



## **Tourism Development Scenarios**

### **Strategic Environmental Assessment for the Tourism Sector, Cambodia**

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## **Development Scenarios**

Scenarios are used to present the possible outcomes of policies or courses of actions. By presenting hypothetical situations based on projections or extrapolation from the current trends and known baseline the various outcomes can be compared.

To compare possible outcomes for Cambodia tourism three scenarios representing alternative development strategies and growth rates have been considered. These scenarios range from the “do nothing” high growth approach to a tightly controlled development strategy with limited growth. Each of these scenarios have associated environmental and economic impacts that need to be considered. The Government of Cambodia has outlined a goal for high growth in tourism which will most certainly be economically beneficial in the short term. However, how long the growth can be sustained and the attendant impacts that may result need to be considered.

The presentation of scenarios attempts to determine the actual outcome of development strategies including the events and trends that are outside the control of the government. These externalities include world economic and tourism trends, safety and security factors as well as the vagaries of the tourism market.

### ***Scenario 1: Strict Ecotourism development focus for all attractions outside Siem Reap***

In this approach ecotourism is advocated as the primary focus for all core attractions in each of the selected areas outside Siem Reap with the latter being developed for culture and heritage. The study areas would have development of tourism focused on very tightly controlled, low-density facilities aimed at the “ecotourism” market. The focus for development is on small-scale facilities catering to visitors to the nature-based attractions. These facilities would be associated with core natural attractions and would rely on the maintenance of the integrity of these attractions to sustain visitor satisfaction and provide the setting for a range of activities.

The types of developments would be visitor services associated with the core attractions including interpretation and other nature-related activities. The accommodation would be low-density ecolodge-style appropriate to the setting and built following strict guidelines regarding waste management and impact on the area. The restrictions for developing facilities at the core attractions will be stringent, with strict guidelines and will require very close management. Product quality levels will be high.

Where appropriate and feasible, local villages would be involved in the development with the focus on encouraging small to medium enterprises and

locally owned businesses. Activities associated with the core attractions are an important component of this scenario with treks, river trips, elephant rides, cycling, snorkeling, diving all serving as important means to lengthen visitor stay and increase spending.

The core ecotourism assets associated with each area are promoted as offering opportunities for ecotourism. Development of visitor facilities and infrastructure would be focused on these main attractions. The key areas and core assets in each area to serve as the focus for development are as follows:

North-East:

- Kratie; Dolphin Pools
- Stung Treng; Ramsar site, Phanet waterfall and Anlung Cheuteal dolphin pools
- Ratanakiri; Yeak Loam Lake, Virachey National Park, O Sen Le Waterfall
- Mondulakiri; Bou Sra waterfall, Sre Pok Forest,

South-West:

- Kampot; Teuk Chu Waterfall, Bokor National Park, Phnom Chnork Cave
- Kep; Koh Tonsay island, Ang Keng beach, Oukasa forest
- Sihanoukville; Ream national park, Koh Rong, Kbal Chhay rapids
- Koh Kong; Cardamom mountains, Aural Wildlife Sanctuary, Phnom Prah mountain

The focus for ecotourism development in this scenario is to provide access and facilities at each of these attraction areas. In this style of development the impacts from establishment of tourism facilities will be very much reduced with stringent requirements and guidelines for establishing infrastructure. The management of the impacts from each facility would be geared for each facility to be very much self-contained in terms of dealing with waste and other environmental impacts.

The main market targeted for this scenario is small group and individual ecotourist interested in the nature and cultural attractions of the selected areas. Wildlife viewing opportunities form an important part of the overall product offering as does providing well-managed natural settings for recreation and accommodation. The provision of high quality interpretive services and guiding for the attractions and the activities forms an important part of this scenario. In spite of the relatively lower numbers of visitors, with high quality infrastructure and facilities, the visitors are encouraged to stay longer in the destination.

In the north-east opportunities for viewing dolphins and engaging in treks and river trips are important components for this scenario. The stability and health of the dolphin population is an important consideration as this is one of the core attractions for the area. Access to the national parks and a range of settings for recreation such as treks, river trips and elephant rides is also very

important and this will rely on the management capacity of the responsible authorities.

In the south-west, the overall quality of the beach, coral reefs, national parks and islands will be a major consideration for the success of this strategy. Continued loss of mangroves, development of beach areas and illegal logging will seriously affect the quality of the visitor experience.

Development of the urban areas would proceed following the existing urban plans and based on the provincial development committee recommendations.

### ***Scenario 2: Balance of ecotourism and guided development***

The second scenario is one that provides a balance of development focusing on ecotourism development at the high priority/high potential nature attraction areas and guided development for the other areas.

The aim of this strategy is to develop a range of attractions and settings to cater to a wide range of interests and to provide high quality attractions for the ecotourism market. The developments at the main attractions are to be based on the ecotourism strategy and following the principles of ecotourism and will be low density, high quality and appropriate to the setting. In the urban areas, development is to follow urban plans and to adhere to guidelines that ensure the cities provide a livable and functional setting for the inhabitants and an attractive locale for visitors. The urban plans are to be clearly defined documents for all agencies to follow.

At the core attractions, the development focus is on providing visitor facilities including interpretation and information and a range of settings for recreation. The provision of high quality activities with a nature focus will encourage longer stays and higher spending by visitors.

The development of a range of recreational settings also extends to the provision of public access to attractions such as beaches where facilities are established to provide for domestic and general visitor use. Access, waste management and provision of basic service and visitor infrastructure are important tasks of the local councils to ensure that these areas are developed in a holistic manner.

At the core attractions, carrying capacities are determined and visitor numbers monitored to ensure that impacts are within acceptable limits of change. By providing a range of settings, visitors have options to seek the setting that suits the experience they desire. High use zones are provided with levels of infrastructure that can cater to the numbers. Waste management at all sites is a key concern and dealing with this involves integrated solutions among the responsible agencies.

The focus for investment in this scenario is to encourage small enterprises at the local level as well as medium to large investment in the urban areas.

Management of the core attractions is crucial to the success of this scenario and the responsible agencies are actively involved in the development planning as well as sharing in the benefits from increasing visitation.

The target market for this scenario is ecotourists seeking adventure and nature experiences in northeast Cambodia. These are generally willing to stay longer and will spend more per visit. The focal areas for ecotourism development are the dolphin pools, national parks, and nature attractions of the northeast and the beaches, islands and the national parks of the southwest. The average length of stay for the international tourists is 2-4 nights in the north-east and 2-3 nights in the southwest.

The domestic market is also viewed as an important market and appropriate facilities and access to attractions are provided to cater to their needs. The focal areas for domestic tourism are the south-west beach areas and the waterfalls and rapids of the north-east. The average length of stay for the domestic market is 1-2 nights with the highest numbers occurring during public holidays and weekends.

### ***Scenario 3: Focus on Siem Reap / status quo for development outside***

In this scenario the focus is on developing Siem Reap as a world class tourism destination and letting the rest of the areas develop on their own according to private sector investment.

This type of development in the study areas would be based on the guidance provided by the local councils and would essentially be focused on the main urban areas as well as the core attractions in each area. In the absence of clear guidelines for planning, the developments would be loosely planned and would follow the individual investors themes and styles.

The ownership would be local business people with some outside investment coming in for the larger centres or the more significant core attractions.

The core attractions such as the wildlife and nature would still be very important and developments would tend to be focused around these assets. Promotion of the assets would be focused on appealing to a wide range of tourists with the interest of increasing overall numbers to each area. In the northeast, this would result in developments in the vicinity of the dolphin pools and at the main centres serving as gateways to the natural attractions (Ban Lung, Sen Monoram and Stung Treng). The main attractions would require expanded vehicle handling and visitor facilities to cater to the increasing demands.

In the southwest, the beach areas would be the main focus for development with the areas allocated for public access reducing as development demand increases. This would result in a concentration of publicly accessible beaches to smaller areas that would be prone to overcrowding and result in high impacts to the beaches. Waterfall areas, rapids and rivers would continue to

cater to the predominantly domestic market with development of facilities according to the increasing demand.

In the short to medium term, the developments would appeal to the general tourist and sight-seeing visitor as well as to the domestic visitor. A variety of additional activities would need to be developed to cater to the demands of the visitors at each site and these would be focused in the urban and peri-urban areas. More entertainment outlets and recreational areas would need to be developed.

The market for this type of development would be the general interest (predominantly group) tourist and there would be a need to market widely to meet the supply-side development model. Group tours and bus-based holidays would be promoted. The average length of stay for the northeast would likely be in the range of 2-3 nights and for the southwest, 2 nights. This type of market would be more budget conscious and overall spending per person would be relatively low.

Waste management will continue to be a problem at all attractions as well as in the urban areas. Providing adequate collection services and disposal facilities will be an on-going problem. In the absence of development controls and planning, developments in urban areas will not be coordinated and may detract from the overall attractiveness of the town areas. Core attraction sites will likely be impacted to an extent that tourism will be affected in the medium term. Lacking sufficient waste management regimes, overcrowded public beach areas will eventually be avoided and overloaded waterfall areas will face a similar fate.

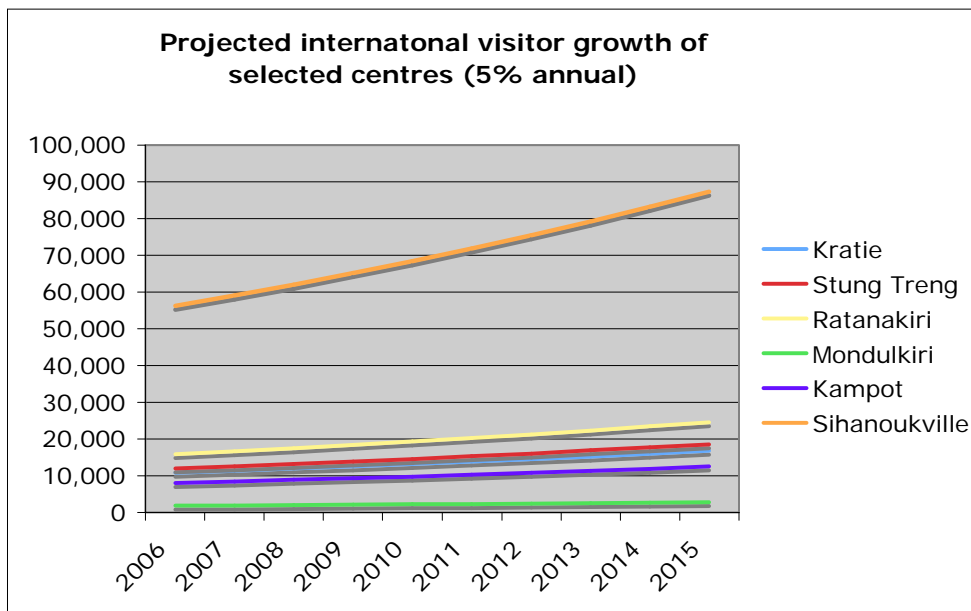
Impacts from external (to tourism) developments on the upper Mekong river will potentially have an impact on the core attractions such as the dolphins and the flooded forest. Without guidelines and adequate protection for coastal zones and forested areas, these attractions will be developed and lose their value as tourism attractions.

## **Growth Scenarios**

For each of the three development scenarios considered an associated growth scenario has also been considered. The current international and domestic tourist arrival figures used in calculating the projections were obtained from the various provincial tourism offices. These figures are based on arrivals at the various attractions as well as the numbers of visitors staying in hotels. As there is no differentiation between day trip visitors and overnight visitors these figures provide an indication of the overall projected demand. However, because the figures are combined, caution is needed when using these figures to interpret demand for hotel rooms at a particular destination.

**Scenario 1: Growth of +5% per year**

With the emphasis on strict ecotourism development, the annual growth for this scenario will stay at around 5%. This is mainly due to the size of the current ecotourism market and the scale of development for all the various facilities. This growth rate is closer to the current world levels but is considerably lower than the current 20% growth rate Cambodia is experiencing. At 5% per year, the tourism growth is thus lower than what Cambodia has experienced in the years leading up to 2006, but still consistent with the current world levels. This is not an unrealistic growth rate as competition from neighbouring countries could come into play or there might not be the necessary tourism investment in the areas outside Siem Reap. The benefit of this lower rate of growth is that it allows local councils more time to establish needed infrastructure and visitor facilities. The projected international visitor numbers according to the different study areas is presented in Figure 1.



**Figure 1 Projected International arrivals (5% growth).**

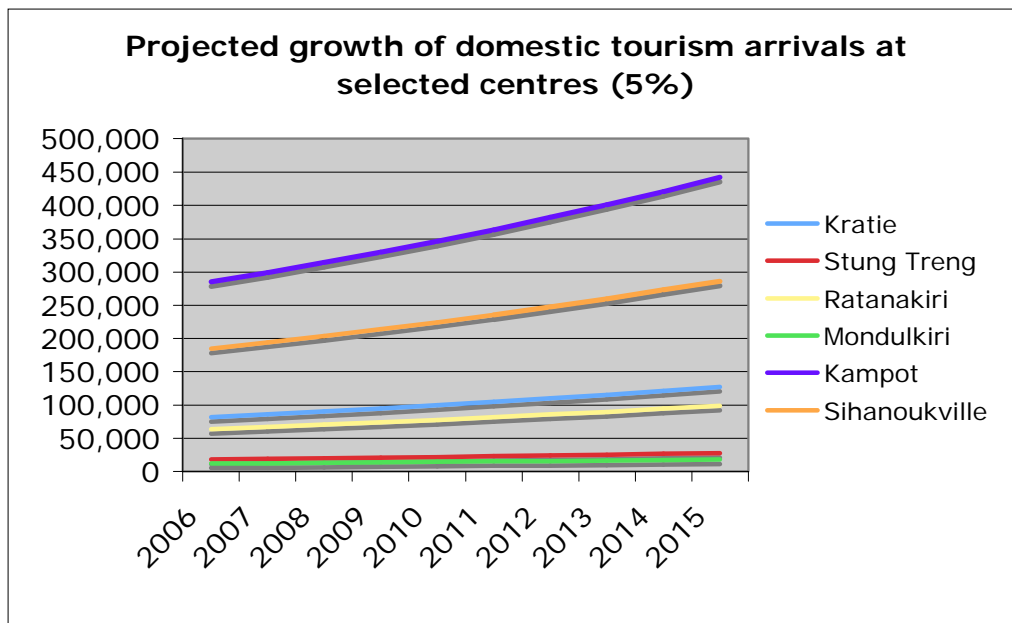
Given these growth projections, waste management services as provided by the existing urban infrastructure should be sufficient to manage the attendant environmental impacts at each area. The additional demands placed on the infrastructure are surmountable and should be able to be accommodated in existing urban plans.

The levels of visitation to the core attractions are generally well within projected carrying capacity limits. However, these numbers may not be sufficient to ensure economic viability. For example, the Virachey National Park requires increases in visitation by at least 50% to cover the salary of the

ecotourism liaison officers and increases by at least 100% to provide additional funds to cover the operational costs of park management<sup>1</sup>.

Currently, domestic tourism at all areas constitutes anywhere from 33% to 97% of all recorded arrivals. In the case of the higher percentages, many of these records are likely due to large numbers of domestic day trip visitors. According to the WTO definition for tourists<sup>2</sup>, technically these visitors should not be counted in tourism figures. Nonetheless, these relatively large numbers represent an existing demand and result in an impact that local councils must accommodate through provision of appropriate visitor facilities.

Based on the existing MOT domestic visitor numbers, a 5% annual growth projection has been considered Figure 2. This figure is not unrealistic and given the baseline visitor numbers provides a steady growth that can be accommodated.



**Figure 2 Projected domestic visitors in selected areas (5% growth).**

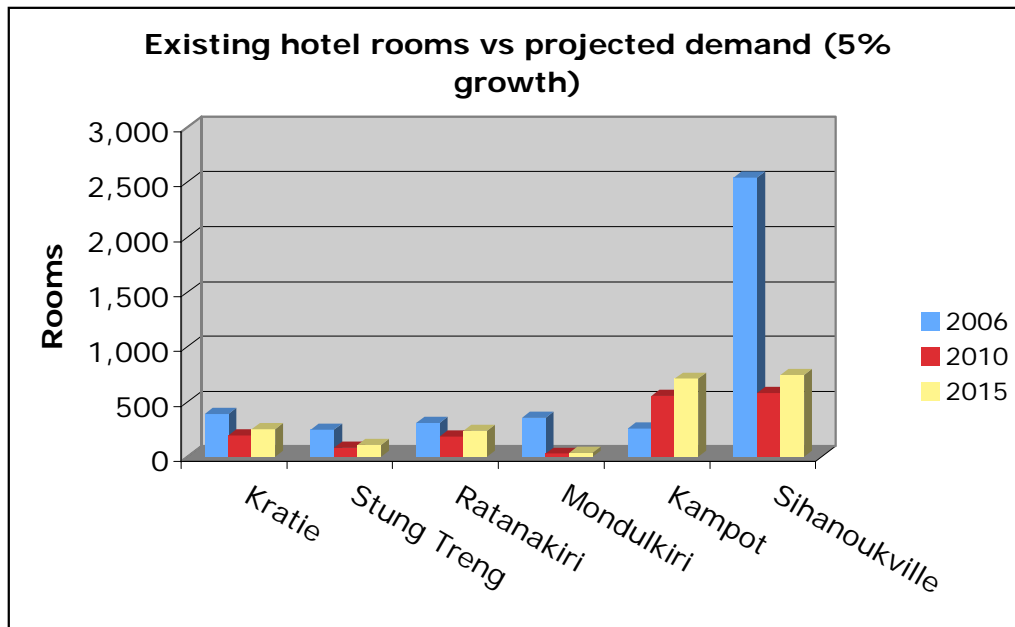
Based on the projected overall growth the economic returns at the attractions will likely be low unless entrance fees can be adjusted upwards for both domestic and international visitors. Based on the existing hotel supply, there is currently sufficient room capacity in all locations except for Kampot<sup>3</sup> to cover the projected growth until 2015 (Figure 3). Given the development focus of this scenario, there will probably be a shift from existing hotel to more ecotourism-based accommodation at the core attractions and this may result in some existing hotels and guesthouses losing business. Predication of room

<sup>1</sup> SNV, 2006. Report on the Northeast Cambodia Regional Workshop on Ecotourism Strategy Development, Kratie, 2006. Netherlands Development Organisation.

<sup>2</sup> Tourists are anyone traveling away from their normal place of residence for at least one night.

<sup>3</sup> The shortfall in rooms needs further investigation as these figures are likely skewed by the large numbers of domestic day trip visitors to the area who do not require a hotel room.

demand is based on all arrivals (both international and domestic) and assuming a two night stay for international and a one night stay for domestic visitors. The assumption for room occupancy is that 70% of international visitors are twin sharing and 90% of domestic visitors are twin sharing.

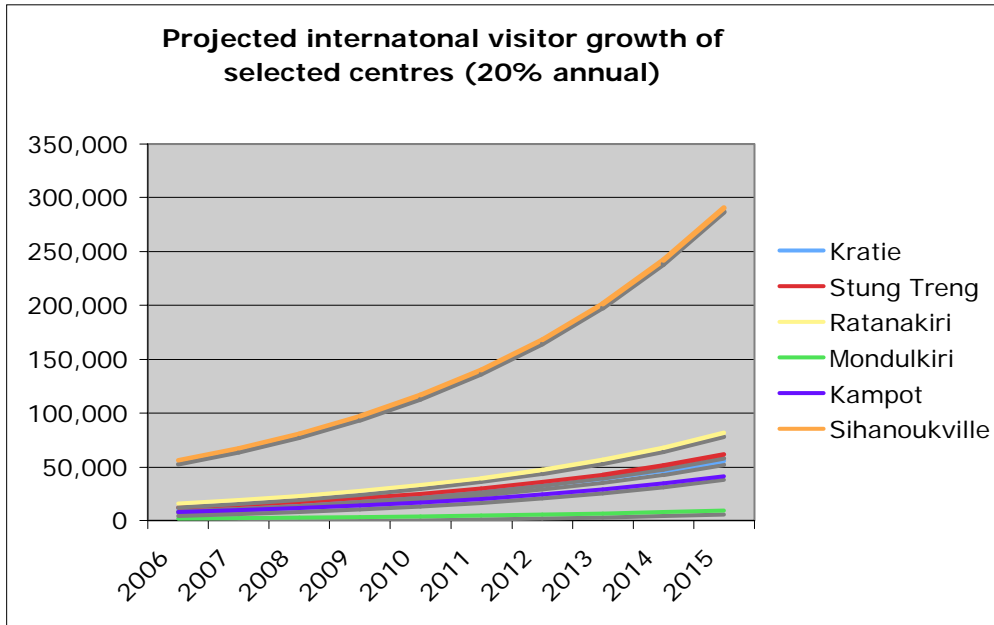


**Figure 3 Accommodation requirements to 2015 (5% growth).**

***Scenario 2; growth rates at 20% annually***

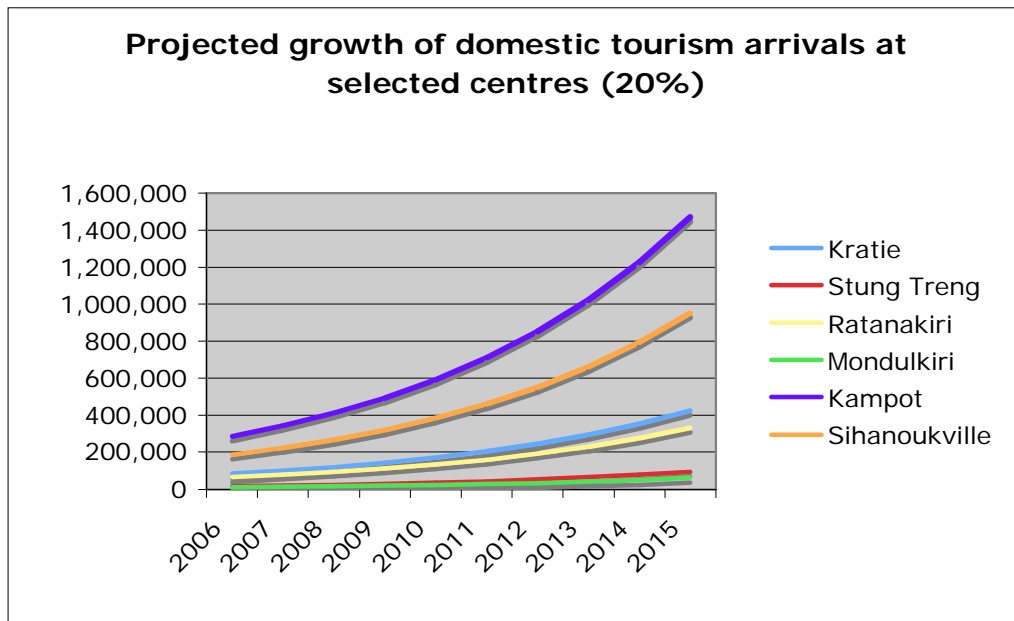
As Scenario 2 proposes a development of both the ecotourism sites as well as the other attractions, a more robust growth rate of 20% is postulated. The government goals for tourism growth are rates of 20-30% annually to 2015. As this has been the rate of growth over the past 5 years leading up to 2006, this would appear to be achievable. However, compared to world growth rates and rates of growth in the region, this is still quite a high rate.

Based on the existing arrivals at the study areas, the 20% projected growth of international arrivals to 2015 is illustrated in Figure 4. As can be seen the main recipient of the increased numbers would be Sihanoukville in the southwest. The other areas and especially the northeast would receive relative increases but because of the low base arrivals, by 2015 the arrivals would only be around 40-70,000 per year at each attraction. In Mondulkiri, projected levels are still quite low but this would likely change with improved access to Sen Monoram.



**Figure 4 Projected growth of international visitors (20%).**

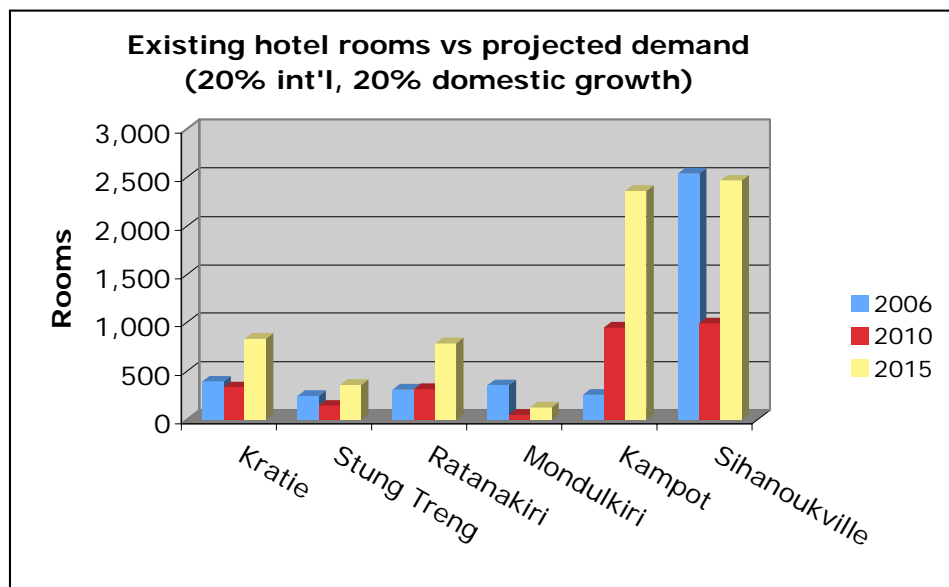
Domestic visitors exceed international at all the study sites but as outlined previously many of these are day trip visitors with the bulk of the visitation occurring on weekends and public holidays. Projections of growth in domestic tourism can thus be misleading especially if using the projected figures to predict hotel demand. Using a scenario of 20% annual growth for domestic visitors results in large increases at Kampot and Sihanoukville, moderate increases at Kratie and Ratanakiri and slight increases at Stung Treng and Mondulkiri Figure 5. With improvements in the road access to Mondulkiri, it is conceivable that these figures would likely increase at a higher rate.



**Figure 5 Project domestic tourism growth (20%).**

While sustaining this growth rate may be somewhat optimistic, especially in the medium to long term, it warrants consideration in terms of the potential impacts for the attractions at each area. As the domestic visitation tends to occur during public holidays and week-ends, the numbers of visitors are concentrated during these periods and can result in higher impacts and demands on visitor facilities. Conversely, the mid-week periods and non-holiday periods do give the attractions some “recovery” and provide site managers with the time to maintain and repair facilities.

The 20% growth projections for both international and domestic visitors are important to consider in terms of predicting demand for hotel rooms and planning for the infrastructure required to handle these numbers. Based on existing demand and using the same assumptions for hotel occupancy and length of stay<sup>4</sup>, projections for hotel demand have been calculated. The demand for hotel rooms in 2010 and 2015 is illustrated in Figure 6.



**Figure 6 Existing hotel rooms versus projected demand.**

In all cases, except for Kampot<sup>5</sup>, the current number of rooms in each area is sufficient to meet the demand based on 20% annual growth up until 2010. However, only in Mondulakiri and Sihanoukville is the current room supply sufficient to cater to the projected demand in 2015. Thus, in the other areas (Kratie, Stung Treng and Ratanakiri) there would have to be additional accommodation built to meet the projected demand. The implications of these additional rooms are increased stress on existing urban infrastructure and services.

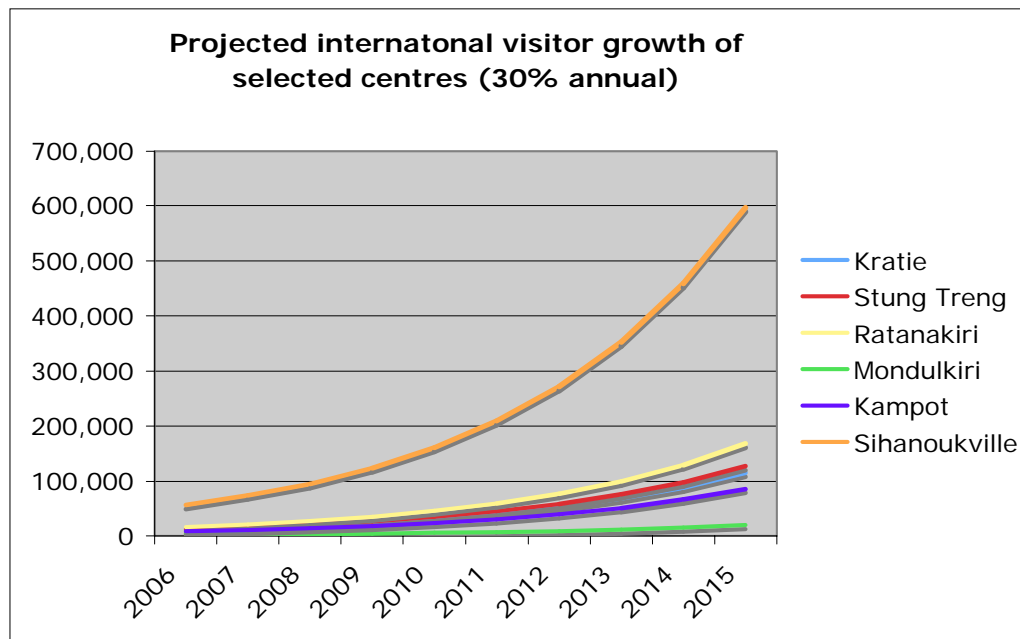
<sup>4</sup> International visitors; 2 nights and 70% twin sharing, and Domestic visitors; 1 night and 90% twin sharing.

<sup>5</sup> As highlighted previously, the demand figures for Kampot are misleading due to the large numbers of day trip visitors.

### **Scenario 3; growth rates at 30% annually.**

Scenario 3 allows development of the tourism industry to proceed unrestricted and essentially unguided. This growth of tourism postulated for this type of development is 30%. Given that current world tourism growth is 4-5% per year and the growth in the Asia-Pacific region 8% per year, a projected annual rate of 30% is a very high rate of growth. This rate is however, the upper limit that has been indicated by the Government of Cambodia as a target for tourism growth over the next 10 years. Therefore, it is important to examine the implications of this rate of growth based on the existing numbers of tourists and the existing supply of services.

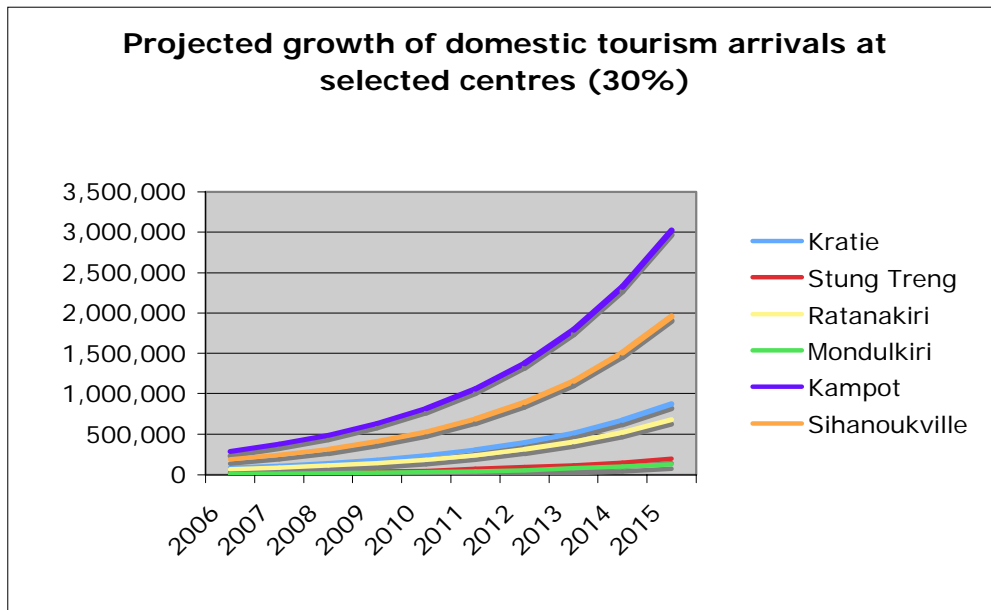
Based on the existing international visitor numbers the 30% projected growth in arrivals to 2015 at the various study sites is illustrated in Figure 7. At this rate of growth, Sihanoukville is poised to receive the largest relative growth reaching close to 600,000 foreign visitors by 2015. With the exception of Mondulkiri, the other areas show relatively moderate growth but still manage to reach levels ranging from 100,000 to 175,000 foreign visitors by 2015. Due to the low starting numbers in Mondulkiri, even with the projected 30% annual growth, visitor numbers do not exceed 20,000 by 2015.



**Figure 7 Projected growth of international arrivals (30%).**

The growth of domestic tourism is also viewed as an important component of overall tourism growth. With current domestic visitation higher than the international arrivals further growth at the same rate will result in large increases at all attractions. In order to maintain domestic tourism growth rates of 30% per annum, the domestic economy would also have to be growing at a high rate. This type of economic growth may not be feasible, thus projections of 30% per year for domestic travel may be unrealistic. Nonetheless, for the

purposes of this scenario Figure 8 illustrates the domestic tourism growth at a rate of 30% per year.



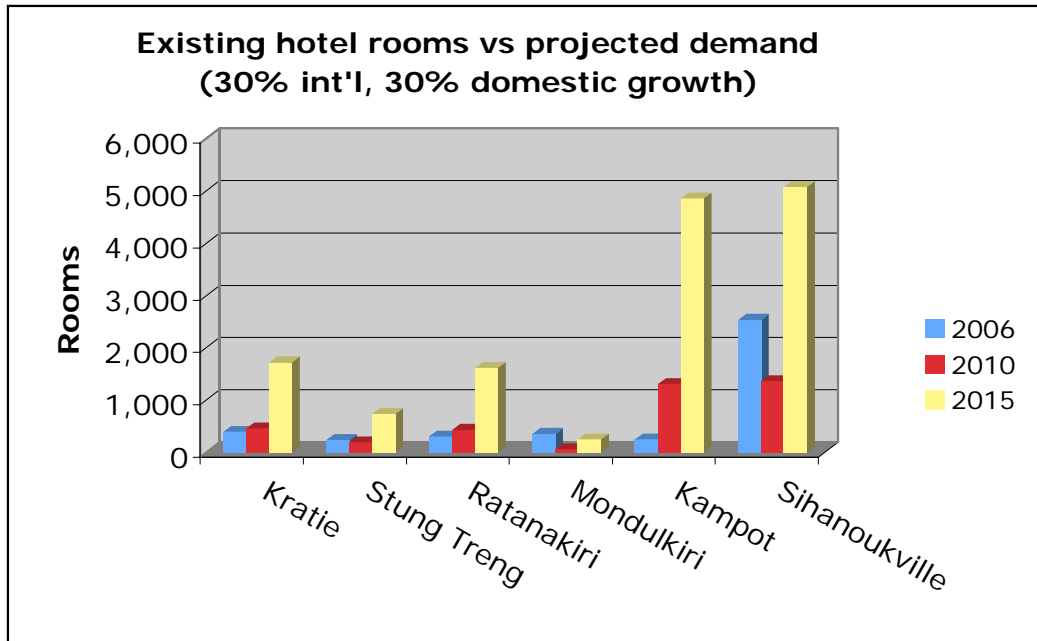
**Figure 8 Domestic tourism growth projection (30%)**

Based on a 30% annual rate of growth, visitation to all the study areas, with the exception of Mondulkiri and Stung Treng, shows substantial increases. The most significant increases in arrivals are to Kampot with just over 3 million visitors per year by 2015 and Sihanoukville with almost 2 million visitors per year for the same period. Domestic arrivals to Kratie and Ratanakiri by 2015 exceed 500,000 visitors per year and in the case of Kratie reach almost 700,000 visitors. The projected number of domestic visitors Stung Treng in 2015 are just below 200,000 with Mondulkiri receiving just over 125,000.

These types of increases will place huge demands on the existing infrastructure and visitor services. At areas such as Kampot and Sihanoukville, it is probable that the majority of the domestic arrivals are day trip visitors traveling mainly on week-ends and during public holidays. This concentration of visitors will have a large impact on the attraction and place huge demand on any facilities put in place to handle the resulting waste.

At other areas where the main domestic attractions are waterfalls or rapids, the impacts of these levels of visitors will likely result in severe degradation unless proactive measures are put in place to disperse the visitor loads.

The implication of this level of tourism growth on the supply of accommodation is quite significant. Based on a rate of 30% growth for both international and domestic tourism there would need to be extensive development to supply the needed rooms by 2015 (Figure 9).



**Figure 9 Projected demand for hotel rooms versus existing supply.**

Only in Mondulakiri does the existing (2006) supply of rooms meet the projected 30% annual growth of tourism to 2015. In all other areas there would need to be at least a 50% increase in the in the number of rooms to meet the 2015 projected demand. Note, however, that the huge shortfall of rooms for the case of Kampot is likely due to the large number of domestic visitors recorded for this area. As the vast majority of these arrivals are on a day trip excursion to the river or waterfall, most do not require accommodation. Thus, these demand figures probably do not represent the actual demand and to accurately determine domestic demand, more information on the market characteristics is required. Similarly, the relatively large numbers of domestic visitors to Sihanoukville will also skew the projected hotel demand figures upwards and more detailed information for Sihanoukville should be collected.

## Implications of the various development and growth scenarios

### *Scenario 1; Strict Ecotourism development focus for all attractions outside Siem Reap*

#### 5% Growth

##### North-east

- The focus for tourism development is on the core attractions; Kratie dolphin pools, the Ramsar site, Yeak Loam lake, Virachey National Park, Mondulkiri water falls with visitor centres to guide the ecotourism delivery
- Steady growth in international tourism numbers and while numbers remain relatively low, visitors are willing to spend on better accommodation and other activities.
- Domestic demand is still seasonal (holidays and week-ends) focused mainly on the Mondulkiri waterfalls, the rapids at Kampi and visiting Ratankiri
- Current management able to handle the increased numbers without significant impact. Limited benefits accrue to local villages associated with the core attractions.
- External impacts to dolphin pools a serious concern for the viability of this attraction. Concerns at the other attractions include loss of forest and encroaching farm land as tourism is unable to provide employment
- Waste management strategies can control waste at the main attraction sites.
- Waste management in urban areas continues to be an issue.
- Generally, the existing accommodation is sufficient to cater to the growth. New ecotourism lodges provide higher value accommodation at the attractions.
- Increasing visitor numbers provide additional revenue for park management and site managers, although the numbers based on a 5% growth rate do not cover the costs of operation. Limited additional funds going to the villages
- Improvements in access stimulate increases in arrivals, although from a relatively low base.
- Low impacts from tourism but also low economic sustainability for tourism.

### South West

- The focus for tourism development is on the core attractions;
  - Kampot; Teuk Chu Waterfall, Bokor National Park, Phnom Chnork Cave
  - Koh Tonsay island, Ang Keng beach, Oukasa forest
  - Ream national park, Koh Rong, Kbal Chhay rapids
  - Cardamom mountains, Aural Wildlife Sanctuary, Phnom Prah mountain
- Steady growth in international tourism numbers and while numbers remain relatively low, visitors are willing to spend on better accommodation and other activities in the Cardamom mountains and well-preserved islands.
- Domestic demand is still seasonal (holidays and week-ends) focused mainly on the Teuk Chu waterfall, Ang Keng beach and the beaches at Sihanoukville.
- Current management able to handle the increased numbers without significant impact. Only limited benefits accrue to local villages associated with the core attractions.
- External impacts to beaches a serious concern for the viability of these attractions. Concerns at the other attractions include loss of forest, poaching and encroaching farm land as tourism is unable to provide employment
- Waste is a problem, but waste management strategies can control waste at the main attraction sites.
- Waste management in urban areas continues to be an issue.
- Generally, the existing accommodation is sufficient to cater to the growth. New ecotourism lodges provide higher value accommodation at the attractions.
- Increasing visitor numbers provide additional revenue for park management and site managers, although the numbers based on a 5% growth rate do not cover the costs of operation. Limited additional funds going to the villages
- Improvements in access stimulate increases in arrivals, although from a relatively low base.
- Low impacts from tourism but also low economic sustainability for tourism

## **Scenario 2: Balance of ecotourism and guided development**

### **20% growth**

#### North-east

- Continued rapid growth in international arrivals with focus on ecotourism activities and accommodation at the core attractions
- Rapid growth in domestic arrivals results in increasing impacts on core attractions, mainly the rapids and waterfalls during peak periods
- Management of visitor numbers at all site by developing different settings to disperse loads and time of visit. Numbers are generally within carrying capacity limits for the main nature attractions but approaching upper limits
- External impacts on the core attractions a serious threat in view of robust tourism business and current investments (threats to the dolphins and to the forest and wildlife)
- Increased employment through a number of small businesses and local lodges. Possibility of viable community-based enterprises.
- Waste management at core attractions a key issue due to the increased arrivals. Integration of waste management with urban treatment is required to handle waste.
- Waste management in the urban areas a big issue due to increased demands on the urban infrastructure. Upgraded facilities and resources (human and financial) are required.
- In most cases, accommodation is sufficient for the increased arrivals. Shifts in demand at core attractions to ecolodges and more specialized high value accommodation.
- Increasing management capacity at the protected areas and core attractions sites is a priority to handle the increased numbers and the management demands.
- Public access to core attractions for domestic tourism is managed through improved visitor facilities to deal with the high usage and the resulting impacts.
- Development of quality public use zones cater to both domestic and international visitors
- Protected area revenues do not cover costs of operation, but options exist for concession arrangements, longer stays and alternative income generating strategies through activities and sale of services.
- Impacts from tourism have increased, but can be managed and the overall economic benefits have increased.

#### South-west

- Continued rapid growth in international arrivals with focus on ecotourism activities (forests, trekking, wildlife viewing) and

ecotourism accommodation (especially in the Cardamoms and Koh Kong). Also beach and coastal based tourism.

- Rapid growth in domestic arrivals results in increasing impacts on core attractions, (rivers, waterfalls and beaches) especially during peak periods
- Visitor numbers are managed by developing a variety of settings to disperse loads. Many sites are approaching established carrying capacity limits for the main attractions
- External impacts from coastal zone alteration and loss of forest and wildlife place a serious threat on the core attractions in view of robust tourism business and current investments
- Many local employment opportunities available in lodges and small businesses associated with core attractions. Impacts managed through guidelines and licensing.
- Waste management at core attractions a key issue due to the increased arrivals. Integration of waste management with urban treatment is required to handle waste.
- Waste management in the urban areas a large issue due to increased demands on the urban infrastructure. Additional facilities and resources (human and financial) are required.
- In most cases, accommodation is sufficient for the increased arrivals. Shifts in demand at core attractions to ecolodges and more specialized high value accommodation (some older hotels lose business)
- Increasing management capacity at the protected areas and core attractions sites is required to handle the increased numbers.
- Public access to core attractions (beaches and waterfalls) for domestic tourism provided through planned, improved visitor facilities and services to deal with the high impacts.
- High quality public use zones cater to both domestic and international visitors
- Protected area revenues do not cover costs of operation, but options exist for longer stays and alternative income generating strategies through activities and sale of services.
- Impacts from tourism have increased, but the economic benefits have also increased.

### **Scenario 3; Focus on Siem Reap / status quo for development outside**

#### **30% growth**

##### North-east

- Very high growth in international arrivals. Core attractions (especially the dolphin pools, forest resources and waterfalls) face a situation of over-demand
- Very high growth in domestic arrivals places large stress on the core attractions (waterfalls and rapids), especially during public holidays and week-ends
- Numbers at the core attractions exceed carrying capacities (critically during peak periods)
- External impacts on the core attractions are an important consideration given the high value of the core products to tourism.
- Waste management at the core attractions is a key issue that overwhelms site management capacity to deal with the problem. This problem is particularly acute during public holidays and weekends.
- Urban waste management is a big issue as infrastructure is stretched to deal with the increased demands from new hotels and facilities
- There is a shortfall in accommodation requiring new hotels and facilities to be built. Overbuilding places additional stress on urban infrastructure and services. Town planning is placed under stress as the demands to build new accommodation become acute.
- Public access to core attractions is limited as concessions are given to developers. This places higher stress on the areas where public is allowed access
- Protected area and attraction site management lack the resources (human and financial) to handle the increased numbers and the management challenges
- Impacts from tourism on the environment have increased dramatically. Some clients are beginning to avoid the core attractions due to the crowds and the overall condition of the attraction.
- Potential decreases in numbers as visitors avoid attractions resulting in empty hotels that have been built to meet the growth demands.

##### South-west

- Very high growth in international arrivals. Core attractions (especially the beaches and forests of Koh Kong; and the beaches of Sihanoukville) experience high demand
- Very high growth in domestic arrivals places large stress on the core attractions (waterfalls and rapids of Kampot and the beaches of Sihanoukville), especially during public holidays and week-ends

- Numbers at the core attractions associated with rivers and waterfalls exceed carrying capacities (critically during peak periods)
- The effect of the external impacts on the core attractions is an important consideration given the high value of the core products
- Waste management at the core attractions is a key issue that may overwhelm site management capacity to deal with the problem. This problem is particularly acute during public holidays and weekends.
- Urban waste management is a big issue as infrastructure is stretched to deal with the increased demands from new hotels and facilities
- There is a shortfall in accommodation requiring new hotels and facilities to be built. Overbuilding places additional stress on urban infrastructure and services. Town planning is placed under stress as the demands to build new accommodation become acute.
- Public access to core attractions such as beaches is limited as concessions are given to developers. This places higher stress on the areas where public is allowed access. Increasing occurrence of unplanned and un-serviced food and beverage outlets result in more impact and more waste.
- Protected areas and attraction site management lack the resources (human and financial) to handle the increased numbers and the management challenges
- Impacts from tourism on the environment have increased dramatically. Some clients are beginning to avoid the core attractions due to the crowds and the overall condition of the attraction.
- Potential decreases in numbers as visitors avoid attractions resulting in empty hotels that have been built to meet the growth demands.

## Summary of scenarios

### *Comparison of scenarios*

	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
	<b>5 % annual growth</b>	<b>20% annual growth</b>	<b>30% annual growth</b>
<b>Environmental sustainability</b>	High	High	Low
<b>Economic Sustainability</b>	Low	High	High then decreasing
<b>Benefit of Scenario</b>	Limited impact due to low growth. Focus on key ecotourism attractions, steady growth allowing adjustment to increases. Some local business opportunities. Ecotourism established as an important niche at core attractions.	Focus on the core ecotourism attractions and developing ecotourism as a niche. Guided development for supporting attractions and infrastructure Tourism an important economic driver	High growth and creation of jobs and investment opportunities Tourism as a major economic driver
<b>Disadvantage of Scenario</b>	Many areas remain underdeveloped as focus is on core attractions only. Tourism not a major factor in economic growth.	Reliance on imported expertise and labour. Economic leakages	Overdevelopment and potential oversupply of rooms. Eventual loss of business due to deterioration of attraction quality
<b>Major Environmental issues</b>	Waste disposal at core attractions. Waste disposal in urban areas	Increased waste at attraction sites and in urban areas	High impact at attractions sites. Waste management. Loss of forest and coastal areas to development Stress to urban setting from

			overdevelopment.
<b>Other factors</b>	External impacts to core attractions such as the dolphins and the forest resources	External impacts on core attractions that may affect the viability of the attraction	External land use impacts on the core attractions.
<b>Recommendations</b>	Focus on municipal and site waste management strategies. Develop capacity of local communities near core attraction for ecotourism	Development of a range of settings for visitors to disperse loads Support to improvement and integration of waste management services	Improvement of waste management and urban planning. Strengthening of the capacity of the attraction site management.