the locality. Concern for nature can be transferred to other outside tourists too, which in turn will allow generating new exposure in terms of knowledge and economy for Ziro. Tourism is generating a high income and works as a pool of employment generation as it is considered as the world's most fast-growing industry in the world. Tourism helps in increasing the economic value of the destination as investments are made in the area which in turn can act as a source to generate employment and income of the people residing in that particular destination as demand for accommodation, food, transportation, and entertainment increases. In bio-tourism, people are more concerned with protecting the environment so any changes made to modify or beautify the landscapes are done taking into consideration that minimum harm is imposed on the environment. It is assumed that bio-tourism will give a positive image of a destination. The image problem of a nation or place is due to some serious political and socioeconomic troubles of the place. Facial makeup can only give temporary relief and not a permanent solution to this sort of identity crisis Fan (2006). The prevailing climatic conditions may make this territory suitable to become the bio-tourism hub of India.

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## 21.2 Literature Review

A brand is a product or service made distinctive by its positioning relative to the competition and by its personality Hankinson and Cowking (1993). A nation brand comprises many factors such as place (geography, tourist attractions), natural resources, people (race, ethnic groups), history, culture, language, political and economic systems, infrastructure, famous people, and picture or image Fan (2006). The branding principles are applied intensely to the nations and places due to competitive environment at both domestic and market places. The place branding plays a vital role to allure tourists, industrial sectors, and skilled manpower enabling the country to have global competitive advantage Kotler and Gertner

(2002). Place branding due to a particular cause has also an impact on various industries of the region. A country's sporting achievement such as hosting an international event or winning a particular event also influences place branding. Every place has an image formed through education, travel, product purchase, immigration, or a combination of sources Papadopoulos and Heslop (2002). It was observed that the state which does not follow branding faces a difficult time in attracting economic and political attention Van Ham (2001). As per Stueve (2002), Newsome et al. (2012), geo-tourism or place-specific tourism will be the future's most prospective area. Tourism based on biology is made up of (i) environmental inputs, natural and associated culture of a particular place, and (ii) environmental outputs, net benefits for the natural and social environment Buckley (2003). Clifton and Benson (2006) also illustrated through the case study of Malaysia and highlighted the fact that through ecofriendly tourism, one can definitely project destinations of a developing country in a better way.

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## 21.3 Research Methodology

Research design proceeds in an orderly and specific manner. A formal study type was being adopted to find out the answers for the research questions. The required data during the study was obtained from the following two sources: secondary data was taken from various sources such as earlier similar research problems of Ziro and similar other places, the official brochure and website of the Department of Tourism (Itanagar), and websites of the Lower Subansiri government of Arunachal Pradesh. The primary data were collected through personal interview with the officials of the Department of Tourism and personnel of *Bulyang* in order to validate the research study.

### 21.3.1 Research Questions and Objectives

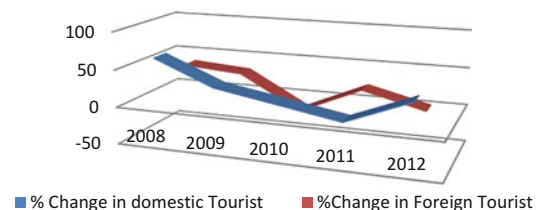
Frequent landslides do not allow free movements of vehicles in all seasons, as mountains of the region are made up of mostly alluvial soil. The

situation turns even worse during rainy season. Basic amenities needed to attract tourist such as accommodation, transportation, amusement, and quality of food score low as compared to any established tourist destination. Despite of all obstacles, the northeastern region of India is blessed with the scenic beauty of nature. Due to favourable climatic condition, it is the storehouse of many rare species of flora and fauna. There is a conflict between comfort of stay vis-à-vis exploring and experiencing the untouched serenity of nature. It will be a win-win situation for both tourists and destinations. It will enhance the learning for the outsiders, and at the same time it will create a scope for a higher human development index for the region. It can only be possible if a success story of a place can happen through supportive bio-tourism elements. This study considered Ziro, which is situated in the Lower Subansiri district of Arunachal Pradesh. Hence, it becomes a profound research question to establish Ziro as a destination brand in the map of bio-tourism. To satisfy the research question, the study makes certain objectives. Firstly, the study will make an attempt to analyse various bio-tourism components available with Ziro. Through various arguments, the study will focus upon how it will be beneficial with lowest-ever investment. In general, there is a notion amongst all stakeholders that tourism development needs huge infrastructure investment. This paper will highlight how bio-tourism contradicts with the general view. At times it may happen due to expansion of short term profit based hostile tourism results apprehension amongst the local inhabitants and supportive sectors. So, last but not least, the major objective of the study is to emphasise upon a sustainable holistic destination branding for Ziro through bio-tourism.

## 21.4 Present Status of the Tourism Sector of Arunachal Pradesh

The area of Arunachal Pradesh is bigger than the area of Assam and almost four to five times the area of other northeastern states of India. The state is bounded by Bhutan, China (Tibet) and Myanmar in the north and northeast and towers

above the plains of Upper Assam in the shape of a horseshoe. The vastness of the territory and the rugged, difficult, and inaccessible terrain have made it difficult for the socioeconomic benefits to percolate to the whole area. With an area of 83,743 km<sup>2</sup>. Arunachal Pradesh is the largest state of the northeastern region, and the annual rainfall per year is 3000 mm. More than 80 % of the area is covered by forest. Though Arunachal Pradesh can boast of 26 major tribes and numbers of subtribes, it has the thinnest population density in the country, which is 17 persons per sq km, and it is home to more than 600 varieties of orchids. The state has showcased its products on a regular basis in the international platform through participation in WTM (World Travel Market), London. Arunachal tourism in the clean India campaign has been conferred with the National Tourism Award 2011–2012. A special prize was also awarded for promoting tourism through the use of information technology. A survey was conducted by IPSOS in 2012, in which the state was voted favourite upcoming destination by Outlook Traveller magazine. It was also adjudged the fourth best region by Lonely Planet, BBC's globally circulated magazine, in 2012. The state has a mix of interesting offerings as tourist products. These offerings have the potential to cater to different categories of tourist market, namely, eco-tourism, culture tourism, adventure tourism, religious tourism, etc. It has immense potential to grow further in this regard. Infrastructure development in terms of better road connectivity, accessibility, and a proper distribution of the environment is critical to achieve this objective. The trend percentage of tourist inflows to Arunachal Pradesh (2008–2012) is shown in Fig. 21.1.



**Fig. 21.1** Trend percentage of tourist inflows to Arunachal Pradesh (2008–2012) (Source: compiled from Annual Report 2012–13)

The graph shows there is a growth seen as compared with the previous years. Mostly the tourists are domestic tourists comprising of 98 %. The state government-restricted entry policy prohibits many peoples to visit the place. From 2008 onwards there has been a declining trend; however, it has attained its normal status that of 2008.

## 21.5 Bio-tourism Destination Potential of Ziro

Ziro is the district headquarters of the Lower Subansiri. The place is surrounded by many beautiful scenic places. A unique variety of flora and fauna is also found in Ziro and its localities, due to which it claims it as the destination hub for bio-tourism. The favourable cold climate supports Ziro to be famous for rare orchids and other flowers like *Rhododendron arboreum*, *Hedychium ellipticum*, *Hedychium densiflorum*, etc. Some of the selected places are being listed in Table 21.1.

### 21.5.1 Recent Supportive Developments in Ziro

Arunachal Pradesh has a collection of around 616 germ plasms of rice from 1987 to 2002 Hore (2005). Ziro is often referred as the 'Rice Bowl of Arunachal Pradesh' Dollo (2007). The

place is popular for its unique pattern of land use, conservation of culture, and indigenous natural resource management approach Haimendorf (1962), Kumar and Ramakrishnan (1990). Nearly 158 plants are found in Ziro which have got medicinal values Kala (2005). The government of India has approved 11 travel circuits where foreign tourists can travel with valid PAP/RAP issued by the competent authorities, out of which the following two circuits cover the Ziro locality: (1) Itanagar-Ziro-Daporijo-Aalo-Pasighat and (2) Ziro-Palin-Napin-Sangram-Kaloriang. There are many improvements being seen in recent years in terms of accommodation. Many local entrepreneurs have started their hotels and resorts with all modern-day facilities. These facilities include multi-cuisine food, air-conditioned room, improvised western toilet facility, bathroom with shower, taxi service, tourist guide, and above all caring warm human touch in each and every activity. Some of the important hotels are Hotel Valley View, Hotel Laxmi, Hotel Blue Pine, Arunachal Guest House, Hotel Centre Point, and Hotel Pine Ridge. There is also the beautiful Siiro Resort and Pratigia Ziro Valley Resort. The Department of Tourism conducted a training programme for 20 candidates on how to run a successful homestay business. The participants were trained on homestay in Namchi and Maniram village, the most successful destination of homestay and rural tourism in Sikkim. Ziro has also adopted a very cheap homestay strategy with which many people can be able to

**Table 21.1** Nearby potential bio-tourism destinations of Ziro

Sl no	Place name	Brief description
1.	Kile Pakho	Hilltop view of Ziro plateau, as well as 'Nyime Pembu' (snow range of the Himalayas)
2.	Pine Grove	Dense pine forest located in close vicinity of Ziro. Pine forest is surrounded by the bamboo trees
3.	Talley Wildlife Sanctuary	Biodiversity hotspot located 32 km northeast of Ziro. Virgin forests with a varied flora and fauna that ranges from subtropical to alpine forests. It is covered with thick vegetations with a differentiating giant silver fir trees, a variety of rhododendron, orchids, ferns, and varieties of bamboo
4.	Ranganadi Hydel Project at Yazali	45 km away from the district headquarter, Ziro, with a capacity of 405 MW. This project shows a positive acceptance of inclusive growth through green energy
5.	Kiwi Hill	Kiwi Hill is located at Tajang Myolyañ, just two kilometres ahead of Pine Grove. Kiwi from this locality is of a wild variety

**Table 21.2** Recent projects/schemes of the Department of Tourism for the Lower Subansiri district, Arunachal Pradesh

Sl no	Year of sanction	Name of project	Sanctioned amount	Sources of funding
1.	2010–2011	Providing of external electric/water supply to aside amenity at Raga	8.955 lakhs	Special plan allocation
2.	2010–2011	Providing of external electric/water supply to aside amenity at Boasimla	8.955 lakhs	Special plan allocation

Source: Annual Report 2012–13

learn the local culture by staying along with the family members. The Department of Tourism of Arunachal Pradesh has implemented many improvement projects for the development of the local region. Table 21.2 gives a snapshot of these projects.

### 21.5.2 The Apatani People: Bio-tourism Through the Inhabitants of Ziro

Rai (2007) has established a close relationship between ecological and cultural aspects of a landscape. The inhabitants of Ziro are majorly of the Apatani tribe. The Apatani is the descendent of the Abotani ancestor. As per census starting from 1961 to 2001, the tribe comprises only 2–3 % of the total population of Arunachal Pradesh. The Apatani though lesser in number has got a prominent position in the various administrative posts of Arunachal Pradesh. Villages of the Apatani are fairly large, compact, and permanent. In recent years they are dispersed in order to avoid damage by fire accidents. Long patterns of housing made of bamboo and timber are found in Ziro. The traditional village administration and the enforcement of laws are the responsibilities of selected persons called the ‘*Buliyangs*’. They are selected from rich, influential people of the village. ‘*Buliyangs*’, without any expectation of personal benefits, render service to the village community. However, they are felicitated with the award of ceremonial gifts on various festivals. The Apatanis knew very well that their complex economy and the whole pattern could be maintained only if peace was maintained in the valley. This peace was ensured through the treaties of friendship between the

individual villages known as ‘*Dapo*’. Since the entire Apatani community depended mainly on agriculture, the management and use of land by Apatanis was done through a very well laid-down traditional land law system. Since the Apatanis were much individualistic in the possession of land, problems that arose from the encroachment were often solved with the help of ‘*Buliyangs*’. The individuals or the groups had the right to sell or purchase their property, and this depended on bargain between the sellers and purchasers. The roads, bridges, wells, burial lands, religious grounds, etc. were considered as public properties and no individual was permitted to cause any damage to them. If anybody had stolen or destroyed a public property, ‘*Dapo*’ was invoked. ‘*Donyi-Polo*’ indigenous religion practice is prevalent in the Apatani tribe by which they worship both sun and moon. The Apatani female can be distinguished from the rest of the tribes by their prominent tattoo marks; however, this practice is being abolished in the present system.

Like many other tribes of Arunachal Pradesh, the Apatani people are highly cooperative and mutually linked up by kinship, ritualistic, and friendship ties through ‘*Bunii Ajing*’. ‘*Daminda*’ and ‘*Pakhu-Ittu*’ are popular dances of the Apatani. ‘*Dree*’, ‘*Yapung*’, ‘*Myoko*’, and ‘*Murung*’ are major ritual ceremonies observed by the peoples of Ziro. ‘*Dree*’ festival is held for 3 days in the month of July when the young paddy plant grows in lush green after the transplantation. This festival which is observed with agro-religious purpose is of great significance to the Apatanis who are an advanced agricultural community. ‘*Myoko*’ is celebrated each year in the month of March in a cycle manner by

forming three groups, each comprised of one or numerous villages. Mostly all festivals are celebrated for better crop harvest; for protecting grain from hailstone, insect, pest, disease, and wild animals; and also for the wellbeing of individuals or community as a whole. ‘*Bunii Ajings*’ is a form of friendship between persons of different villages, which is inherited through generations. They are invited on ‘*Myoko*’ festival.

For their livelihood they depend on agro-forestry. The tribe like in other hilly areas are dependent on local forest for extraction of timber, bamboo, cane, fuel wood, and other non-timber forest products for their household requirements. They also collect material for the ritual ceremony, hunting, and rearing of mithun from the forest. Their proficiency is reflected in every sphere starting from home garden to wet rice cultivation. They are systematic just like present-day agriculture engineers in many ways starting from field preparation till the post-harvesting activities. All these indigenous practices of the Apatani are being mentioned in a tabular pattern (Table 21.3) to understand their stand on methodical agricultural engineering.

As per Kala (2005) land holding amongst the Apatani varies from 0.02 to 10 ha. The traditional cultivation pattern rice-cum-fish culture is considered as both sustainable and energy efficient Rai (2005). Apatani peoples are the best example of techno-managers. They achieve efficiency in agriculture through division of labour for various activities. Both male and female participate in the agricultural activities. For each group a specific group leader is appointed through the process of election/selection. The group leadership is on a rotation basis that gives freedom to choose the best possible option amongst all. For certain activities they elect a male as their group leader and for some it is female. There are certain activities where both male and female are opted to become the group leader. Types and working nature of traditional farmer groups of the Apatani tribe are given in Table 21.4.

The above table gives a glimpse of how they are organised in sustaining their agriculture in the diverse environment. This tribe is known for

**Table 21.3** Indigenous land use classification of the Apatani community

Sl no	Local name of land use	Description
<b>I. Forest</b>		
1.	<i>Bije</i>	Individual bamboo forest, mixed with pine
2.	<i>Sansung</i>	Individual <i>Castanopsis</i> or bamboo monoculture forest
3.	<i>Uru Moreh</i>	Subclan forest mostly mixed
4.	<i>Lemba Booth Morey</i>	Village forest and mixed vegetation forest
5.	<i>Polung</i>	Community or village grazing land
6.	<i>Rantee</i>	Sacred groves village land
<b>II. Agriculture</b>		
1.	<i>Ballu</i>	Home garden with different vegetables, pulses, chillies, and millet nursery
2.	<i>Yorlu</i>	Vegetable garden
3.	<i>Lyapyo</i>	Millet field
4.	<i>Jaebe-Aji</i>	Wet rice field with rice-cum-fish culture
5.	<i>Ahi-Amii farang</i>	Fruit garden (apples, pears, plum, etc.)
6.	<i>Ngyi su-per</i>	Fish pond for raising fingerlings for wet rice field
<b>III. Settlement</b>		
1.	<i>Neshu Nechang</i>	Granary for storing of rice, millets, etc.
2.	<i>Ude Nechang</i>	Household settlement
3.	<i>Pede Pilley</i>	Farmhouse
4.	<i>Alyi giiri</i>	Pig pen for rearing of pigs
<b>IV. Miscellaneous</b>		
1.	<i>Sukung</i>	Well for drinking water
2.	<i>Sugang</i>	Canal for irrigation purpose
3.	<i>Lenti lenda</i>	Road for communication purpose
4.	<i>Killey</i>	River

Source: Dollo et al. 2009

their uniquely evolved wet paddy cultivation along with pisciculture in the same area. Wetland rice cultivation is accomplished in terraces in which hill streams are trapped and subsequently channelized into primary, secondary, and tertiary networks for the availability of water in the terraces. Through bamboo or wooden pipes, water reaches different terraces. They maintain the water level for the pisciculture to be alive when the field is drained off especially in the grain maturity stage. Reena and Nani (2014) has undertaken a research work on cost-benefit

**Table 21.4** Types and working nature of traditional farmer groups of the Apatani tribe

Sl no	Local name of group	Local name of group manager	No of households of group	Description about the group	Activities
1.	<i>Bogo</i>	<i>Bogo Ahtoh</i> (tenure of 1–3 years)	3–600	Considered to be the largest amongst all and most labour-intensive group	Construction and maintenance of supply and regulation of water amongst group
2.	<i>Aji Lenda</i>	<i>Lenda Kagenee</i> (tenure of 1 year)	50–350	A group of peoples who has land in the same area	Preparation of footpath for the agriculture field
3.	<i>Sulu-sikhii</i>	<i>Sulu Kagenee</i> (tenure of 1 year)	50–350	A group of peoples who has land in the same area	Construction and maintenance of fencing to protect agriculture field from animals
4.	<i>Tanser Patang</i>	<i>Patang Ahtoh</i>	5–15	Organised group for field preparation	Preparation of field, nursery, and seed sowing
5.	<i>Konchi Patang</i>	<i>Patang Ahtoh</i>	5–10	Group works in the morning 5–10	Field preparation, transplantation, and weeding
6.	<i>Halying Patang</i>	<i>Patang Ahtoh</i>	5–15	Shares labour during seeding transplantation	Transplantation of seeding
7.	<i>Enthee Patang</i>	<i>Patang Ahtoh</i>	8–12	Shares labour during crop harvesting	Harvesting and carrying of harvests
8.	<i>Bijee Lenda</i>	<i>Lenda Kagenee</i> (tenure of 1 year)	70–300	A group of peoples who has bamboo plantation in the same area	Construction and maintenance of footpath to carry bamboo, timber, and fuel wood

Source: Dollo 2007

analysis for paddy-cum pisciculture. The study shows an average 1 ha of land requires a very nominal amount of Rs.11,000, which includes field preparation, paddy cultivation that costs Rs. 5000/- each, and remaining Rs. 1000/- amount needed for fish fingerlings. From 1 ha one can expect 150 kg of fish and 1000 kg of rice. The price of rice varies from Rs. 30 to Rs. 40, and fish can be sold at Rs. 200/- per kg in the local market. The Apatani practice different varieties of rice. Pulamte (2008), Dabral (2002), Chaliha and Kant (2011) in his study, focussed the productivity of the rice varieties from 3 to 5 tonnes per hectare.

## 21.6 Holistic Development of Ziro Through Bio-tourism

Tourists prefer to go to the places where they can find a different and better surrounding as compared to that of the normal ambience. Due to modernisation, as well as exponential rise in

population, there is a huge requirement of land. The new apartments, roads, and many means of livelihood come into existence by cutting down forests. However, Ziro is a place which can showcase itself how livelihood can be maintained without harming mother earth. Most importantly they do not require huge investments or modernised equipment to achieve so. They understand the importance of modern-day needs; hence, a nearby Ziro hydropower plant is also operating for the production of electricity. The energy production process, though a modern approach, is still green energy. The positive culture of the people plays a major role instead of the attractiveness of the place. From time immemorial Apatanis practice the unwritten rules of friendship; they call it *Ajing*. *Ajings* or friends of one generation are being invited year after year in the *Myoko* festivals. This approach shows the warmth which Apatanis possess for the strangers. In tourism, in order to give real feelings, often tourists are being involved in many real-time tasks, mainly in the case of adventure tourism.

Similar things can also be adopted in the case of Ziro. Tourists can be involved in various group activities to learn the traditional agro-forestry styles of the Apatani. Many biologists will definitely find this place as the area of their interest as it is the house of many rare species of flora and fauna. At the same time, many of the festivals of the Apatanis are also related to land productivity. Hence along with music and dance, they can also get the careful message of consciousness about biology. It is one of the biological hotspots; biodiversity can be learned by the tourists. The accommodation facility of the place has improved dramatically as compared to the previous years. The supportive elements of tourism in the corner of the world are dependent on accessibility and mobility factor. Ziro is now connected to the capital complex of Arunachal Pradesh by only 3 h by road. On 29th statehood day (February 2015), Arunachal Pradesh was being connected by rail to the rest of the country. However some issues related to the Inner Line Permit were raised. Gao has opined in his article to look into this matter by both the state and the central government so that passengers travelling by train must not ignore the ILP system. Recently the state government has set up ILP counters at the railway station of Naharlagun, but proper implementation is needed (Gao 2015). During the inauguration of the railway, the prime minister has emphasised to make the northeastern region the organic farming capital of India. He has also informed that 'Make in Northeast' was an integral part of 'Make in India' (Talukdar 2015). Amongst the priority issues of development, tourism in the northeastern region has been the focal issue for many years. However there are certain precautions such as developing the tourism in a holistic manner that means the tourists must be educated to appreciate the local history and culture. Tourists must be given a scope for the proper utilisation of waste management and recycling. This holistic approach will definitely make Ziro a brand destination of bio-tourism.

## 21.7 Conclusion

The contributions through the bio-tourism will evolve the locally managed in a cost-effective manner and will generate an economic scope for local people. It can market locally produced handicraft and other farm-produced items which can create greater growth for everybody. The stakeholders must encourage this to happen in a positive manner, as it is a very sensitive approach, and the failure of the same may propagate in a dangerous manner to other potential areas in terms of bio-tourism. The Apatani people's strong heritage, resources, and capabilities can make Ziro a success story. This in turn will encourage other communities of the state and country as well to follow the same model. Above all it is a green means of boosting the economy in the least cost.

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