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INTEGRATED PROTECTED AREA CO-MANAGEMENT (IPAC)

STRENGTHS, WEAKNESSES, OPPORTUNITIES & THREATS (SWOT) OF TOURISM IN THE SUNDARBANS RESERVE FOREST, BANGLADESH

August 31, 2009

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USAID Contract N° EPP-I-00-06-00007-00
Order No : EPP-I-01-06-00007-00

Submitted to :
USAID/Bangladesh

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Submitted for :
International Resources Group (IRG)
With subcontractors:
WWF-USA, dTS, East-West Center
Environmental Law Institute, Epler-Wood International
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INTRODUCTION

On a global basis, tourism frequently reaches and surpasses appropriate limits to growth with little notice, planning, or response from decision makers. In recent years, policy makers have begun to advocate sustainable destination planning for tourism – with a set of management approaches that can help ensure that tourism is not environmentally damaging, contributes to conservation and local community development, and provides opportunities for enhanced conservation and sustainable development.

In 2004, the World Tourism Organization, now the United Nations World Tourism Organization (UNWTO), published an important guide to *Indicators of Sustainable Development for Tourism Destinations*. This guide is the result of efforts from over 60 authors working in 20 countries, covering a wide variety of case circumstances for tourism development in both developed and developing countries. Its intent is to provide a process by which policy makers can use research based indicators to make decisions on guiding the development of sustainable tourism.

The Integrated Protected Area Co-management Project (IPAC) requested that EplerWood International perform an analysis of tourism in the Sundarbans Reserve Forest (SRF) to contribute to their program to develop a co-management system for stakeholders in the region which will garner the support of stakeholders/user groups to preserve the ecosystem.

The SRF is part of the larger Sundarbans Biosphere Reserve, a World Heritage site recognized by UNESCO, found in both India and Bangladesh, with over 23,000 square miles of mangrove ecosystem found within Bangladesh. Hundreds of endangered Bengal tigers live in the reserve, with exact populations difficult to estimate, as they are rarely observed by visitors or scientists, despite their regular man-eating attacks on local residents who harvest resources in the reserve. Other charismatic species more likely to be observed are the huge Estuarine Crocodile, abundant Spotted Deer, and Otter. Bird watching is a key attraction with 250 species among which are many wading birds that populate the banks of the mangroves. International news was recently made in 2009 when research was formally presented on a previously unknown hot spot for Irrawaddy Dolphin and the Ganges River Dolphin within reserve waters. This will undoubtedly bring more foreign visitors in future.

The tourism industry is frequently referenced as a highly important stakeholder/user group with the potential to provide extensive benefits to the Sundarbans Reserve Forest. However, there is no consistent analysis of tourism's impacts on the ecosystem or neighboring communities. And there is no existing tourism plan in effect to help measure how tourism management is functioning at present, nor is there any management authority within the reserve that has tourism management as part of its mandate.

EplerWood International recommended a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of tourism to help IPAC capture current, relevant data on tourism in its various forms – both domestic and international – in the Sundarbans Reserve Forest. This data gathering program was not intended to provide a strategy for tourism development in the SRF. It is a preliminary study to help guide IPAC and its governmental and strategic partners towards appropriate decisions on a system of tourism planning and management in future.

*A SWOT analysis helps tourism managers to assess tourism potential and helps managers to decide what type of indicators will be useful in monitoring trends and progress towards achieving goals of a tourism destination. A SWOT analysis should give a succinct analysis of a destination's assets and short comings and reveal the opportunities and challenges it faces.*¹

This SWOT analysis of the Sundarbans has been developed to guide decision making on the means to develop tourism in the Sundarbans Reserve Forest in a sustainable manner. It will reveal opportunities for further research and investigation, and help decision makers to review what options exist for improving tourism's benefits while reducing its negative impacts. It is not a strategy, but should be used by those seeking to develop a strategy with further research and investigation.

METHODOLOGY

The SWOT analysis was developed via a questionnaire based on the UNWTO 2004 Indicators for Sustainable Tourism Development guide. The questionnaire was reviewed by Elisabeth Fahrni Mansur – an experienced researcher and environmental educator in the SRF and former CEO of The Guide Tours Ltd. - who provided a variety of helpful suggestions and refinements.

Field data was collected March 24-31, 2009 by a team of 4 local data gatherers from the Sundarbans region, an intern to gather data in Dhaka, 3 IPAC cluster team members from the Khulna office, one research associate to manage the data and field notes, one research coordinator, and principal investigator Megan Epler Wood. See *Acknowledgements* in Appendix B for full details on the team members.

The team visited Khulna, Mongla, Chandpai, Karamjal, Katka, Burigoalini, and Kolagachia. See Figure 1 for map of the SRF and sites visited in the reserve. One intern collected data in Dhaka.

A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) is a qualitative not quantitative program for gathering data. Epler Wood therefore made the decision to create a participatory, consensus oriented data evaluation program with all the researchers involved. The research team was quite varied in terms of educational background, experience, urban vs rural backgrounds, and age group. Both genders were also represented. This unusual diversity of thought and perspective in the data review team was a converted into an advantage by allowing the team to learn from each other's perspectives.

Each day during the research program the team collected data in the field and subsequently gathered to share their results. In this manner, the entire team was able to discuss the data together to fully grasp what the data gatherers had experienced or observed and come to a consensus on how to interpret the data. This ensured that the more subtle observations of each

¹ UNWTO, 2004, *Indicators for Sustainable Tourism Development for Tourism Destinations: A Guidebook*, Madrid, Spain

data gatherer were not lost, but rather fully shared. Detailed notes were maintained throughout the discussion, which are part of the final presentation of results in this report.

Data interpretation was therefore a participatory exercise with daily exchanges from within in the team, each sharing their different viewpoints. These interchanges resulted in a consensus based set of results based on different educational, cultural, age, experience, and gender viewpoints. The process worked well with a highly engaged team, all involved in debating the results and learning throughout the process. The SWOT process created an excellent learning environment for all involved. A process similar to this could be replicated now with existing expertise in Bangladesh in other regions.

The final results of data evaluation can be found in the completed questionnaire in [Appendix A](#). Interpretation of these results will be broken down according to the survey format in the following sections.

- Information Accessibility on the Sundarbans
- Boat Transportation
- Visitor Management
- Community Benefits
- Cultural Impacts
- Conservation Awareness
- Revenue Generation
- Community Benefits
- Physical Impacts – Entire Sundarbans region
- Unmanaged Tourism- Site Specific
- Socio-cultural impacts in tourism areas

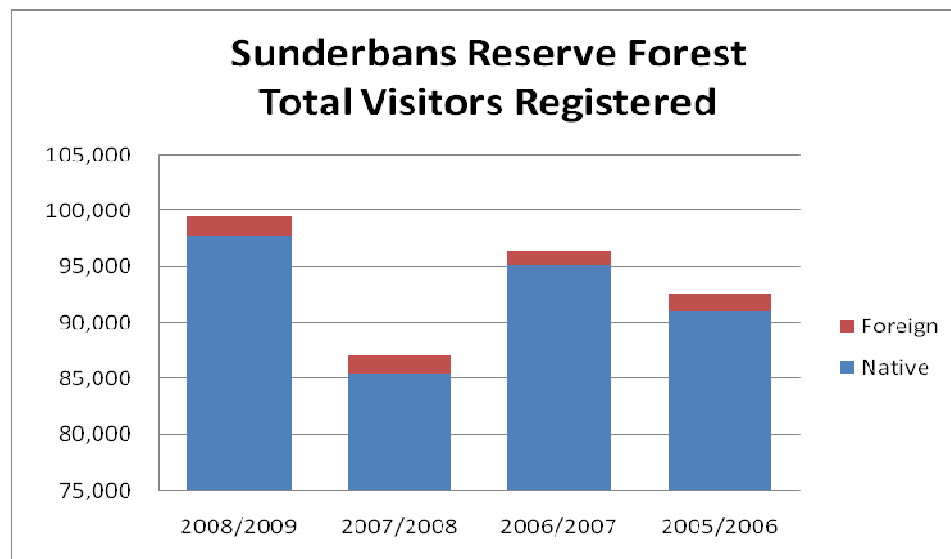
The charts presented are a simple quantification of the number of check marks received in each section of the survey in the categories of Excellent, Good, Fair, Poor, and Not Applicable, based on the consensus rating of the data collecting team after each field day, not the individual interview reports. For this reason, these charts are illustrative only and provided to give a simple visual presentation of how the team rated each survey category, based on their own field results, observations, and final consensus review. The discussion and recommendations provide important background on how these ratings were decided upon.

A chart with Strengths and Weaknesses is provided to summarize the interpreted results in each section. A summary of the opportunities identified via this research, and threats where relevant, are also summarized.

The conclusion provides the master chart for Strengths, Weaknesses, Opportunities and Threats with action points recommended by the Principal Investigator. A full review and set of comments and edits by expert Elizabeth Fahrni Mansur, an experienced researcher and environmental educator in the SRF and former CEO of The Guide Tours Ltd – one of the pioneer tour operators in the Sundarbans, has greatly enhanced the final document. Visitation to the Sundarbans Reserve Forest

VISITATION DATA FOR THE SUNDARBANS RESERVE FOREST

The total number of visitors to the Sundarbans Reserve Forest is close to 100,000 visitors per year according to Forest Department records. Foreign visitors make up less than 2% of this total. Management of tourism in the Sundarbans Reserve Forest is therefore largely a matter of managing visitors from Bangladesh. The SWOT team gathered visitation data from the Forest Department via contact with their offices in both Khulna and Karamjal. These figures reflect some variability in visitor numbers over the last 5 years, with the highest numbers in this year 2008/2009.



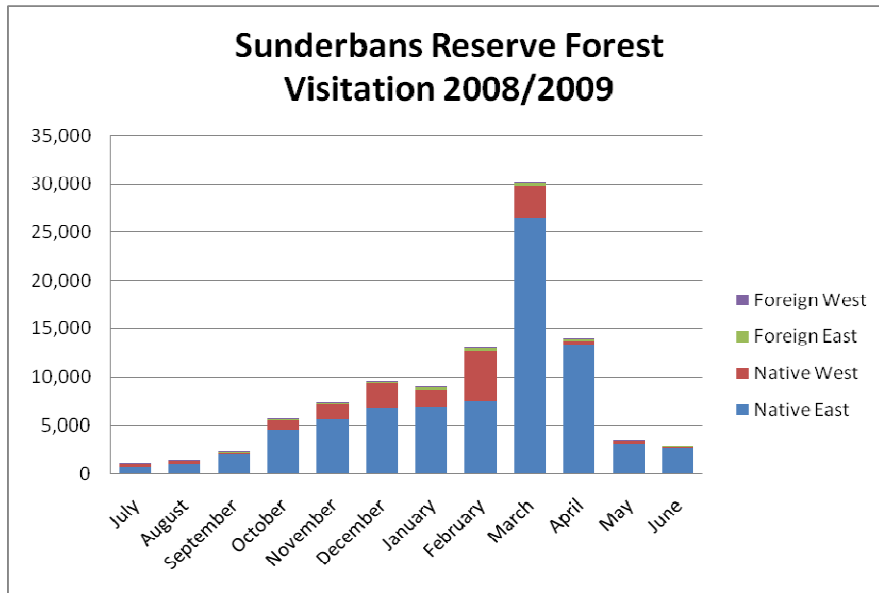
	2008/2009	2007/2008	2006/2007	2005/2006
Native	97,721	85,473	95,102	91,039
Foreign	1,745	1,540	1,257	1,581
Total	99,466	87,013	96,359	92,620

Given that a global recession is transpiring, it is important to recognize that the tourism economy of Bangladesh is not contracting in a year when the global tourism economy has receded by approximately 2% according to the UN World Tourism Organization. Total numbers in the SRF, one of the most well-known destinations in the country, increased by 14% between 2007/8 and 2008/9 reflecting a vibrant tourism economy that is growing primarily due to domestic travelers. Given that Bangladesh is ranked as 127th out of 130 countries in the Tourism Competitiveness Report by the World Economic Forum, just 3 from the bottom- with only Burundi, Lesotho and Chad ranked lower -there is every indication that more could be done to enhance the economic benefits of tourism to the country and certainly to the Sundarbans Reserve Forest.

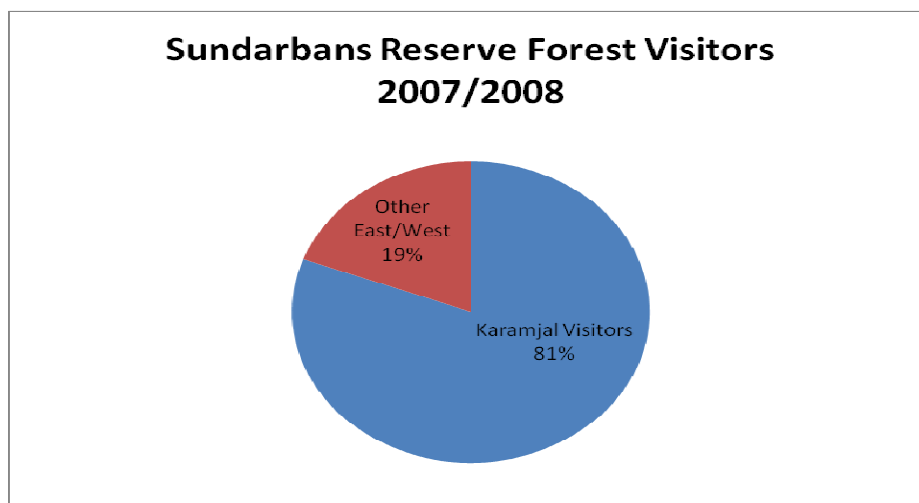
The visitation numbers show a very, high and burgeoning number of domestic tourists to the Sundarbans Reserve Forest. However as will be shown little is being done to manage these

visitors who have distinct needs, there are no economic benefits flowing to the reserve as a result of this growth in domestic interest, and social/ community benefits are very small indeed. If this were not problematic enough, environmental damage is increasing rapidly. **These statistics therefore should be considered a warning signal, given that the tourism industry is presently causing increasing negative impacts to the SRF.**

Peak season is in March, with 30% of the visitors coming in this one month. High season is February-April, and shoulder season is October-February.



The most visited site in the park is Karamjal, in the Eastern Sundarbans, with 81% of total visitors to the reserve visiting this one area



This total visitation pattern indicates heavy pressure on certain sites, particularly Karamjal where a small visitor center, trails, and a captive breeding program for endangered crocodiles is located.

This visitor center is an easy day trip from Mongla, making it the most accessible site for day trips by Bengalis.

Full Excel charts with Visitation Statistics for the SRF are found in [Appendix C](#).

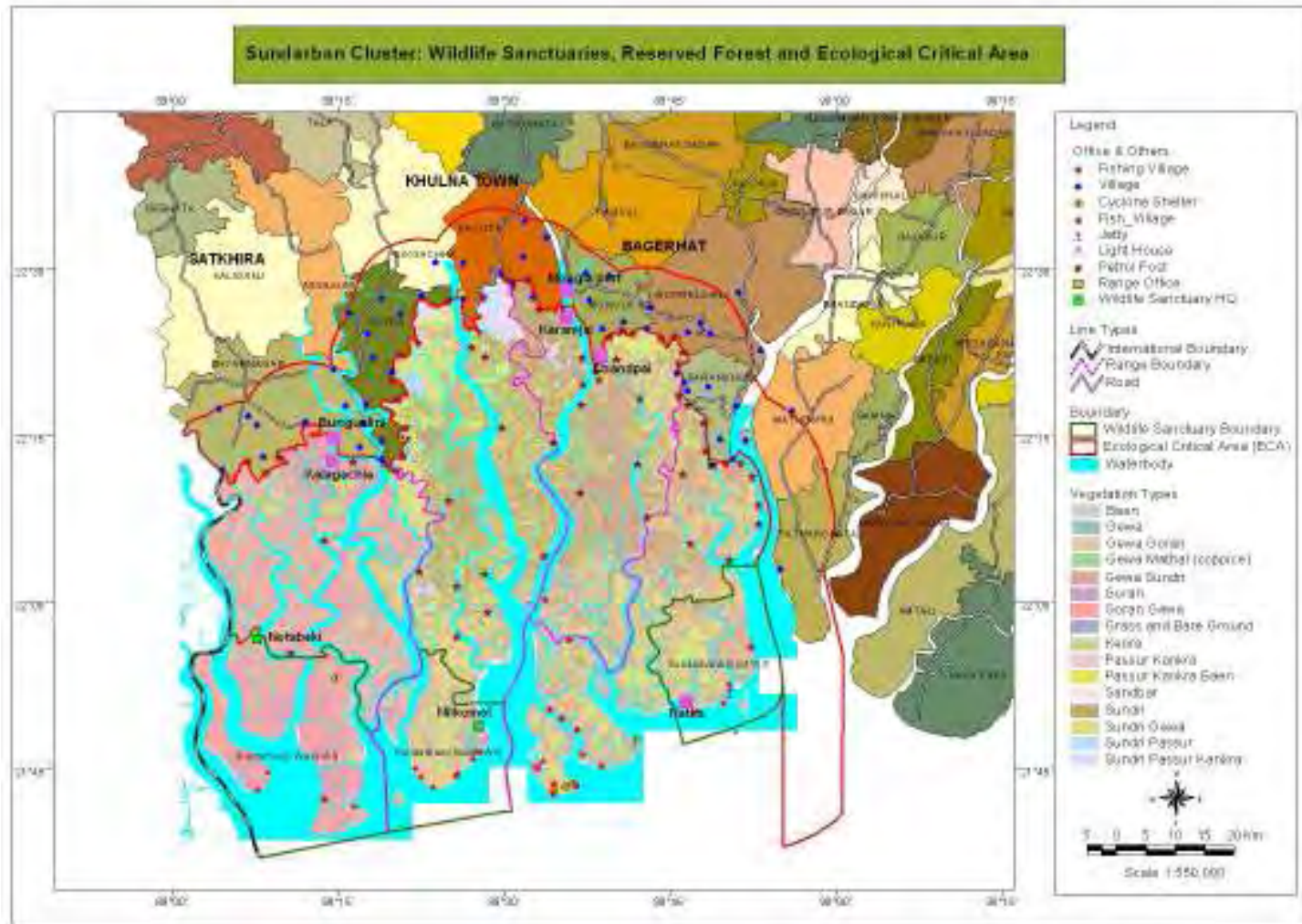
As will be presented in this document, the flow of visitors, the information they receive about the Sundarbans ecosystem, and the revenues available to manage visitors have a crucial effect on how tourism will impact the reserve, now and in future.

In this SWOT, the team looked at information provided on the Sundarbans Reserve Forest from information providers in Dhaka, Khulna, and Mongla. The team also reviewed interpretative and visitor center information provided at Karamjal and Katka.

- Dhaka is the capital of Bangladesh and the main departure point for the majority of overnight visitors, domestic and international.
- Khulna is the gateway city to the Sundarbans, where buses, boats and hotels are found for travelers preparing for overnight tour departure. Khulna is the main departure port for international visitors boarding overnight ships heading to the forest – located just outside the reserve forest.
- Mongla is a small port city where a wide variety of small boats are available for day trips which serve a domestic market to the most accessible parts of the forest as well as a boarding port for overnight ships.
- Karamjal is the primary domestic tourism destination in the park, which is an easy day trip from Mongla.
- Katka is one of the most popular destinations for overnight visitors traveling on ships with accommodations. It is a nearly a full day boat trip from Mongla on boats outfitted for overnight passengers, and it is a full day from Khulna.

Figure 1 provides a map of visitor sites in the SRF.

Figure 1 Sundarbans Reserve Forest

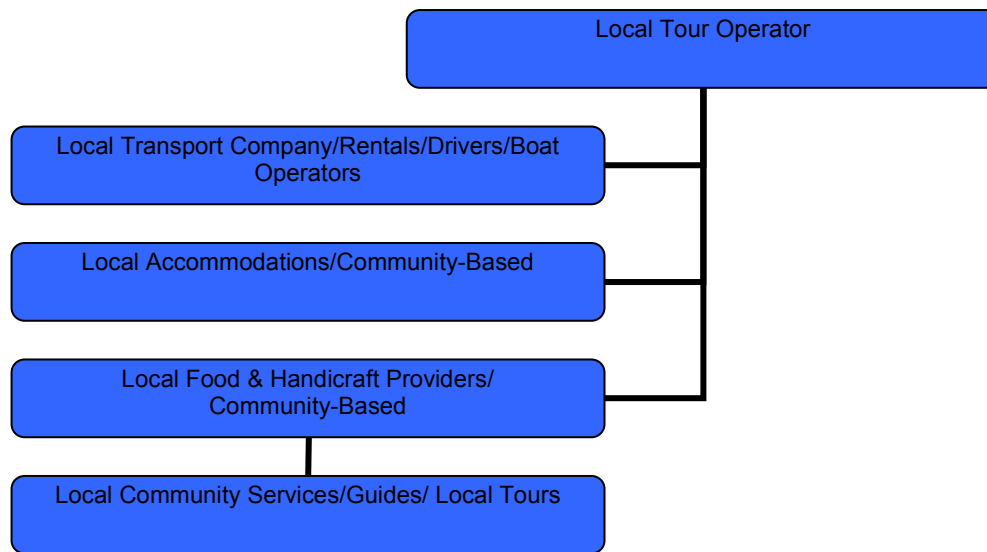


Destinations reviewed within the Sunderbans Reserve Forest are marked with a pink box.

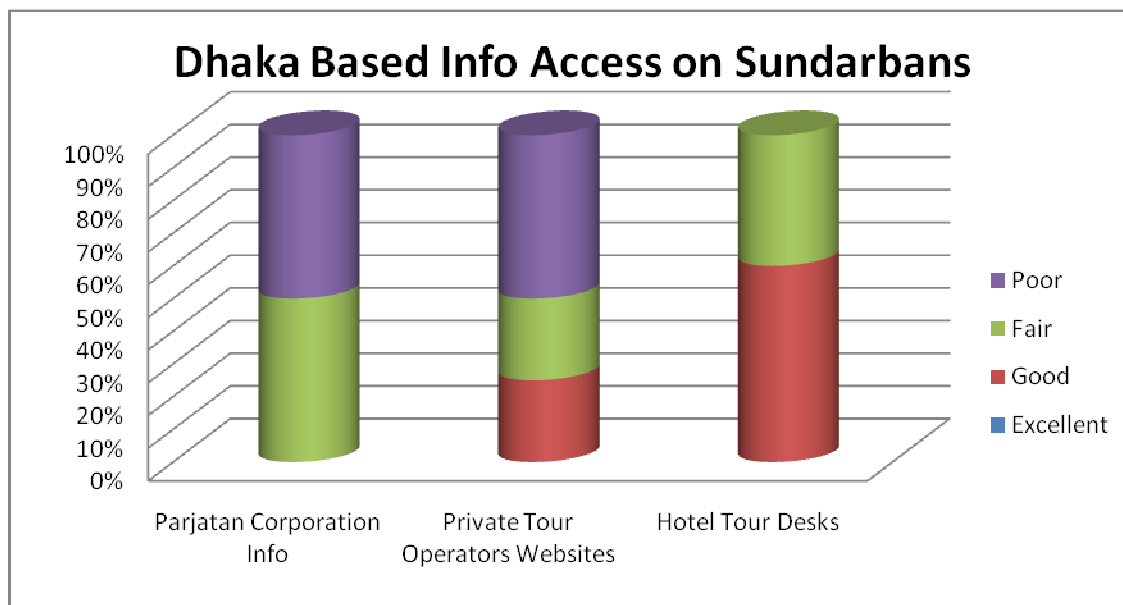
INFORMATION ACCESSIBILITY ON THE SUNDARBANS

Tourism information must be provided by the main actors delivering the tourism experience in a way that is accessible and provides the tourist with the information required to make informed decisions on their travel experience. The information presented for a protected area of the importance of the SRF which is a globally recognized biosphere reserve, should be rich with content about the ecosystem, wildlife, plants and preferably include information about human resource users and their livelihoods. An important feature of visiting the forest is not only its natural history, but also the many harvest activities transpiring at all times within the Sundarbans mangrove forest. A chain of tourism providers is required to provide this information to tourists. A small selection of each link in the supply chain was surveyed to understand how the Sundarbans Reserve Forest is being presented to both international and domestic visitors. A graphic representing the standard supply chain found in most ecotourism destinations is provided in Figure 2. In the Sunderbans, the team reviewed local tour operators, local accommodations, community based suppliers and services, and boat owners/operators a particularly important feature of this mangrove destination.

Figure 2 Supply Chain for Tourism in Destination Country



DHAKA BASED INFORMATION



The Parjatan Corporation which is the National Tourism Organization (NTO) of Bangladesh was contacted by telephone, its website was reviewed, the airport desk was evaluated and the Parjatan hotel in Dhaka was contacted. In general there was inadequate information available on the Sundarbans, with their tour division unavailable by phone during the survey week due to an office transition. Their website was acceptable with succinct information provided.

Private tour operator websites were helpful, but their websites were judged to be lacking in the type of content rich information that websites can so easily present. Three tour operators specializing in natural history tours were evaluated for their websites, and one non specialist firm. The specialist companies provided some good information, but our team found inaccurate information on one specialist firm site, and also judged the presentation to be poor and hard to read on another. In general, natural history specialist tour operators should excel in the presentation of information on the most important nature reserve in the country.

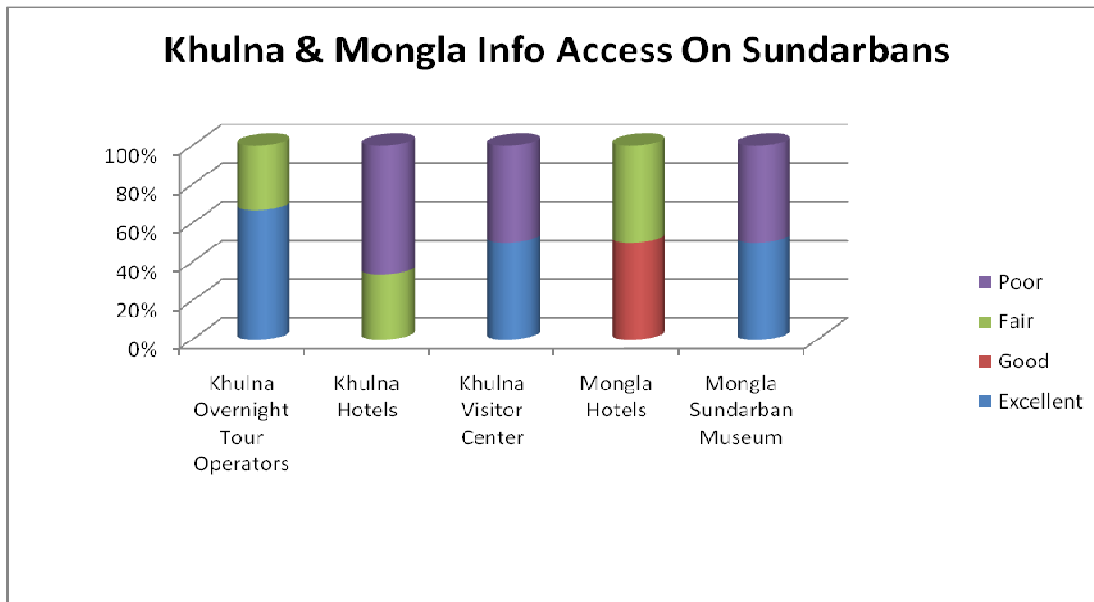
While government protected area and tourism agencies are expected to provide this type of information in developed countries, it is rare that they do so in developing countries worldwide. Given that the Sundarbans is a globally recognized biosphere reserve, it is important that private tour operators provide highly informative material on the reserve via their websites with links to as many relevant resources as possible.

A Google search for the Sundarbans Reserve Forest draws up a full page of links to Sundarbans National Park in **India**. This indicates that none of the specialist tour operators working in Bangladesh have learned how to optimize their websites for Google searches – a highly important tool to attract more attention and visitation to the Sundarbans in Bangladesh

Hotel tour desks were the most helpful in providing information to our blind callers in the luxury, moderate and budget categories, quickly providing details on the main points necessary for making a decision and connecting visitors to the relevant tour operators on request. Only business hotels, not interested in handling leisure tourists, were not ready to meet our blind callers' needs for more information.

None of the information providers queried were rated excellent for information on the Sundarbans. More quality information could be presented on the Sundarbans ecosystem that would attract visitors and help them to learn about this unique ecosystem in advance of arrival. This information should be optimized to reach a broader market more effectively via the worldwide web.

KHULNA & MONGLA INFORMATION



In the gateway city of Khulna, information on the Sundarbans was more available and of higher quality. The leading overnight tour operators have an office in Khulna, and our data gatherers found it easy to get quality information from the tour operator offices by just stopping by. All the major overnight tour operators employ trained guides who accompany the boats into the reserve. Surprisingly the hotels in the city, which clearly catered to international visitors coming to the Sundarbans had little or no information available. This is a clear weakness.

The Khulna Sundarbans Forest Information and Learning Center found at the Forest Department office is off the beaten path and little known. Established with funds from the Sundarbans Biodiversity Conservation Project, this center has few visitors. Our team's conversation with the Forest Department employee charged with handling visitors indicated that there is no promotion, no budget for the center, and no effort to expand or use the center as an educational entry point for Sundarbans visitors. The projection system, which once offered documentary films in a charming room set up with a mock Sundarbans boat has become inoperable, simply due to the

lack of repair required for the projection system. The center for information for tours is not operating, and the small shop has limited goods which are faded and appear to have remained on the shelves for years. While the team judged the Information Center as excellent for being available with good content and open according to schedule, it was judged poor in terms of its accessibility. None of the hotels or tour operators recommended it to visitors. This is clearly a weakness that could be converted into an opportunity.

In Mongla, a much smaller town of more appeal to domestic visitors, the Parjatan Corporation Hotel had no information available on the Sundarbans Reserve Forest. The hotel manager commented that they had “run out of resources to give the tourist.” A small budget hotel in town was much more entrepreneurial, with the owner going out of his way to promote the importance of the Sundarbans ecosystem to our local data gatherers, its many wildlife species, discussing the Sundri tree species for which the reserve is known, and the fact that it is a protected area. A small private museum in Mongla was also easy to find and open according to schedule, though unfortunately our team missed the opportunity to visit. It was rated good as it was easy to locate, and was recommended by a local shop keeper – indicating that visitors were likely to visit it, unlike the Forest and Information and Learning Center in Khulna.

The Parjatan Corporation hotel in Mongla had no information available on the Sundarbans Reserve Forest . The hotel manager commented that they had “run out of resources to give the tourist.”

The team also investigated if guides were available in Khulna or Mongla. No guides were located in either location. The only trained guides located during the visit to the Sundarbans worked for the specialist tour operators operating overnight boats out of Khulna. There are no guides for domestic tourists entering the reserve in Mongla. This is a weakness that could be converted into an opportunity.

SUMMARY OF STRENGTHS AND WEAKNESSES FOR INFORMATION ACCESSIBILITY

Strengths	Weaknesses
Khulna tour operator offices	Parjatan Corporation information in Dhaka & Mongla
Hotel tour desks in Dhaka	Lack of quality information on Sundarbans on tour operator websites
Trained guides employed by specialist tour operators accompanying visitors on overnight boats into the reserve	Khulna hotel information on Sundarbans
	Khulna Sundarbans Forest Information Center
	Lack of guides for day tours in Mongla

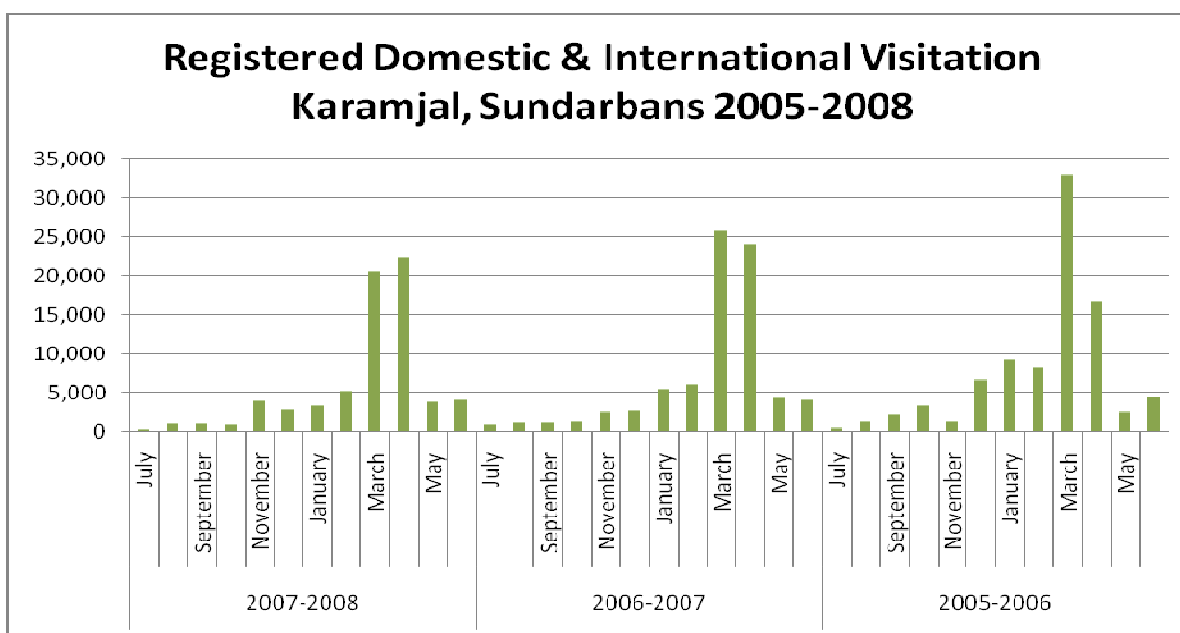
SUMMARY OF OPPORTUNITIES

- Improved websites for specialist tour operators with offices in Dhaka
- Improved Visitor Center in Khulna via small investment in Sundarbans Forest Information Center
- Improved guiding services for day tours from Mongla
- Improved information provision from hotels in Khulna

While some captains promoted themselves as “guides,” our team soon learned that there are no real guides in Mongla, only boat owners who can carry travelers into the reserve.

BOAT TRANSPORTATION

Mongla is a bustling port with hundreds of Bengali tourists arriving weekly for short day visits into the Sundarbans Reserve Forest primarily heading to Karamjal where between 70,000 and 90,000 visitors have registered and paid entrance fees annually in the years 2005-2008 year as monitored by the Forest Department. However, it is estimated by local Forest Department officials at Karamjal that unpaid visitation would double the official statistics. Records from the Karamjal Forest office on site demonstrate that high season for domestic visitors is March and April (see chart below). Forty to fifty thousand domestic visitors arrive in these two months, swamping local capacity to manage them. Records also demonstrate that international visitors to Karamjal are a very small concern, at less than 10 percent of total numbers visiting the site. Full Excel charts on Karamjal visitation can be found in Appendix C.



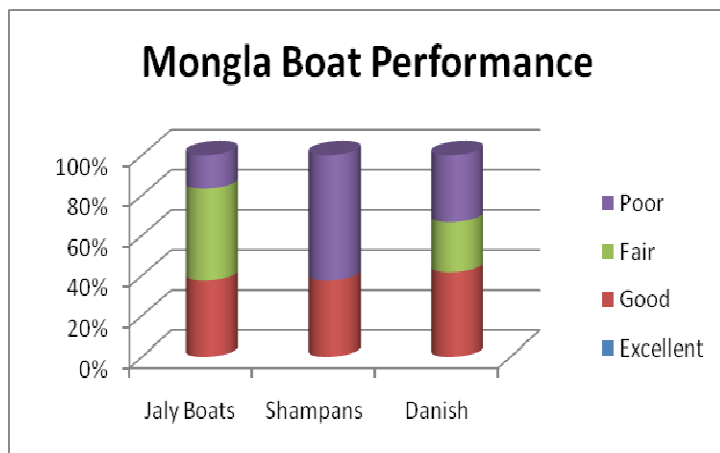
	Domestic	International	Total
2007-2008	69,630	600	70,230
2006-2007	79,576	563	80,139
2005-2006	89,676	779	90,455

For the years where full data was available (2008/9 data collected was only through March), there is a clear downward trend of visitation to Karamjal, further study would be required to understand if this is a significant trend.

The team focused its research on the boats available in Mongla outfitted for tourists for day trips, as many comments were made by informants in Dhaka about the rapid escalation of day visitation in this area. Eleven day trip boats in total were evaluated, with the captains interviewed regarding their years of experience, emergency procedures, approach to predicting the weather, and cordiality.

Five types of boats were categorized that service tourists. The Jaly Boat is the most popular boat for day trips. These converted and motorized fiberglass rescue boats have been outfitted with high decks, chairs or even couches for day visitors. They carry up to 30 people, but sometimes load up to 50. The Shampan trawler is a smaller local wooden engine boat traditionally transporting passengers across waterways and can carry 20 people. The Danish boat is a larger fishing vessel that is carrying as many as 80 tourists. The Gang Launch is a steel body vessel that carries laborers to cargo ships carrying up to 250 people. These boats are now being deployed for tourism in season. The Public Service Launches, multi-storied steel-body vessels servicing all parts of the riverine country, travel from Dhaka, Barisal, Khulna or Mongla to Sundarbans carrying as many as 400 passengers. Jaly Boats and Shampan trawlers are always available at the dock, others need to be arranged from their offices on the opposite river bank. Overnight permissions are given for Danish boats, Gang Launches and Public Service Launches for up to 50 passengers.

Overall the port is chaotic with many different captains promoting their ships. Pricing is highly negotiable, depending on the volume of tourism that day. Overall, the surveyors found that all the captains were cordial without exception. This is an important strength.



The Jaly boats had the most experienced captains with the most thorough answers on questions of safety and weather, though none of the boats offer adequate life vests or safety rings as part of their equipment.

The Jaly boats had the most experienced captains with the most thorough answers on questions of safety and weather, though none of the boats offer adequate life vests or safety rings as part of their equipment. There is a Jaly boat association as well as a trawler association that was

referenced by several of the captains. These associations could provide an opportunity to guide the captains on questions of safety, guiding and customer service.

The Shampan captains were less knowledgeable, with less experience, operating with only the most basic understanding of handling their ships in emergency situations. The Danish boats, which are larger fishing vessels, had one highly experienced captain, defined by years of experience, and two captains with almost no experience.

The team attempted to determine if any of these ships carry more passengers than their permitted capacity. Because research did not take place during the peak tourist season, which transpires from December – February, it was impossible to directly observe if the boats were overloading. But according to all local informants in the port this is not a common practice. During the winter season, overloading is common practice. The shampan and jaly boat operators work through a system during the busy times, organized and maintained by the associations whereby they assign passengers to the vessels and make the necessary arrangements including fixing the price.

The team also traveled for 3 days on an overnight ship owned by The Guide Tours Ltd. M.V. Chhuti, the first tourist vessel built in Bangladesh, was being readied to go into port for renovation and upgrade. Its layout is basic and does not include an adequate dining area or deck chairs. The shower and toilet area lacks privacy, located in an area where crew members also need to rest. This is particularly inconvenient for women. Food was excellent and service well coordinated. The team rated the guide provided by our hosts as good. Based on the facilities alone, the boat would be considered to be a budget accommodation. The company focus is clearly on natural history. A great deal of excellent information is available in its lounge on the natural history of the Sundarbans with provisions for the use of computers – a feature which created a good ambience of learning and inquiry. The comment book was filled with rave reviews of the tours, demonstrating that the market The Guide Tours attracts for visiting the Sundarbans Reserve Forest is strongly interested in natural history and conservation.

There was no opportunity to compare a variety of overnight ships for tours in the Sundarbans, and it is for this reason that a comparative evaluation of overnight services is not offered.

SUMMARY OF STRENGTHS & WEAKNESSES FOR BOAT TRANSPORTATION

Strengths	Weaknesses
Availability of boats in Mongla	Inadequate safety equipment on day tour vessels
Cordiality of boat captains	Lack of well presented system for hiring boats
Existence of Jaly and Shampan boat association	Lack of availability of trained guides

SUMMARY OF OPPORTUNITIES

- Development of program for day tour vessel operators via the existing associations to formalize booking system for boats, guide training, safety procedures, and customer service (including information available on board or at time of booking)

SUMMARY OF THREATS

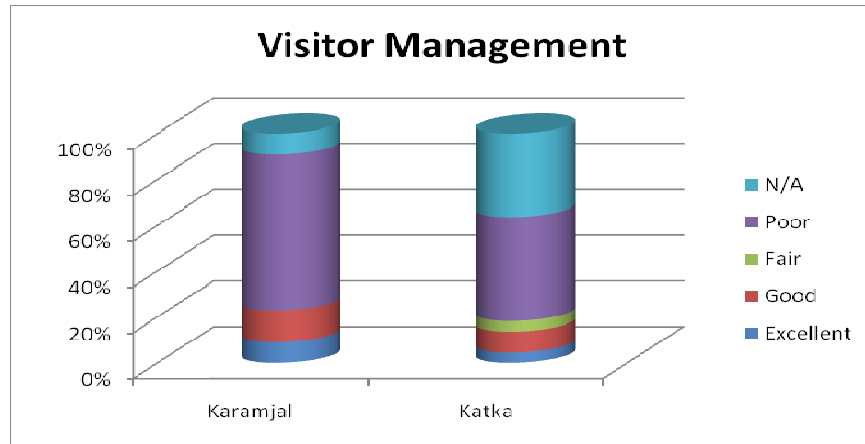
- The potential of a boating accident in Mongla is relatively high. There are inadequate safety procedures, and none of the day tour boats are carrying enough life preservers, safety vests, or first aid kits.

VISITOR MANAGEMENT

The principal investigator and research coordinator undertook this part of the data gathering via observation and discussion with Forest Department representatives in the Chandpai range office ,which oversees Karamjal – the primary domestic tourism destination in the Sundarbans with 70-90,000 visitors annually who paid fees 2005-2007 to visit, and Katka - a primary destination for overnight tours, where 10,000 visitors have paid fees to visit in 2006/7 according to Forest Department records on site. In each case, it is estimated by Forest Department officials that non-paying visitors essentially double the numbers presented above presumably due to a complicit understanding between managers and visitors, that not all visitors will register or pay fees to visit.

This section of the survey regarded the management steps taken by the Forest Department to protect these tourism visitation sites. Standard and relevant visitor management questions were asked to Forest Department officers in charge of Karamjal and Katka. The interview included questions found on the master survey (Appendix A) regarding providing structured areas for visitation, crowd management, public use planning, entry fees, and the collection and return of fees to communities, tourism infrastructure and site protection.

Because there are presently no policy provisions to allow the Forest Department to manage tourism as part of its budgetary process in any of the protected areas of Bangladesh, the results of these indicators are poor.



A difference in attitude between the Forest Officer in Chandpai and the Forest Officer based in Karamjal was great on the matter of tourism management. The Chandpai range office is in charge of resource protection for a 100,000 hectare area including Karamjal with a total staff of 200). Here the view is the SRF should remain undisturbed, with more controlled entry, and less incursions from tourism. In Karamjal, the Forest Research Officer was preparing proposals for improving the management of tourism at this site for submission to the Forest Department on arrival of the research team. His view is that the Sundarbans should be a resource for more visitors and tourism should be viewed as a means to raise pride and attachment to the Sundarban’s natural resources. He had prepared his own master plan for the site, which the research team has one file, and recommends that more should be done to immediately reinvest in tourism infrastructure in Karamjal -- which is receiving nearly a hundred thousand visitors per year if not more according to Forest Department statistics.

The Forest Department officer was well aware that there are inadequate visitors facilities at the site. A collapsing jetty was being held together with rough boards and twine.

In Karamjal, entry fees are being consistently collected, and the team observed that the ordinances to maintain noise at appropriate levels appear to be respected. There are visible guards and security on the scene and an effort to preserve fragile natural resources. However, the existing personnel’s capacity to control visitor damage to the site clearly was inadequate to prevent graffiti, waste dumping and other visible problems. There were no picnic grounds, no rain shelter, poor rest room facilities, and virtually no waste management. We were informed by the Forest Department officer on site that there is no recreation management plan on file for the site in Khulna or elsewhere and entry fees are not directly reinvested into tourism infrastructure, site protection, or nearby communities such as at Chandpai,. Without plans to manage and monitor tourism at this site, tourism will cause increasing damage and impacts due to the volume of visitation and the inability of local Forest Department officers to invest in preventing resource degradation caused by tourism.

In Katka, there is no responsibility for collection of entry fees, and therefore most of the questions asked were not applicable. The major concerns with visitor management in Katka stated by the Forest Department officer related to its vulnerability to cyclones and recent severe damage to buildings on this site caused by cyclone Sidr in 2007. The renovation of buildings was underway, and the new Forest Department guest house was virtually complete, though without furniture or kitchen facilities. The Forest Department officer was well aware that there are inadequate preparations for tourism at the site. A collapsing jetty was being held together with rough boards and twine.

The Forest Department officer stated that from his level even if he did seek to correct the jetty or other tourism management issues officially, “a visitor management proposal would not be considered.” Instead, he was working unofficially to put some boards in place to keep the jetty from collapsing, and reported paying for this out of his own pocket. Like the officer at Karamjal, there was a great deal of frustration with the lack of concern and relevant policies to handle these issues from their superiors in the Forest Department.

Despite the fact that the site was suffering greatly from a lack of investment, it did have a walking path and rain shelter. We were informed by the Forest Department that noise restrictions are enforced at this site, and there are guards and security on the scene. However, because the researchers were there when there were no loudspeakers present, the team was unable to observe if interventions to lower noise took place or not. We were informed that guards check to ensure entry fees have been paid, but at the same time told that approximately 50% of all visitors do not register or pay, due to the apparent acceptance on the part of Forest Department officials that it is not entirely necessary to be certain every visitor pays. Their attitude could likely be caused by the fact that there is no reinvestment of entry fees in tourism infrastructure or site protection there.

SUMMARY OF STRENGTHS & WEAKNESSES FOR VISITOR MANAGEMENT

Strengths	Weaknesses
Guards & security present	No well structured areas for picnics
Noise ordinance enforcement according to officials, <i>but not thoroughly checked by researchers due to timing of visit</i>	Poor rest room facilities
	Poor waste management
	Dangerous jetties
	No visitor management planning
	No reinvestment of fees into site

SUMMARY OF OPPORTUNITIES

- Review of previous proposals or plans for development of visitor management plans for key visitor sites in Sundarbans, including Katka & Karamjal using expertise of Forest Department officers working on site.

- Cooperation with private sector to develop more appropriate facilities, in public/private management approach – or licensing visitor sites to private sector for development, revenue gathering and reinvestment into sites.

SUMMARY OF THREATS

- Continued degradation of visitor sites caused by tourism impacts
- Real possibility of accidents caused by poor visitor facilities, such as dangerous jetties
- Creation of vicious cycle of destruction of visitor sites and poor attitudes from visitors who do not learn to respect the places they are visiting, due to lack of visitor management and available information or guidance.

COMMUNITY BENEFITS

The team visited Chandpai in the Eastern Sundarbans fringe and Burigoalini in the Western Sundarbans fringe to observe questions of community benefits from tourism to the Sundarbans Reserve Forest. Both communities are located in buffer zone sites directly adjacent to the forest.

Seven community members were interviewed by the data gatherers in Chandpai. All were identified as individuals who have worked with visitors who have stopped by probably en route to other locations. Chandpai did not have data on the number of visitors to the village, and all agreed the numbers visiting are low. Nonetheless, the data gatherers did not have any difficulty finding individuals who had worked with tourists.

All community members interviewed agreed that their ability to combine tourism income with other sources of local livelihoods could be excellent. The individuals contacted were all living at the poverty line, with income roughly at 200-250 Taka daily. In more than one instance our team uncovered severe problems with villagers' ability to feed their families. All villagers were 100% dependent on the harvest of shrimp fry and wood resources from the Sundarbans, and according to our team most were doing so without the necessary permission.

The community members interviewed were: a day laborer for the Forest Department who is hired to guide tourists into the SRF, a pharmacy retailer, a fruit retailer, a patroller for the Tiger Project, a day laborer, a van driver, and a food vendor. All reported that their income was considerably enhanced during the 2-3 month tourism season. The retailers roughly double their monthly earnings in tourism season, as does the van driver. The part-time guide has found he earns more as a guide during the 2-3 month season than as a day laborer for the Forest Department on a monthly basis. The Tiger Project patroller did not provide income information. The team rated the opportunity for community members to combine tourism income with local sources of livelihood as excellent in Chandpai.

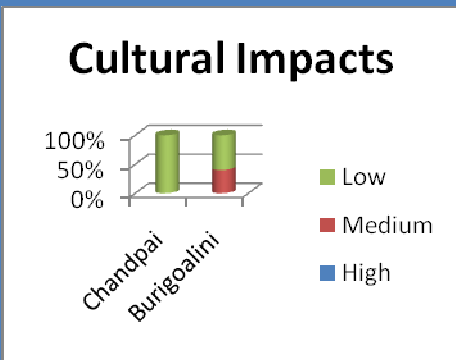
Cultural Impacts

Women in Chandpai and Burigoalini were asked if tourism has caused an invasion of privacy, if there have been cases of harassment, any interruption of prime livelihood strategies, increased crime or increased begging.

Interviews in Chandpai indicated that women are very poor, surviving on illegal fry and wood collection. Wood collectors are earning just 20-30 Tk per day, and women report the Forest Department seizes wood or restricts illegal fry collection, as both activities are against regulations in the forest. Tourism is a potentially new income source for these women in desperate circumstances .

Examples of how women can become involved in tourism were found in Burigoalini where women offer water to boats and cook for travelers on portable mud stoves.

However, women in Burigoalini are culturally conservative and are not likely to leave home for any purpose. A growing number of female visitors come to their homes to use the toilet. This was judged to be an invasion of their privacy.

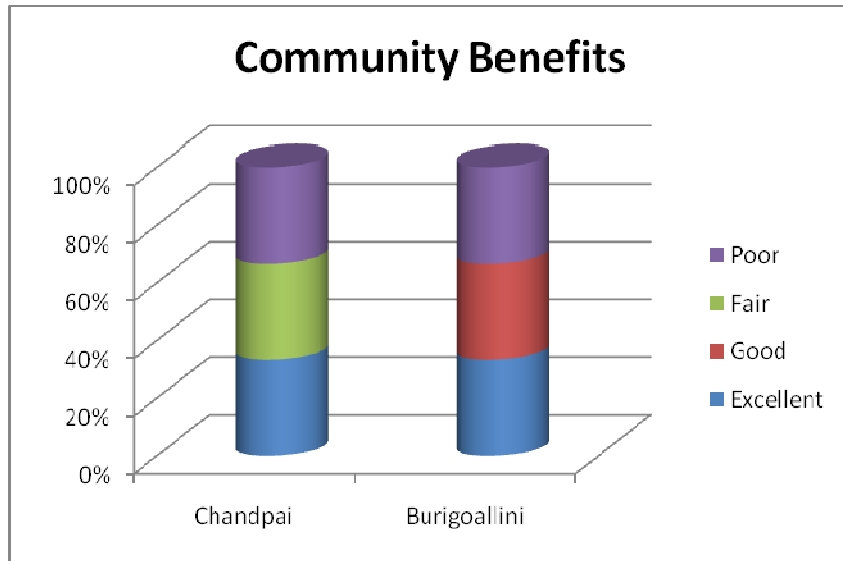


Opportunities

Work with women to develop toilet facilities for visitors at a reasonable price

Threats

Growing invasion of privacy due to lack of toilet facilities



There had been no training opportunities made available to the community for tourism related skills according to all those interviewed. This is a missed opportunity and was considered a weakness.

When asked if microenterprise linkages had been improved through community sales opportunities to tourists, the team learned that no villager was presently selling tourism related goods. However, the fruit retailer, the pharmacist, and food vendor were all increasing sales during tourism season. Microenterprise leakages were rated as medium for Chandpai.

In Burigoalini, 8 community members were interviewed. They were: a trawler society member, a van and motorcycle driver, a hotel owner, 2 shop owners, a homeopathic doctor, a water delivery microenterprise representative, and a portable mud stove oven delivery and rental service provider. Once again, the ability of community members to combine tourism with local sources of livelihood was excellent. Equally, there had been no training opportunities.

The microenterprise linkages to tourism were rated as good in Burigoalini. According to Forest Department officials 10,447 visitors came to Burigoalini in the 2007/2008 season and paid the entry fee to visit the SRF Similar to Karamjal and Katka, the actual visitor numbers could be double, if the figure were to include those who do not pay the entry fee, according to the Forest Department. Burigoalini, is the gateway for the Kalagachia Forest Department Station which has tourist facilities including a short elevated trail to observe wildlife, roofed picnic facility, and docks for local boats stopping over, and it is the starting point of the world famous

honey collectors, who have attracted global press attention when they depart each year on April 1 to collect honey in the SRF. The baseline average income in Burigoalini appears to be at the poverty line or 150 Taka a day and most of the individuals interviewed were doubling their incomes from November – March annually with tourism sales.

The trawler society member ferries tourists between Burigoalini and Kalagachia from November to March, doubling his income during tourism season – from 150 to 300 taka a day. The van driver also doubles his income. One street vendor specializing in selling Sundarban honey, receives enterprise development support from the Tiger Project. He receives 10-15 buses in a day during the high season on weekends. This vendor is doubling his income modestly by an additional 150 taka per day over his current income, which seems modest considering the volume of visitors. This vendor noted that local women cook for visiting picnickers at the cyclone shelters, thereby earning extra income. Other women deliver water to tourists who are picnicking and earn an additional 150 Tk a day. A small women’s cooperative of 20-25 members, rent mud stoves to picnickers earning an additional 100 Tk per day for every member of the cooperative during tourism season, or 2000 Tk per day according to this estimate. Finally a shop keeper who acts as middle man for honey collectors and sells their honey profits 50,000 Tk (\$735 USD) annually from honey sales. The local restaurant receives more visitors during the winter-pre-monsoon season.

In Burigoalini, there has been some effort on the part of NGOs to increase local livelihoods from tourism and honey sales. This appears to be paying good dividends and should be studied further – with some impressive returns on honey sales in particular, though it is noted by our specialist reviewer Elizabeth Mansur that the profits from honey sales are not shared with the collectors who are risking their lives. The local women’s cooperative renting mud stoves is also a profitable venture that is reaping good rewards. It would be interesting to learn if that also was supported by an NGO. The street vendor appears to be doing poorly considering the number of visitors, but this represents a potential opportunity.

In Burigoalini, entrepreneurial local people have quickly learned how to take advantage of the tourism economy to boost their incomes.

Overall, the team was impressed with how well community members were benefiting from tourism, considering there had been no training and very little outside assistance to improve their livelihoods to date. The types of businesses that are thriving were broad based – as tourism benefits do not have to be generated by tourism businesses alone – such as transport and hospitality – the supply chain for goods extends to food goods, water, pharmaceutical supplies, & specialty items for picnicking, and local honey.

SUMMARY OF STRENGTHS & WEAKNESSES FOR COMMUNITY BENEFITS

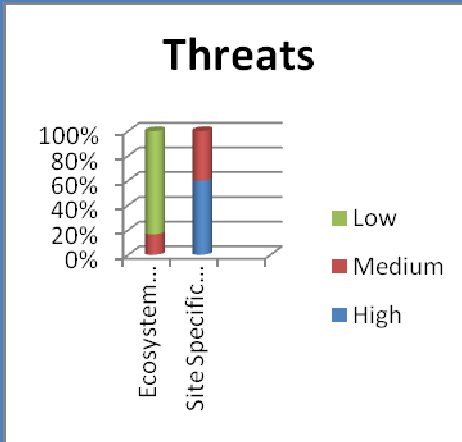
Strengths	Weaknesses
Entrepreneurial microenterprises in place	Lack of training in communities
Community capacity to combine tourism income with other sources of livelihood	Tourism income only from Nov-March
Relatively high number of visitors	
Proximity to Kalagachia Forest Station	

SUMMARY OF OPPORTUNITIES

- Training for community members to develop more effective tourism enterprises
- Guide training for community members/boat operators to work in SRF
- Microenterprise financing to create more viable local microenterprises targeting domestic visitors
- Increased income for honey collectors through strategies to provide profit sharing.

Physical Impact Threats

The impact of tourism on the Sundarbans ecosystem is very limited. Tourists are visiting a very low percentage of the reserve and therefore are not an important threat to the ecosystem.



However, the threat of physical impacts on specific tourism sites are high or medium. (See Site Specific Resource Protection)

It is noted by our specialist reviewer, Elizabeth Mansur that erosion is increasing along regular travel routes, especially on the eastern side.

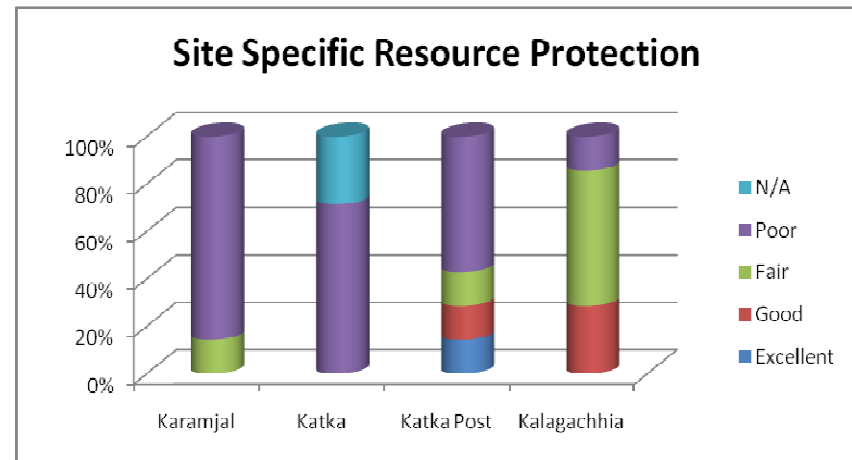
SPECIFIC RESOURCE PROTECTION

The review of resource protection was broken down according to the specific visitor sites the team visited.

The overall threat of tourism to the Sundarbans Reserve Forest was judged to be low (see Side Bar).

This section looks at specific actions taken by the Forest Department to protect tourism sites from visitor impacts.

In all sites, the team looked at the prevention of impacts on fauna, erosion, sewage run-off, waste/littering, impacts on flora, impacts on water quality, and excessive noise.



In Karamjal, the team judged efforts to prevent all of the above impacts to be poor, except for excessive noise and even this was difficult to truly evaluate due to low visitation during research visit. There were clear examples of tourism impacting fauna – wild spotted deer were being fed junk food from the snack food stand, wild rhesus macaque monkeys reportedly bite visitors, crocodile hatchlings are caught from the wild for display. Erosion on the bank where boats land was clearly a problem. The team observed overflowing septic tanks and leakages with drains connected to the river. Litter was abundant, with bottles, packets, cigarettes and other trash on the ground. There was graffiti on trees and branches were being broken off for tourists to play with. There were no personnel allocated to handle these problems.

In Jamtala/Katka, where the hike to the beach took place – there was little evidence of the same problems, but neither were there any preventative programs in place. There were no toilet facilities and erosion is becoming an issue at the jetty area. According to expert reviewer, Elizabeth Mansur, each tourist vessel is required to have two guards, partly responsible for reduction of human impacts on natural resources. She also reports there is a Voluntary Code of Conduct which prohibits littering, noise pollution, and inappropriate behavior.

Katka Forest station and the surrounding forest area is very vulnerable to cyclones – as are all areas along the coast. Our team felt the site needs regeneration work and that enrichment planting of Keora and Gewa seedlings would be beneficial to preserve the area. But this comment comes from a team member with experience in Forestry, while expert reviewer Mansur comments that it is more sensible to allow natural ecosystem degradation caused by cyclones and waves to transpire. Further research would be required to understand the best approach. Unlike Karamjal, there was reasonable sewage treatment and low impacts on water quality. Our team also was not able to observe problems with excessive noise, but frequent visitors to the area report noise disturbance caused by passengers visiting aboard large Service Launches using sound systems, megaphones and generators throughout their stay. Waste bins are placed in strategically important locations, and trash along the trails is regularly collected by crew members of the private tour operators.

In Kalagachia, more efforts to manage the site were evident, such as waste bins and reasonable toilets for visitors with low impact on water quality. The site showed somewhat greater consideration of preventing visitor impacts and was judged good or fair compared to the other locations.

SUMMARY OF STRENGTHS & WEAKNESSES FOR SITE SPECIFIC PROTECTION

Strength	Weaknesses
Enforcement of the noise ordinance	Impacts on flora & fauna at all sites
Voluntary code of conduct among tour operators	Waste/littering in all sites
	Sewage run-off in Karamjal
	Erosion from boat traffic/docking

SUMMARY OF OPPORTUNITIES

- Creation of appropriate infrastructure for visitors including properly functioning toilets with acceptable septic systems where appropriate, provision of waste bins and appropriate disposal of waste
- Improvement of visitor information
- Training of guides in Mongla or Chandpai to accompany visitors in Karamjal
- Education of tourists in visitor center and by guides to protect natural resources

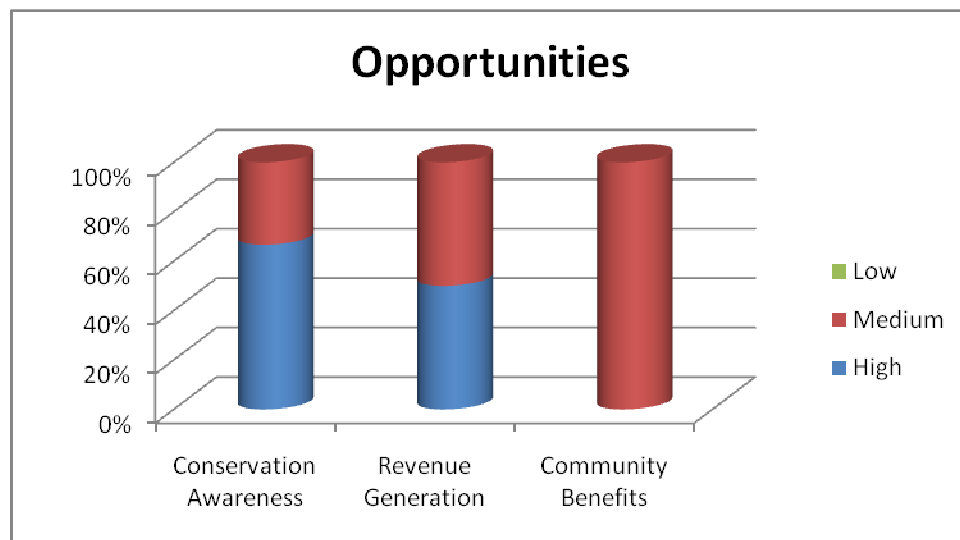
- Training of guards to request the visitors do not feed animals or harm trees
- Formalize Voluntary Code of Conduct for tour operators

SUMMARY OF THREATS

- Escalating damage to Karamjal creating unsanitary, eroded facility without proper provision for rapidly increasing numbers of tourists coming annually
- Uncontrolled activities of large groups (exceeding permissible group size of 50) during peak season
- Lack of awareness among local visitors regarding their impacts on the fragile ecosystem

GENERAL DISCUSSION OF OPPORTUNITIES

A general discussion on the opportunities for tourism to improve conservation awareness, generate more revenue, and provide more community benefits in the Sundarbans was held on The Guide Tours boat during the team’s journey to Katka. Mr. Hasan Mansur (Managing Director/Founder, The Guide Tours Ltd.), Mr. Tim Barker (Lonely Planet Photographer), Mr. Shaheen Iqbal (Part-time guide and environmental science student) participated in the dialog with the IPAC team.



CONSERVATION AWARENESS

All agreed that the opportunity to raise awareness of domestic travelers in regards to conservation of the Sundarbans mangrove forest is very high and should be pursued as a priority. There are no local guides

At present, almost no conservation information is conveyed to domestic travelers.

presently working on the local day-tour boats or seasonally hired launches and there has been no guide training in the Mongla region, where the majority of domestic tourism transpires. The existing interpretation centers at Khulna and Mongla need to be improved and better promoted, and the visitor center at Karamjal needs a complete overhaul. The opportunity to raise conservation awareness of international visitors was perceived to be a lower priority, as most arrive already with a high environmental awareness. At the community level, all agreed that conservation awareness has to be tied to revenue generation for local livelihoods.

REVENUE GENERATION

The opportunity to increase revenue for conservation was deemed to be very high, given the entry fees being generated and the number of tourists visiting key tourism sites. The barrier to generating more revenue for conservation is clear, and well-known. The Forest Department presently submits all entry fee revenue to central treasury and no policy currently exists that would reallocate tourism entry fees to development, maintenance and conservation awareness programs at specific sites. If there is an opportunity for creating such a policy at the highest levels, this should be considered a priority.

The opportunity to increase revenue generation for border communities was considered to be good, remembering that the tourism season is only 3-4 months a year and cannot become a full-time income generator for community members. In addition, the severe problems with resource protection at existing tourism sites would make any large scale efforts to increase revenue generation for local communities through increased visitor numbers a problem for the protection of tourism sites already under considerable threat.

Tourism does not make a serious contribution to the revenue required for the millions of stakeholders dependent on the Sundarbans ecosystem and natural resources. However, in the visited border communities the opportunity to generate more revenue appeared to be good. For example in Mongla, hundreds of buses are arriving and the community remains poorly organized to take full advantage of this economic opportunity. Much more could be done to enhance local revenue generating opportunities in Mongla. According to Mr. Mansur, “millions of Taka in business could be generated there.”

Mr Mansur continued,

Ninety percent of the tourists come to the eastern Sundarbans, hardly stopping at border villages like Chandpai. Something can definitely be done for the border people. More visits can be arranged to Chandpai, and local people can be trained as guides.

Megan Epler Wood noted that increasing the capacity of the border communities to provide goods to tourists is equally important. The results of the team’s community benefits SWOT showed clearly that food and water vendors are also important recipients of tourism expenditures. It is therefore important to develop a full complement of goods and services domestic travelers are seeking in small border villages, including food and water services, pharmaceutical supplies, souvenirs, and specialty food goods from the forest, in particular honey.

COMMUNITY BENEFITS

The team concluded that the opportunity to increase community benefits is somewhat limited, until more is done to develop border community's rights to undertake activities that can support their families legally. At present nearly all community members interviewed were struggling with lack of legal access to resources. Illegal harvest of natural resources is an integral part of border community's livelihoods. Enhancement for 3-4 months a year of their destitute livelihoods which for 8 months of the year are 100% based on illegal activities did not seem to be the appropriate answer to these problems at least for a village such as Chandpai. More needs to be done in this community to ensure they are legally accessing crustaceans, fish larvae, and wood before considering support for tourism as an additional source of revenue.

Tourism does not make a serious contribution to the revenue required for the millions of stakeholders dependent on the Sundarbans ecosystem

In towns like Mongla or Burigoalini, where a broader range of legal activities are taking place, it would be very appropriate to increase activities to improve the full range of community benefits, which can also include access to education, communication technologies, health care, and transportation.

CONCLUSIONS

The summary of Strengths, Weaknesses, Opportunities & Threats are as follows:

Information Accessibility

Strengths	Weaknesses
<ul style="list-style-type: none"> • Khulna Tour Operators • Mongla small hotels • Dhaka Hotel Information Desk 	<ul style="list-style-type: none"> • Parjatan Corporation information in Dhaka and Mongla • Khulna Sundarbans Forest Information Center • Khulna Hotel Information on Sundarbans Lack of trained guides for day visitors • Lack of information on site for visitors
Opportunities	Threats
<ul style="list-style-type: none"> • Improved websites for specialist tour operators with offices in Dhaka • Improved Visitor Center in Khulna via small investment in Sundarbans Forest Information Center • Improved guiding services for domestic visitors • Improved organization and information for day tours from Mongla/Burigoalini • Improved information provision from hotels in Khulna • Improved Visitors Information in Mongla 	Not Applicable

Domestic Tourism Boat Transportation

Strengths	Weaknesses
<ul style="list-style-type: none"> • Accessibility and availability of privately owned boats in Mongla • Cordiality of boat captains in Mongla • Existence of boat associations in Mongla • Existence of local boat operators in Burigoalini 	<ul style="list-style-type: none"> • Inadequate safety equipment on domestic tourism boats • Lack of well presented system for hiring boats with consistent pricing in Mongla • Lack of available trained guides • Lack of available information regarding visiting and activities opportunities • Lack of enforcement of maximum passenger numbers per vessel for overnight tours
Opportunity	Threats
<ul style="list-style-type: none"> • Development of program for private day 	<ul style="list-style-type: none"> • Accidents or even deaths caused by a

<p>tour operators via their associations to develop booking system for boats, guide training, safe conduct on board and in mangrove forest, and customer service</p>	<p>lack of safety procedures & equipment</p> <ul style="list-style-type: none"> Negative environmental impacts of increasing motorized boat traffic on fragile ecosystem
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Visitor Management

Strengths	Weaknesses
<ul style="list-style-type: none"> Guards & security present Voluntary Code of Conduct implemented by some Private Tour Operators 	<ul style="list-style-type: none"> No well structured areas for picnics Poor rest rooms Poor waste management No visitor management planning No reinvestment of fees into maintenance and development of sites
Opportunities	Threats
<ul style="list-style-type: none"> Visitor management plans for key visitor sites in Sundarbans, including Katka, Karamjal and Kalagachia using expertise of Forest Department officers working on site and registered tour operators. Cooperation with private sector to develop more appropriate facilities, in public/private management approach – or licensing visitor sites to private sector for development, revenue gathering and reinvestment into sites. 	<ul style="list-style-type: none"> Real possibility of accidents caused by poor visitor facilities, such as dangerous jetties Creation of vicious cycle of destruction of visitor sites and poor attitudes from visitors who do not learn to respect the places they are visiting, due to lack of visitor management Loss of attraction as ‘wild & adventure destination’ due to crowds, pollution and degradation

Community Benefits

Strengths	Weaknesses
<ul style="list-style-type: none"> Entrepreneurial microenterprises in place Community capacity to combine tourism related income with other sources of livelihood 	<ul style="list-style-type: none"> Lack of training on tourism related services in communities Tourism income generated only Nov-March (Seasonality)
Opportunities	Threats
<ul style="list-style-type: none"> Training for community members to develop more effective tourism enterprises Guide training for community members to work in SRF Microenterprise financing to create more well-financed local microenterprises targeting domestic visitors Development of profit sharing for honey 	<ul style="list-style-type: none"> Revenue generation from tourism may help to support border community livelihoods that are entirely dependent on illegal harvest of resources in SRF, while not replacing these activities due to seasonal nature of tourism business.

collectors

Site Specific Resource Protection

Strengths	Weaknesses
<ul style="list-style-type: none">• Presence of law enforcement• High level of awareness among foreign visitors	<ul style="list-style-type: none">• Negative impacts on aquatic and terrestrial flora & fauna• Waste management• Pollution and water contamination• Erosion
Opportunities	Threats
<ul style="list-style-type: none">• Creation of appropriate infrastructure for visitors including properly functioning toilets with acceptable septic systems, provision of waste bins and proper disposal of waste• Improvement of educational information available to tourists (visitors centers, materials on board tourist vessels) promoting environmental conservation• Training of guides• Training of guards to enforce regulations and act as interpreters	<ul style="list-style-type: none">• Escalating damage to Karamjal and Katka creating unsanitary, eroded facility without proper provision for increasing numbers of tourists

The trends identified via this study provide guidance to IPAC and its strategic partners on means to develop a sustainable tourism strategy and management plan for the Sundarbans Reserve Forest in future. Based on the findings here it would be wise to focus on creating a more sustainable environment for domestic tourists, with better facilities, guides, and opportunities to purchase goods offered by border communities as well as increasing understanding of this fragile mangrove ecosystem of global importance.

In Khulna, the Sundarbans Forest Information Center represents an excellent opportunity, with minimal investment to revive a good interpretation center, at an important gateway. The availability of good maps would attract visitors almost immediately to this underused site. A small investment in the existing projection system would make it possible to once again offer the interpretative video – a simple means of attracting more visitors as well. The staff members present correctly pointed out, that visitors do not currently get a visually stimulating impression of the natural beauty and diversity of Sundarbans. The current displays do not portray the threats to the ecosystem, which would create a stronger local support for the conservation thereof. With these small investments, possibly in cooperation with the Khulna tour operators, it is likely that hotels and tour operators would begin to refer their visitors to the Information Center, a highly important site to educate visitors.

Given the difficulties with revising the Forest Department policies for reinvestment of entry fees into resource protection in protected areas, it cannot be recommended that more tourism enterprise development be managed by the Forest Department. Rather, systematic efforts to create an appropriate tourism environment must come first. This includes a tourism strategy for the SRF and a corresponding action plan, which would be integrated in the national budgeting process of the Government of Bangladesh and thereby ensure the allocation of required funds for development and maintenance of tourism in the forest.

Many individuals noted that a quality map of the Sundarbans Reserve Forest is extremely difficult to obtain. In fact, the Forest Department has excellent maps that could easily be printed and distributed via the Sundarbans Forest Information Center.

Opportunities to assist border communities, particularly those not entirely engaged in illegal harvest activities, appear to be very good. Community revenue generation programs in Mongla and Burigoalini have very good potential. Work with Jaly Boats in Mongla and their association offers the opportunity to generate a safer environment for tourism, better organized, that would generate not only more revenue but greater conservation awareness. Work with local shops and existing microenterprises in Burigoalini could help to improve their ability to generate revenue and provide an alternative livelihood to individuals who are suffering from landlessness and loss of opportunity caused by the growth of the shrimp farm industry in the region.

Threats to the Sundarbans Reserve Forest are largely not caused by tourism. While specific sites for tourism, particularly Karamjal, are under extreme pressure – the overall threats and impacts on the Sundarbans ecosystem from tourism are slight compared to other immediate threats.

Nonetheless, the lack of infrastructure is acute in existing tourism sites, leading to threats of accidents, pollution, erosion, and negative impacts on aquatic and terrestrial flora and fauna.

Tourism has important potential for growth in the Sundarbans, but excellent work by private tour operators has already taken advantage of much of the existing potential. While much more could be done, if more tourism sites were opened, this cannot be recommended until there are Forest Department policies that allow for investment in and management of tourism with budgets and trained personnel, and appropriate infrastructure. There is no logic in recommending an expansion of a system that is presently not working and creating severe impacts on the tourism sites that are presently available.

It is not recommended that tourism take a high priority in efforts to develop more revenue generation for local communities, as this could fuel more illegal resource harvesting activity. Small interventions in border communities are the best opportunity for gains. Efforts to organize gateways will create a better more informed environment for travelers and community members to begin to make tourism a positive contributor to their local societies, domestic travelers, and provide a more enhanced informational environment for international visitors.

APPENDIX A FINAL DATA SHEETS FOR SWOT

City Information								
1.0 Information Accessibility about Sundarbans as a Nature Destination				Excellent	Good	Fair	Poor	N/A
A. Dhaka								
		<i>i. Parjatan Corporation</i>						
			a. Phone Call (poor due to shifting office)				X	
			b. Website			X		
			c. Airport			X		
			d. Hotel of Parjatan (Abakash, Mohakhali)				X	
		<i>ii. Private Tour Operators</i>						
			a. Operator One (Bengal Tours Operators)					
			a.1 Phone call					
			a.2 Website		X			
			b. Operator Two (Green Bangla Tours)					
			b.1 Phone call					
			b.2 Website				X	
			c. Operator Three (Heaven Touch Tourism) Non Specialize					
			c.1 Phone call					
			c.2 Website				X	
			d. Operator Two (Guide Tours)					
			b.1 Phone call					
			b.2 Website			X		
		<i>iii. Hotels (tour desk)</i>						
			a. Hotel One (Luxury)- Westin		X			
			b. Hotel Two (Moderate) - Radisson		X			
			c. Hotel Three (Budget) - Laurel		X			
			d. Hotel Sonargaon (Moderate)			X		
			e. Hotel Sheraton (Moderate)			X		

Field Information							
A. Khulna			Excellent	Good	Fair	Poor	N/A
		a. Parjatan Corp					X
		b. Private Tour Ops Overnight Trips					
		Rupantor Tourism	X				
		Bengal Tours	X				
		Royale Tours			X		
		c. Private Tour Ops Day Trip					X
		d. Hotels					
		Millenium			X		
		Hotel Castle Salam				X	
		Western Inn				X	
B. Mongla							
		a. Parjatan Corp				X	
		b. Private Tour Ops Overnight Trips					X
		c. Private Tour Ops Day Trip					X
		d. Hotels					
		Hotel Singapore		X			
C. Visitors Information Centers							
		a. Open & Accessible					
		i. Khulna: Sundarban Forest Information & Learning					
		Open during posted hours?	X				
		Easy to Find?			X		
		ii Karamajal					
		Open during posted hours?					
		Easy to Find?					
		iii. Mongla: Sundarban Museum (Private Owner)					
		Open during posted hours?	X				
		Easy to find?		X			
D. Guides							
		a. Independent guides: None found					
		i. Easy to locate					
		ii. Knowledge of wildlife					
		iii. Knowledge of ecosystem					
		b. Private tour operator guides: Guide Tours Ltd (1 guide)					
		i. Knowledge of wildlife		X			
		ii. Knowledge of ecosystem		X			
		c. Community-based guides: None found					
		i. Knowledge of wildlife					
		ii. Knowledge of ecosystem					

			Other					
2.0 Transportation				Excellent	Good	Fair	Poor	N/A
A. Easy to find transport to starting point?								
		Khulna		X				
		Mongla		X				
B. Training of captain & crew								
a. Boat Size (capacity) & Name: Jaly boat: ML Tumpa-40							X	
		i. Weather Prediction				X		
		ii. Years of Experience- 6				X		
		iii. Emergency Procedures			X			
		iv. Cordiality						
b. Boat Size (capacity) & Name: Jaly boat: ML Sohel-40								
		i. Weather Prediction				X		
		ii. Years of Experience-20			X			
		iii. Emergency Procedures				X		
		iv. Cordiality			X			
c. Boat Size (capacity) & Name: Jaly boat: MV Rahman- 40								
		i. Weather Prediction					X	
		ii. Years of Experience-20			X			
		iii. Emergency Procedures				X		
		iv. Cordiality			X			
d. Boat Size (capacity) & Name: Jaly boat: MV Rashed-50								
		i. Weather Prediction			X			
		ii. Years of Experience-14				X		
		iii. Emergency Procedures				X		
		iv. Cordiality			X			
f. Boat Size (capacity) & Name: Jaly boat: Sundarban Tiger-50								
		i. Weather Prediction			X			
		ii. Years of Experience-3					X	
		iii. Emergency Procedures					X	
		iv. Cordiality			X			
g. Boat Size (capacity) & Name: Jaly boat: Khalid- 40-45								
		i. Weather Prediction				X		
		ii. Years of Experience-12				X		
		iii. Emergency Procedures				X		
		iv. Cordiality				X		
h. Boat Size (capacity) & Name: Shampan-MV Tarikul-35								
		i. Weather Prediction					X	
		ii. Years of Experience-18			X			

			iii. Emergency Procedures				X	
			iv. Cordiality		X			
		i. Boat Size (capacity) & Name: Shampan-20-25						
			i. Weather Prediction				X	
			ii. Years of Experience-2				X	
			iii. Emergency Procedures				X	
			iv. Cordiality		X			
		j. Boat Size (capacity) & Name: Danish boat- MV Farhad-60						
			i. Weather Prediction				X	
			ii. Years of Experience-5				X	
			iii. Emergency Procedures			X		
			iv. Cordiality		X			
		k. Boat Size (capacity) & Name: MV Mayer Dowa-35						
			i. Weather Prediction				X	
			ii. Years of Experience-3				X	
			iii. Emergency Procedures			X		
			iv. Cordiality		X			
		l. Boat Size (capacity) & Name: Tayeb Gazi- 40						
			i. Weather Prediction		X			
			ii. Years of Experience-16		X			
			iii. Emergency Procedures			X		
			iv. Cordiality		X			
		Carrying permitted limit of passengers or more?						
			i. Luxury	X				
			ii. Moderate	X				
			iii. Budget	X				
			Other:					
3.0 Visitor Management – Government (FD): Chandpai				Excellent	Good	Fair	Poor	N/A
	A. Structured areas for visitation							
	a. Picnic grounds						X	
			i. Cleanliness					X
			ii. Maintenance					X
	b. Rain shelter						X	
	c. Rest rooms						X	

		d. Waste Bins/Management Disposal				X	
	B. Crowd Management						
		a. Noise ordinance enforcement		X			
		b. Protection of fragile resources		X			
		c. Guards & security on scene		X			
		d. Visitor density control system				X	
	C. Public Use Planning						
		a. Recreation or visitor management plan on file				X	
		b. Recreational zoning in place				X	
		c. Guides enabled to control visitor numbers & group sizes				X	
		d. Guide licensing & required regular training				X	
	D. Entry Fees						
		a. Collection underway and consistent	X				
		b. Re-investment of fees to area					
		i. Communities				X	
		ii. Tourism infrastructure				X	
		iii. Site protection				X	
	E. License Fees						
		a. Collection underway and consistent	X				
		b. Return of fees to area					
		i. Communities				X	
		ii. Tourism infrastructure				X	
		iii. Site protection				X	
		Other:					
3.0 Visitor Management – Government (FD): Katka			Excellent	Good	Fair	Poor	N/A
	A. Structured areas for visitation						
		a. Picnic grounds				X	
		i. Cleanliness					X
		ii. Maintenance					X
		b. Rain shelter			X		
		c. Rest rooms				X	
		d. Waste Bins/Management Disposal				X	
	B. Crowd Management						
		a. Noise ordinance enforcement		X			
		b. Protection of fragile resources (See Resource Protection)					
		c. Guards & security on scene		X			
		d. Visitor density control system				X	
	C. Public Use Planning						
		a. Recreation or visitor management plan on file				X	
		b. Recreational zoning in place				X	
		c. Guides enabled to control visitor numbers & group sizes				X	

		d. Guide licensing & required regular training					X	
	D. Entry Fees							
		a. Collection underway and consistent	X					
		b. Re-investment of fees to area						
		i. Communities					X	
		ii. Tourism infrastructure					X	
		iii. Site protection					X	
	E. License Fees							X
		a. Collection underway and consistent						X
		b. Return of fees to area						X
		i. Communities						X
		ii. Tourism infrastructure						X
		iii. Site protection						X
		Other:						
4.0 Community Benefits			Excellent	Good	Fair	Poor	N/A	
	Chandpai:							
	A. Ability for community to combine tourism income with local sources of livelihood?		X					
	B. Training opportunities						X	
		a. Private sector run						
		b. Government run						
		c. Donor /NGO run						
	C. Microenterprise linkages					X		
		a. Community sales opportunities to tourists			X			
	Examp les:	Paramedician						
		Banana Retailer						
		Van Driver						
		Banana Retailer						
	Burigoalini:							
	A. Ability for community to combine tourism income with local sources of livelihood?		X					
	B. Training opportunities						X	
		a. Private sector run						
		b. Government run						
		c. Donor /NGO run						
	C. Microenterprise linkages		X					
		a. Community sales opportunities to tourists						
	Examp les:	Water Delivery						
		Mud stove delivery (daily basis)						

			Retailer					
			Honey vendor					
5.0 Site specific Resource Protection								
	A. Karamjal: Prevention of -							
		a.	Impacts on fauna				X	
		b.	Erosion				X	
		c.	Sewage run-off				X	
		d.	Waste/littering				X	
		e.	Impacts on Flora				X	
		f.	Impacts on Water Quality				X	
		g.	Excessive noise			X		
	B. Katka: Prevention of -							
		a.	Impacts on fauna				X	
		b.	Erosion					X
		c.	Sewage run-off					X
		d.	Waste/littering				X	
		e.	Impacts on Flora				X	
		f.	Impacts on Water Quality				X	
		g.	Excessive noise				X	
	C. Katka Camp Area: Prevention of -							
		a.	Impacts on fauna				X	
		b.	Erosion				X	
		c.	Sewage run-off		X			
		d.	Waste/littering				X	
		e.	Impacts on Flora				X	
		f.	Impacts on Water Quality			X		
		g.	Excessive noise	X				
	D. Kalagachhia (Satkhira Range, Burigualini): Prevention of -							
		a.	Impacts on fauna				X	
		b.	Erosion		X			
		c.	Sewage run-off				X	
		d.	Waste/littering				X	
		e.	Impacts on Flora		X			
		f.	Impacts on Water Quality			X		
		g.	Excessive noise					X
6.1 Cultural Impacts (Women): Chandpai				High	Medium	Low	N/A	

		a. Invasion of privacy			X		
		b. Harassment of women			X		
		c. Interruption of prime livelihood strategies			X		
		d. Increased crime due to tourism			X		
		e. Increased begging due to tourism			X		
		Other:					
6.2 Cultural Impacts (Women): Burigualini			High	Medium	Low	N/A	
		a. Invasion of privacy			X		
		b. Harassment of women			X		
		c. Interruption of prime livelihood strategies			X		
		d. Increased crime due to tourism			X		
		e. Increased begging due to tourism			X		
		Other:					
Opportunities & Threats: Mr. Hasan Mansur (Former CEO, Guide Tours Ltd), Mr. Tim Barker (Tourist and Photographer) and IPAC Team							
Opportunities & Threats			High	Medium	Low	N/A	
1.0 Opportunity to Develop Conservation Awareness							
	A. Tourist awareness of conservation needs						
		a. Domestic tourists	X				
		b. International tourists		X			
	B. Community awareness of conservation needs						
2.0 Revenue Generation Opportunity							
	A. Increased revenue for conservation		X				
	B. Increased revenue for community livelihoods			X			
3.0 Opportunity for Increased Community Benefits							
	A. Access to education			X			
	B. Access to communication technologies			X			
	C. Access to health care			X			
	D. Access to transportation			X			
4.0 Threat of Tourism Physical Impacts: Whole Sundarban Area							
	A. Wildlife					X	
	B. Erosion			X			
	C. Waste/Litter					X	
	D. Sewage					X	
	E. Water quality					X	
	F. Light pollution					X	

5.0 Threat of Unmanaged Tourism: Site Specific-Karamjal					
	A. Noise/Unruly behavior	X			
	B. Tramping on Flora and Fauna	X			
	C. Waste and Sewage Impacts	X			
	E. Water quality		X		
	F. Light pollution		X		
6.0 Threat of Socio-cultural Impacts: In Tourism Areas					
	A. Rise in cost of living for local people			X	
	B. Increased crime/illegal activities			X	
	C. Increased begging			X	

APPENDIX B ACKNOWLEDGEMENTS

The SWOT survey would not have been possible without the active participation and cooperation of an excellent team.

The data collectors were:

Mr. Shamim Shikder	Data collector
Mr. Shishir Sarder	Data collector
Mr. Goutam Sarder	Data collector
Mr. Sayed Zahidur Rahman	Data collector

The Kuhlina cluster team from IPAC offered full support, assisted with data collection and were helpful with every aspect of data interpretation.

Mr. Faruque Biswas	Site coordinator	IPAC-CODEC	Sarankhola
Mr. Rafiqul Islam	CSPC	IPAC-CODEC	Khulna
Mr. Kanailal Debnath	PMARA	IPAC-WorldFish	Khulna
Mr. Rajib Jones Mitra	Communication, Outreach & Governance Facilitator (COGF)	IPAC-CODEC	Khulna

Forest Department officials provided vital responses and data.

Mr. Abdur Rob	Deputy Ranger	FD	Karamjol
Mr. Rajesh Chakma	ACF	FD	Satkhira Range, Burigualini, Satkhira
Md. Shabuddin	Range Officer, ACF -in charge	FD	Chandpai Range
Md. Alauddin	Forester	FD	Katka Wildlife Center and Forest Station

Two research assistants from IPAC were of vital assistance.

Sumaiya Feroz	Research Assistant - Sundarbans	IPAC
Suriaya Ferdous	Intern- Dhaka	IPAC

Our Guide Tours collaborators were excellent hosts and providers of important information:

Hasan Mansur	Managing Director	The Guide Tours Ltd.
Elisabeth Mansur		The Guide Tours Ltd.
Shaheen Iqbal	Guide	The Guide Tours Ltd.

Our coordinator of research took care of every detail and was a field coordinator extraordinaire:

Md. Mazharul Islam (Zahangir)	Cluster Implementation Facilitator	IPAC
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Our specialist reviewer Elizabeth Fahrni Mansur, an experienced researcher and environmental educator in the SRF and former CEO of The Guide Tours Ltd – one of the pioneer tour operators in the Sundarbans - has greatly enhanced the final document with her comments, insights, edits, and suggestions.

APPENDIX C VISITATION DATA FOR SUNDARBANS RESERVE FOREST

Division-wise Visitors to Sundarbans

Date: 27 August 2009

Year	Month	Visitors #						Monthly Total
		Native			Foreign			
		East	West	Total	East	West	Total	
2008-2009	July	686	339	1,025	7	2	9	1,034
	August	1,042	279	1,321	64	11	75	1,396
	September	2,096	110	2,206	57	1	58	2,264
	October	4,549	911	5,460	78	5	83	5,543
	November	5,589	1,599	7,188	118	12	130	7,318
	December	6,764	2,630	9,394	141	5	146	9,540
	January	6,843	1,812	8,655	367	3	370	9,025
	February	7,517	5,247	12,764	233	39	272	13,036
	March	26,539	3,271	29,810	331	12	343	30,153
	April	13,288	472	13,760	128	11	139	13,899
	May	3,106	297	3,403	27	8	35	3,438
	June	2,669	66	2,735	85	0	85	2,820
	Total	80,688	17,033	97,721	1,636	109	1,745	99,466
2007-2008	July	376	227	603	9	3	12	615
	August	1,145	208	1,353	25	12	37	1,390
	September	1,111	135	1,246	34	0	34	1,280
	October	976	802	1,778	39	40	79	1,857
	November	4,391	392	4,783	70	6	76	4,859
	December	3,018	2,576	5,594	108	68	176	5,770
	January	3,625	763	4,388	184	8	192	4,580
	February	5,312	3,128	8,440	237	34	271	8,711
	March	21,426	3,709	25,135	197	12	209	25,344
	April	22,497	620	23,117	153	7	160	23,277
	May	3,708	344	4,052	189	3	192	4,244
	June	4,603	381	4,984	102	0	102	5,086
	Total	72,188	13,285	85,473	1,347	193	1,540	87,013
2006-	July	1,011	0	1,011	3	0	3	1,014

2007	August	1,270	0	1,270	31	0	31	1,301
	September	1,292	3	1,295	41	4	45	1,340
	October	1,369	286	1,655	57	7	64	1,719
	November	2,637	2,375	5,012	134	0	134	5,146
	December	2,740	580	3,320	56	0	56	3,376
	January	6,611	1,495	8,106	305	6	311	8,417
	February	7,010	3,404	10,414	141	13	154	10,568
	March	26,827	2,300	29,127	166	8	174	29,301
	April	24,900	409	25,309	166	1	167	25,476
	May	4,394	398	4,792	29	9	38	4,830
	June	3,180	611	3,791	71	9	80	3,871
	Total	83,241	11,861	95,102	1,200	57	1,257	96,359
2005-2006	July	668	32	700	14	0	14	714
	August	1,311	44	1,355	37	3	40	1,395
	September	2,382	126	2,508	31	17	48	2,556
	October	3,362	136	3,498	84	2	86	3,584
	November	1,375	1,696	3,071	113	5	118	3,189
	December	1,717	1,227	2,944	104	32	136	3,080
	January	1,035	854	1,889	218	4	222	2,111
	February	9,261	2,025	11,286	284	48	332	11,618
	March	35,222	3,429	38,651	295	22	317	38,968
	April	17,591	215	17,806	121	15	136	17,942
	May	2,660	0	2,660	76	0	76	2,736
	June	4,649	22	4,671	56	0	56	4,727
Total	81,233	9,806	91,039	1,433	148	1,581	92,620	

Source: Forest department Divisional Offices (East & West) record

Visitors to Karamjal Wildlife Breeding Center, Sundarbans

Year	Month	Visitors #			Remarks
		Native	Foreign	Total	
2008-2009	July	686	7	693	Lowest
	August	1,002	51	1,053	
	September	2,017	45	2,062	
	October	703	51	754	
	November	5,241	44	5,285	
	December	6,009	53	6,062	
	January	5,539	82	5,621	
	February	6,087	67	6,154	
	March	24,677	122	24,799	Highest
	Total	51,961	522	52,483	Data gathered before end of fiscal year
2007-2008	July	376	9	385	Lowest
	August	1,145	25	1,170	
	September	1,110	22	1,132	
	October	969	21	990	
	November	4,041	25	4,066	
	December	2,788	55	2,843	
	January	3,356	74	3,430	
	February	5,174	101	5,275	3rd
	March	20,537	72	20,609	2nd
	April	22,261	67	22,328	Highest
	May	3,777	50	3,827	
	June	4,096	79	4,175	
	Total	69,630	600	70,230	
2006-2007	July	1,011	3	1,014	Lowest
	August	1,262	21	1,283	
	September	1,265	39	1,304	
	October	1,363	51	1,414	
	November	2,518	57	2,575	
	December	2,664	36	2,700	

	January	5,497	45	5,542	
	February	5,968	68	6,036	3rd
	March	25,626	74	25,700	Highest
	April	23,973	92	24,065	2nd
	May	4,396	28	4,424	
	June	4,033	49	4,082	
	Total	79,576	563	80,139	
2005-2006	July	599	14	613	Lowest
	August	1,307	26	1,333	
	September	2,367	34	2,401	
	October	3,350	62	3,412	
	November	1,317	55	1,372	
	December	6,549	173	6,722	
	January	9,202	54	9,256	3rd
	February	8,209	120	8,329	
	March	32,827	124	32,951	Highest
	April	16,721	42	16,763	2nd
	May	2,636	46	2,682	
	June	4,592	29	4,621	
	Total	89,676	779	90,455	