Updated Report:

“Survey of tourist perception and level of support for conservation in Bali”

by:

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Updated Report on the “Survey of Tourist perception and level of support for conservation in Bali”

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Abstract

At an ideal setting, conservation initiatives should have several funding sources which include the users. A survey to understand tourist perception, the economic benefit and level of support for conservation in Amed, Pemuteran, Tulamben and Lovina (Bali, Indonesia) was conducted in July 2013. We received 449 completed questionnaires. No major overcrowding was reported at Amed and Pemuteran, but Tulamben’s overcrowding needs to be further investigated with up to 10 divers reported around. With more than 25 boats around, Lovina has an overcrowding issue. Lovina had the lowest mean satisfaction level (7.23/10, with 49.6% scoring between 8-10) while Amed had the highest mean (8.12/10 with 70.7% scoring between 8-10). Lovina’s satisfaction was significantly associated with the number of boats. Tulamben’s satisfaction was significantly associated with the number of divers. The majority of respondents in four places were willing to recommend the tours to others. Should the corals of Amed or the Liberty Wreck of Tulamben are disturbed, these sites will lose considerable amount of income (54.9% and 48.9%, respectively). Pemuteran and Lovina would lose a third of its annual income in the absence of the BioRock and the dolphins, respectively.

Half of the responders were willing to pay for conservation fund for nature and culture in Bali, with IDR 50,000 as the general amount agreed for contribution. However, another half of them refused to pay with various reasons. The first two reasons were not enough budget to spare and having donated to other causes or paid environmental tax. Respondents also considered conservation fund as the responsibility of the government or the locals. Some respondents also mentioned the lack of trust in the Indonesian government system as their primary reason for not willing to contribute to the fund. Nonetheless, respondents who did want to pay were more willing to trust the government as long as the government partners up with other stakeholders in a consortium to manage the fund. In the light of several user fees already imposed in the two regencies, information from this survey should be used to determine whether another user fee system should be implemented for Buleleng, Karangasem or Bali in general.

1. Introduction

The last decade has observed a boom in Bali’s marine tourism industry, such that the sustainability of this industry is currently questionable. Various conservation initiatives have been implemented in Bali to promote more sustainable practices on natural resource use, including tourism. Ideally, these conservation initiatives should source additional fund from
the users, instead of just relying on traditional avenues such as aid organisations. A survey to understand tourist experience, contribution to local economy and Willingness to Pay for conservation fund in four marine tourist sites was conducted by CORAL Reef Alliance and Reef Check Indonesia in July 2013. The four survey sites were Amed, Pemuteran, Tulamben and Lovina. The first three provide diving attractions while the last site is an established dolphin watching industry in Bali. All sites are located at the second poorest and the third poorest regencies in Bali: Karangasem Regency for Amed and Tulamben; Buleleng Regency for Pemuteran and Lovina.

The four sites are included in the draft blueprint of the Bali Marine Protected Areas (MPA) Network, currently initiated by a team of stakeholders (including the CORAL Reef Alliance, Reef Check Indonesia, Conservation International Indonesia and the Bali government). The Bali MPA Network stakeholders are currently considering the possible implementation of an island-wide sustainable financing system. However, with the exception of Lovina, all sites are already subjected to various user fees imposed by the government or the village systems (Table 1). The proposed user fee system at provincial level should consider its possible impacts on current user fees and the opinions of target tourists.

Table 1 Various user fee systems currently being imposed at the four survey sites

<table>
<thead>
<tr>
<th>No.</th>
<th>Village</th>
<th>Regency</th>
<th>Tour type</th>
<th>Collector</th>
<th>IDR/person</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tulamben</td>
<td>Karangasem</td>
<td>Diving</td>
<td>Government</td>
<td>25,000.00</td>
<td>Rp 15k for the local govt, Rp 9.5k for Traditional Village, Rp 1.5k for Administrative Village. Collected at the parking gate of Tulamben</td>
</tr>
<tr>
<td>2</td>
<td>Amed (particularly Jemeluk)</td>
<td>Karangasem</td>
<td>Diving</td>
<td>Government</td>
<td>20,000.00</td>
<td>Collected at dive operators</td>
</tr>
<tr>
<td></td>
<td>Amed (particularly Jemeluk)</td>
<td>Karangasem</td>
<td>Diving</td>
<td>The Banjar of Jemeluk</td>
<td>18,000.00</td>
<td>The Banjar Rp 3k, local govt Rp 10k, porter and parking Rp 15k; collected at the Banjar</td>
</tr>
<tr>
<td>3</td>
<td>Pemuteran</td>
<td>Buleleng</td>
<td>Diving</td>
<td>Diving associations</td>
<td>20,000.00</td>
<td>Collected by each association</td>
</tr>
<tr>
<td>4</td>
<td>Lovina</td>
<td>Buleleng</td>
<td>Dolphin watching</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

This document presents brief findings of the tourist experience, economic benefit and Willingness to Pay of tourists at the four sites.
2. Methodology

We chose four sites in north and east Bali because they represented a range of marine tourism options for the island visitors. Amed, Pemuteran and Tulamben provide diving attractions which differs from one another (Table 2). Lovina is one of the three sites in Bali (in addition to the Peninsula and Tejakula) that provides dolphin watching as an attraction.

Table 2 Characteristics of the four survey sites (n represents completed questionnaires)

<table>
<thead>
<tr>
<th>Site</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| Amed | - Coral gardens, good for snorkelling  
- Isolated, but with easy access from Denpasar  
- Karangasem, poorest regency in Bali |
| Lovina | - One of the two dolphin watching sites in Bali  
- Isolated from Denpasar by the Bedugul hills  
- At Buleleng, 3rd poorest regency in Bali |
| Pemuteran | - Coral gardens with BioRock, good for snorkelling  
- Isolated from Denpasar by the Bedugul hills  
- At Buleleng, 3rd poorest regency in Bali |
| Tulamben | - The famous Liberty Wreck site  
- Isolated, but with easy access from Denpasar  
- Karangasem, poorest regency in Bali |

We designed a set of questionnaire for the four sites based on Mustika’s research questionnaire in Lovina for 2008-2009 (Mustika 2011). The questionnaires we used for this research covered three aspects of the research: 1) tourist experience, 2) tourist expenditure and 3) their willingness to pay for conservation and cultural preservation fund. See the appendices for the questionnaires.

2.1. Data collection

The followings are information seek from the respondents as paraphrased from our questionnaire.

Tourist experience
1. Comfort level regarding the crowding of divers/boats around the tourist
2. Tourist’s opinion about diver/boat crowding
3. Tourist’s opinion about the way the dive guides/dolphin boatmen guided their trip
4. General satisfaction level (1 to 10)
5. Willingness to re-join the trip
6. Willingness to recommend the trip to others

Expenditures
1. Direct expenditures for accommodation, meals, local transportation, souvenirs and communication
2. Whether they would still come to the site in the absence of the attraction (to calculate attributable expenditures, i.e. expenditures that will be lost by the region in the absence of target resources)

**Willingness to Pay**
1. Willingness to pay (WTP) for conservation of culture and environment
2. Trusted institutions to manage WTP
3. WTP payment preference

**Calculating tourist visitation**
The number of tourists visiting the site is important to calculate the annual tourist expenditures to that particular tourist attraction. We used the average number of 2010-2012 visitations obtained from the tourist offices of Amed and Tulamben (divers only; 6,596 divers per annum for Amed and 44,545 divers per annum for Tulamben). We found it difficult to obtain visitation data from Pemuteran. Hence, we used visitation data from the nearby Menjangan Island as a proxy for Pemuteran visitation (16,000 divers per annum for Pemuteran) (see Yudasmara 2007).

For this research, we did not directly observe the number of tourists participating in dolphin tours in Lovina. However, the total tourist visitation to Lovina is reported to decline to around 50,000 tourists per September 2013 (Buleleng Round Up 2013). We hence used this number and the percentage of dolphin tourists to total Lovina visitors in 2007-2009 (58% from Mustika et al. (2012)) to obtain the estimated number of dolphin tourists in 2013. We estimated that approximately 38,370 tourists joined the dolphin tours in Lovina in 2013.

2.2. Data analysis

**General data analysis**
We use SPSS 21 for our statistical data analysis. We assume that satisfaction is an interval variable. We use thematic analysis (Ezzy 2002; Joffe & Yardley 2004) for qualitative data (e.g. for their attitude towards Willingness to Pay questions).

**Primary direct expenditures**
Primary direct expenditure was the admission fee of all tourists joining the dolphin trips (day-tourists and overnight tourists). We use admission fee per person to calculate the primary direct expenditures in four sites. Lovina is USD 6 per person. Tulamben is USD 35.5 per person inclusive of gears (average of day and night dive fees from www.tulambenwreckdivers.com, www.libertydiveresort.com and www.puritulambendiveresort.com). Amed is USD 45.5 per person (average of day and night dive from www.tulambenwreckdivers.com); inclusive of gears and without a dive boat. Pemuteran is USD 30.9 per person (average of day and night shore dive from www.reefseenbali.com).

\[
\text{Annual primary direct expenditure (admission fee)} = \# \text{ tourists per annum} \times \text{admission fee}
\]
**Auxiliary direct expenditures**

The total tourism expenditure associated with the four survey sites was the gross revenue that the industry injects into the local economy. These expenditures included money spent on accommodation, meals, internet/communication, souvenirs and local transport over a period of stay. For each expenditure item, tourists were provided with five options of expenditure range (IDR 1-150,000; IDR 151,000-300,000; IDR 301,000-450,000; IDR 451,000-600,000; and > IDR 600,000). We modified the methods used by Stoeckl et al. (2005) and Mustika et al. (2012) by using the mid-point of each expenditure range for the first four categories, resulting in the following expenditures: IDR 75,000; IDR 225,000; IDR 375,000; and IDR 525,000. To make the range equal, we fixed the last expenditure range at IDR 675,000. The expenditure of each range was multiplied by the number of respondents in that category to achieve the total expenditure of an item (e.g., meals) for that expenditure category (e.g., IDR 75,000 per day). Average length of stay in 2013 was used to estimate the auxiliary direct expenditure (AE) of overnight dolphin tourists in 2013. The length of stay of day visitors was considered to be one day. The length of stay of overnight visitors were their mean number of nights.

\[
AE_{tourist\ \text{item}} = \frac{AE_{total\ \text{item}}}{\#\text{respondents\ \text{item}}} \times \text{average length of stay}
\]

**Total and attributable direct expenditures**

Total tourist expenditures in Amed, Lovina, Pemuteran and Tulamben are the total primary direct expenditure (i.e., ticket) and the total auxiliary direct expenditures:

\[
\text{Total expenditures} = \text{primary direct expenditure} + \text{total auxiliary direct expenditures}
\]

Attributable direct expenditures are the potential loss in tourist expenditures in the absence of target resources (in this case: the reefs for Amed, the dolphins for Lovina, the BioRock for Pemuteran, and the Liberty Wreck for Tulamben). The attributable direct expenditures are calculated based on the expenditures of tourists who would not have come in the absence of those target resources; these tourists are called “dedicated tourists”. The auxiliary direct expenditures of dedicated tourists depends on the percentage of dedicated tourists for one site. The

\[
\text{Total attributable direct expenditures} = \text{primary direct expenditure} + \text{total dedicated auxiliary direct expenditures}
\]

We use four scenarios to obtain the attributable direct expenditures:

1) Attributable auxiliary direct expenditures only, i.e. meals, accommodation, communication, souvenirs and local transportation spent by dedicated tourists.
2) Minimum total attributable direct expenditures, i.e. attributable auxiliary direct expenditures + primary direct expenditures (only one dive package per trip and one dolphin tour per trip).

3) Optimum total attributable direct expenditures, i.e. attributable auxiliary direct expenditures + primary direct expenditures (the number of dive packages is assumed to be half the number of nights. The number of dolphin tour remains one dolphin tour per trip).

4) Maximum total attributable direct expenditures, i.e. attributable auxiliary direct expenditures + primary direct expenditures (the number of dive packages is assumed to be equal as the number of nights. The number of dolphin tour remains one dolphin tour per trip).

We suggest the optimum number (#3) as the most plausible estimation for total attributable direct expenditure. However, other numbers are still provided for references.
3. Results

We obtained a total of 449 completed questionnaires by the end of our survey. Of those questionnaires, 120 were from Amed, 116 from Lovina, 109 from Pemuteran and 104 from Tulamben. The followings are the results, grouped into the three aspects of the research.

3.1. Tourist experience

Table 3 presents the tourist experience and Willingness to Pay for conservation fund in four sites. No major overcrowding was reported at Amed and Pemuteran, but Tulamben’s overcrowding needs to be further investigated with up to 10 divers reported around. With more than 25 boats around, Lovina has an overcrowding issue. Consequently, tourists in Lovina considered that they had too many boats around them. However, Tulamben divers also considered the number of divers around them as being too many. Tourists in Amed and Pemuteran were happy with the number of divers around.

Lovina had the lowest mean satisfaction level (7.23/10, with 49.6% scoring between 8-10) while Amed had the highest mean (8.12/10 with 70.7% scoring between 8-10). Tulamben did not perform well either (7.8/10); only 65% respondents gave high scores (8-10). Lovina’s satisfaction was significantly associated with the number of boats (p=0.005, Table 4). Satisfaction was the highest when they had 11-15 boats around them (a trade-off between the security feeling and the crowding discomfort).

Tulamben’s satisfaction was significantly associated with the number of divers (p=0.021, Table 4). A higher the satisfaction level seemed to be associated with a lower number of divers. Tourists in Amed were most enthusiastic in re-joining the trip (95%) whereas Lovina’s tourists were the most reluctant to re-join the trip (65%). The majority of respondents in four places were willing to recommend the tours to others. However, Lovina still had the lowest proportion of respondents in this group (85%) while Pemuteran had the highest proportion (98%).

Table 3 Tourist experience, satisfaction level and Willingness to Pay at the four sites

<table>
<thead>
<tr>
<th>Question phrased</th>
<th>Amed</th>
<th>Lovina</th>
<th>Pemuteran</th>
<th>Tulamben</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still go if that attraction is no more? (n)</td>
<td>118</td>
<td>116</td>
<td>109</td>
<td>104</td>
</tr>
<tr>
<td>Yes, same amount of time (%)</td>
<td>22.7</td>
<td>36.2</td>
<td>58.7</td>
<td>31.7</td>
</tr>
<tr>
<td>Yes, reduced amount of time (%)</td>
<td>33.6</td>
<td>27.6</td>
<td>23.9</td>
<td>23.1</td>
</tr>
<tr>
<td>No, will skip the site (%)</td>
<td>43.7</td>
<td>36.2</td>
<td>17.4</td>
<td>45.2</td>
</tr>
<tr>
<td>How many divers/boats around you (n)</td>
<td>113</td>
<td>115</td>
<td>103</td>
<td>104</td>
</tr>
<tr>
<td>0 (%)</td>
<td>1.8</td>
<td>0</td>
<td>1.9</td>
<td>0</td>
</tr>
<tr>
<td>1-5 (%)</td>
<td>44.2</td>
<td>0</td>
<td>52.4</td>
<td>27.9</td>
</tr>
<tr>
<td>6-10 (%)</td>
<td>22.1</td>
<td>8.7</td>
<td>30.1</td>
<td>25</td>
</tr>
<tr>
<td>11-15 (%)</td>
<td>10.6</td>
<td>6.1</td>
<td>5.8</td>
<td>16.3</td>
</tr>
<tr>
<td>16-20 (%)</td>
<td>5.3</td>
<td>14.8</td>
<td>3.9</td>
<td>11.5</td>
</tr>
<tr>
<td>21-25 (%)</td>
<td>12.4</td>
<td>27</td>
<td>3.9</td>
<td>9.6</td>
</tr>
<tr>
<td>More than 25 (%)</td>
<td>3.5</td>
<td>43.5</td>
<td>1.9</td>
<td>9.6</td>
</tr>
</tbody>
</table>
### Opinion about the number of boats/snorkelers/divers around

<table>
<thead>
<tr>
<th></th>
<th>112</th>
<th>115</th>
<th>103</th>
<th>104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far too many (%)</td>
<td>0.9</td>
<td>30.4</td>
<td>1.9</td>
<td>8.7</td>
</tr>
<tr>
<td>Too many (%)</td>
<td>24.1</td>
<td>44.3</td>
<td>5.8</td>
<td>36.5</td>
</tr>
<tr>
<td>About right (%)</td>
<td>71.4</td>
<td>21.7</td>
<td>82.5</td>
<td>51</td>
</tr>
<tr>
<td>Too few (%)</td>
<td>3.6</td>
<td>2.6</td>
<td>5.8</td>
<td>2.9</td>
</tr>
<tr>
<td>Far too few (%)</td>
<td>0</td>
<td>0.9</td>
<td>1.9</td>
<td>1</td>
</tr>
</tbody>
</table>

### How do you feel about the way the dive guides/boatmen guide your trip

<table>
<thead>
<tr>
<th></th>
<th>61</th>
<th>115</th>
<th>74</th>
<th>95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely not comfortable (%)</td>
<td>0</td>
<td>6.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not comfortable (%)</td>
<td>0</td>
<td>8.7</td>
<td>0</td>
<td>1.1</td>
</tr>
<tr>
<td>Neutral (%)</td>
<td>18</td>
<td>21.7</td>
<td>23</td>
<td>12.6</td>
</tr>
<tr>
<td>Comfortable (%)</td>
<td>27.9</td>
<td>34.8</td>
<td>28.4</td>
<td>33.7</td>
</tr>
<tr>
<td>Very comfortable (%)</td>
<td>54.1</td>
<td>28.7</td>
<td>48.6</td>
<td>52.6</td>
</tr>
</tbody>
</table>

### Satisfaction (n)

<table>
<thead>
<tr>
<th>Normal distribution?</th>
<th>no</th>
<th>no</th>
<th>no</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (1 to 10)</td>
<td>8.12</td>
<td>7.23</td>
<td>8.08</td>
<td>7.8</td>
</tr>
<tr>
<td>Tourists scoring 8 (%)</td>
<td>32.3</td>
<td>24.3</td>
<td>38.6</td>
<td>32</td>
</tr>
<tr>
<td>Tourists scoring 9 (%)</td>
<td>10.1</td>
<td>7.8</td>
<td>14.9</td>
<td>10.7</td>
</tr>
<tr>
<td>Tourists scoring 10 (%)</td>
<td>28.3</td>
<td>17.4</td>
<td>17.8</td>
<td>22.3</td>
</tr>
<tr>
<td>Total tourists scoring 8-10</td>
<td>70.7</td>
<td>49.6</td>
<td>71.3</td>
<td>65</td>
</tr>
</tbody>
</table>

### Will join the trip again? (n)

<table>
<thead>
<tr>
<th></th>
<th>117</th>
<th>115</th>
<th>106</th>
<th>103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (%)</td>
<td>94.9</td>
<td>64.7</td>
<td>91.5</td>
<td>85.4</td>
</tr>
<tr>
<td>No (%)</td>
<td>5.1</td>
<td>34.5</td>
<td>8.5</td>
<td>14.6</td>
</tr>
</tbody>
</table>

### Will recommend the tour to others? (n)

<table>
<thead>
<tr>
<th></th>
<th>117</th>
<th>114</th>
<th>107</th>
<th>103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (%)</td>
<td>98.3</td>
<td>85.3</td>
<td>98.2</td>
<td>95.1</td>
</tr>
<tr>
<td>No (%)</td>
<td>1.7</td>
<td>12.9</td>
<td>1.8</td>
<td>4.9</td>
</tr>
</tbody>
</table>

### Willingness to pay for conservation (n)

<table>
<thead>
<tr>
<th></th>
<th>119</th>
<th>116</th>
<th>109</th>
<th>104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (%)</td>
<td>52.9</td>
<td>49.1</td>
<td>49.5</td>
<td>50</td>
</tr>
<tr>
<td>No (%)</td>
<td>47.1</td>
<td>50.9</td>
<td>50.5</td>
<td>50</td>
</tr>
</tbody>
</table>

### If yes WTP, how much (n)

<table>
<thead>
<tr>
<th></th>
<th>67</th>
<th>56</th>
<th>47</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rp 10k (%)</td>
<td>10.4</td>
<td>25</td>
<td>12.8</td>
<td>16</td>
</tr>
<tr>
<td>Rp 20k (%)</td>
<td>10.4</td>
<td>19.6</td>
<td>29.8</td>
<td>20</td>
</tr>
<tr>
<td>Rp 50k (%)</td>
<td>50.7</td>
<td>26.8</td>
<td>29.8</td>
<td>42</td>
</tr>
<tr>
<td>Rp 100k (%)</td>
<td>22.4</td>
<td>26.8</td>
<td>25.5</td>
<td>20</td>
</tr>
<tr>
<td>Other amount (%)</td>
<td>6</td>
<td>1.8</td>
<td>2.1</td>
<td>2</td>
</tr>
</tbody>
</table>

### Trusted institution to manage WTP (n)

<table>
<thead>
<tr>
<th></th>
<th>97</th>
<th>74</th>
<th>81</th>
<th>82</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community (%)</td>
<td>16.5</td>
<td>23</td>
<td>34.6</td>
<td>26.8</td>
</tr>
<tr>
<td>NGO (%)</td>
<td>42.3</td>
<td>36.5</td>
<td>30.9</td>
<td>43.9</td>
</tr>
<tr>
<td>Government (%)</td>
<td>4.1</td>
<td>9.5</td>
<td>3.7</td>
<td>9.8</td>
</tr>
<tr>
<td>Private sector (%)</td>
<td>2.1</td>
<td>8.1</td>
<td>6.2</td>
<td>3.7</td>
</tr>
<tr>
<td>Consortium of all of the above (%)</td>
<td>27.8</td>
<td>20.3</td>
<td>24.7</td>
<td>15.9</td>
</tr>
<tr>
<td>Others (%)</td>
<td>7.2</td>
<td>2.7</td>
<td>2.1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Preferred way to pay (n)

<table>
<thead>
<tr>
<th></th>
<th>89</th>
<th>67</th>
<th>77</th>
<th>78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial entrance fee (%)</td>
<td>23.6</td>
<td>19.4</td>
<td>18.2</td>
<td>23.1</td>
</tr>
<tr>
<td>Category</td>
<td>Percentage 1</td>
<td>Percentage 2</td>
<td>Percentage 3</td>
<td>Percentage 4</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Regency entrance fee (%)</td>
<td>3.4</td>
<td>3</td>
<td>2.6</td>
<td>9</td>
</tr>
<tr>
<td>Entrance fee at each site (%)</td>
<td>20.2</td>
<td>28.4</td>
<td>22.1</td>
<td>14.1</td>
</tr>
<tr>
<td>Included in attraction price (%)</td>
<td>14.6</td>
<td>22.4</td>
<td>19.5</td>
<td>20.5</td>
</tr>
<tr>
<td>Airport/harbour departure tax (%)</td>
<td>9</td>
<td>10.4</td>
<td>10.4</td>
<td>9</td>
</tr>
<tr>
<td>Included in the airfare/busfare (%)</td>
<td>5.6</td>
<td>4.5</td>
<td>3.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Others (%)</td>
<td>6.7</td>
<td>1.5</td>
<td>9.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Included in Visa on Arrival (%)</td>
<td>16.9</td>
<td>10.4</td>
<td>14.3</td>
<td>19.2</td>
</tr>
</tbody>
</table>
Table 4 Non-parametric tests for tourist experience, satisfaction level and Willingness to Pay at four survey sites (Kruskal-Wallis or Mann-Whitney tests with alpha=0.05)

<table>
<thead>
<tr>
<th>Question</th>
<th>Amed</th>
<th>Lovina</th>
<th>Pemuteran</th>
<th>Tulamben</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the number of boats/divers associated with satisfaction? (n)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>0.57</td>
<td>0.005</td>
<td>0.386</td>
<td>0.021</td>
</tr>
<tr>
<td>Verdict</td>
<td>Satisfaction is not significantly associated with the number of divers</td>
<td>The satisfaction is significantly associated with the number of boats around</td>
<td>Satisfaction is not significantly associated with the number of divers</td>
<td>The satisfaction is significantly associated with the number of divers around</td>
</tr>
<tr>
<td>Is TOURIST'S OPINION of the number of boats/divers associated with satisfaction? (n)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>0.717</td>
<td>0.119</td>
<td>0.05</td>
<td>0.051</td>
</tr>
<tr>
<td>Verdict</td>
<td>Satisfaction is not significantly associated with what the tourists think of the number of divers</td>
<td>Satisfaction is not significantly associated with what the tourists think of the number of boats</td>
<td>Satisfaction is significantly associated with what the tourists think of the number of divers</td>
<td>The satisfaction is ALMOST associated with what the tourists think of the number of divers (it is significant at CI 90%)</td>
</tr>
<tr>
<td>Question</td>
<td>n</td>
<td>Value</td>
<td>p value</td>
<td>Verdict</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----</td>
<td>-------</td>
<td>---------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td><strong>Is satisfaction significantly associated with willingness to REJOIN the trip?</strong></td>
<td>98</td>
<td>115</td>
<td>0.000</td>
<td>Satisfaction is significantly associated with willingness to rejoin the trip. Higher satisfaction = willing to rejoin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.677</td>
<td>Verdict</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.019</td>
<td>Not enough data to test the hypothesis. However, 93 of 98 respondents did say 'yes' to rejoin the trip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td><strong>Is satisfaction significantly associated with willingness to RECOMMEND the trip?</strong></td>
<td>98</td>
<td>114</td>
<td>0.846</td>
<td>Satisfaction is NOT significantly associated with willingness to recommend the trip. Higher satisfaction = willing to recommend</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.001</td>
<td>Verdict</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.000</td>
<td>Not enough data to test the hypothesis. However, 97 of 98 respondents did say 'yes' to rejoin the trip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.286</td>
<td></td>
</tr>
<tr>
<td><strong>Is satisfaction significantly associated with willingness to PAY for conservation fund?</strong></td>
<td>99</td>
<td>115</td>
<td>0.000</td>
<td>Satisfaction is significantly associated with willingness to rejoin the trip. Higher satisfaction = willing to rejoin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.019</td>
<td>Verdict</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.000</td>
<td>Not enough data to test the hypothesis. However, 97 of 98 respondents did say 'yes' to rejoin the trip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>0.505</td>
<td>0.458</td>
<td>0.846</td>
<td>0.882</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Verdict</td>
<td>Satisfaction is NOT significantly associated with WTP</td>
<td>Satisfaction is NOT significantly associated with WTP</td>
<td>Satisfaction is NOT significantly associated with WTP</td>
<td>Satisfaction is NOT significantly associated with WTP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is Willingness to Pay significantly associated with income? (n)</th>
<th>118</th>
<th>114</th>
<th>109</th>
<th>101</th>
</tr>
</thead>
<tbody>
<tr>
<td>p value</td>
<td>0.256</td>
<td>0.066</td>
<td>0.008</td>
<td>0.021</td>
</tr>
<tr>
<td>Verdict</td>
<td>WTP NOT significantly associated with income</td>
<td>WTP NOT significantly associated with income</td>
<td>WTP significantly associated with income. Richer people seem to be more reluctant to pay.</td>
<td>WTP significantly associated with income. Richer people seem to be more reluctant to pay.</td>
</tr>
</tbody>
</table>
3.2. Expenditures

Table 5 describes primary, auxiliary and total direct expenditures of the four survey sites. Using the optimum scenario, the absence of target resources would be most damaging for Amed with almost 55% revenue loss and the least damaging for Lovina with 29% revenue lost.

Using the optimum scenario, Amed’s coral reefs contribute more than USD 1.9 million of total direct expenditures (USD 500,000 for diving fees and USD 1.4 million for accommodation, meals, local transportation, souvenirs and communication). The total attributable direct expenditures are estimated to be slightly above USD 1 million or 54.9% of the total direct expenditures. In another word, Amed might lose almost 55% of its income without its beautiful coral reefs.

The Lovina dolphin watching industry contributes more than USD 6.5 million of total direct expenditures (USD 230k for tickets and USD 6.6 million for accommodation, meals, local transportation, souvenirs and communication). The total attributable direct expenditures are estimated to be USD 1.9 million, or 29.1% of the total direct expenditures. In another word, Lovina might lose almost 30% of its income in the absence of the dolphins.

Pemuteran’s coral reefs contribute around USD 7.9 million of total direct expenditures (USD 1.8 million for diving fees and USD 6.1 million for accommodation, meals, local transportation, souvenirs and communication). The total attributable direct expenditures to BioRock are estimated to be USD 2.4 million or 29.8% of the total direct expenditures. In another word, Pemuteran might lose 30% of its income without the BioRock.

Tulamben’s USS Liberty wreck contributes more than USD 13.8 million of total direct expenditures (USD 4.9 million for diving fees and USD 8.9 million for accommodation, meals, local transportation, souvenirs and communication). The total attributable direct expenditures are estimated to reach USD 6.8 or 48.9% of the total direct expenditures. In another word, without the presence of the USS Liberty wreck, Tulamben might lose almost half of its income.
### Table 5 Tourist expenditures at Amed, Lovina, Pemuteran and Tulamben (USD, average 2013)

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Amed (USD)</th>
<th>Lovina (USD)</th>
<th>Pemuteran (USD)</th>
<th>Tulamben (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attributable auxiliary expenditures (only for meals, accommodation, internet, souvenirs, local transport)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated daily</td>
<td>30,649</td>
<td>116,457</td>
<td>6,651</td>
<td>624,903</td>
</tr>
<tr>
<td>Dedicated overnight</td>
<td>523,658</td>
<td>1,565,902</td>
<td>561,609</td>
<td>1,198,047</td>
</tr>
<tr>
<td>Non dedicated daily</td>
<td>20,141</td>
<td>146,248</td>
<td>6,651</td>
<td>746,412</td>
</tr>
<tr>
<td>Non dedicated overnight</td>
<td>850,766</td>
<td>4,522,303</td>
<td>5,539,758</td>
<td>6,316,275</td>
</tr>
<tr>
<td>TOTAL auxiliary direct expenditures</td>
<td>1,425,214</td>
<td>6,350,910</td>
<td>6,114,668</td>
<td>8,885,637</td>
</tr>
<tr>
<td>Percentage of attributable auxiliary expenditures</td>
<td>38.89%</td>
<td>26.49%</td>
<td>9.29%</td>
<td>20.52%</td>
</tr>
</tbody>
</table>

| Percentage of attributable direct expenditures - minimum (tour fee - assuming 1 dive/ride package per trip) |            |              |                 |                |
| Dedicated daily                                   | 30,649     | 116,457      | 6,651           | 624,903        |
| Dedicated overnight                               | 523,658    | 1,565,902    | 561,609         | 1,198,047      |
| Non dedicated daily                               | 20,141     | 146,248      | 6,651           | 746,412        |
| Non dedicated overnight                          | 850,766    | 4,522,303    | 5,539,758       | 6,316,275      |
| TOTAL auxiliary direct expenditures               | 1,425,214  | 6,350,910    | 6,114,668       | 8,885,637      |
| Total primary direct expenditures                 | 250,083    | 230,217      | 728,000         | 1,492,246      |
| TOTAL DIRECT EXPENDITURES                         | 1,675,297  | 6,581,127    | 6,842,668       | 10,377,884     |
| TOTAL ATTRIBUTABLE DIRECT EXPENDITURES             | 804,390    | 1,912,576    | 1,296,260       | 3,315,197      |
| Percentage of minimum attributable direct expenditures | 48.01%     | 29.06%       | 18.94%          | 31.94%         |

<p>| Percentage of attributable direct expenditures - optimum (tour fee - assuming number of dive packages = half the length of stay)* |            |              |                 |                |
| Dedicated daily                                   | 30,649     | 116,457      | 6,651           | 624,903        |
| Dedicated overnight                               | 523,658    | 1,565,902    | 561,609         | 1,198,047      |
| Non dedicated daily                               | 20,141     | 146,248      | 6,651           | 746,412        |</p>
<table>
<thead>
<tr>
<th></th>
<th>Non dedicated overnight</th>
<th>TOTAL auxiliary direct expenditures</th>
<th>Total primary direct expenditures</th>
<th>TOTAL DIRECT EXPENDITURES</th>
<th>TOTAL ATTRIBUTABLE DIRECT EXPENDITURES</th>
<th>Percentage of maximum attributable direct expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non dedicated overnight</td>
<td>850,766</td>
<td>4,522,303</td>
<td>5,539,758</td>
<td>6,316,275</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL auxiliary direct expenditures</td>
<td>1,425,214</td>
<td>6,350,910</td>
<td>6,114,668</td>
<td>8,885,637</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total primary direct expenditures</td>
<td>508,692</td>
<td>230,217</td>
<td>1,790,586</td>
<td>4,934,040</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL DIRECT EXPENDITURES</td>
<td>1,933,906</td>
<td>6,581,127</td>
<td>7,905,254</td>
<td>13,819,678</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL ATTRIBUTABLE DIRECT EXPENDITURES</td>
<td>1,062,999</td>
<td>1,912,576</td>
<td>2,358,846</td>
<td>6,756,991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of maximum attributable direct expenditures</td>
<td>54.97%</td>
<td>29.06%</td>
<td>29.84%</td>
<td>48.89%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Percentage of attributable direct expenditures - maximum (tour fee - assuming 1 dive package per day per trip)**

<table>
<thead>
<tr>
<th></th>
<th>Dedicated daily</th>
<th>Non dedicated daily</th>
<th>Non dedicated overnight</th>
<th>TOTAL auxiliary direct expenditures</th>
<th>Total primary direct expenditures</th>
<th>TOTAL DIRECT EXPENDITURES</th>
<th>TOTAL ATTRIBUTABLE DIRECT EXPENDITURES</th>
<th>Percentage of maximum attributable direct expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated daily</td>
<td>30,649</td>
<td>20,141</td>
<td>850,766</td>
<td>1,425,214</td>
<td>1,017,384</td>
<td>2,442,598</td>
<td>1,571,691</td>
<td>64.35%</td>
</tr>
<tr>
<td>Dedicated overnight</td>
<td>116,457</td>
<td>146,248</td>
<td>4,522,303</td>
<td>6,350,910</td>
<td>230,217</td>
<td>6,581,127</td>
<td>1,912,576</td>
<td>29.06%</td>
</tr>
<tr>
<td>Non dedicated daily</td>
<td>6,651</td>
<td>6,651</td>
<td>5,539,758</td>
<td>6,114,668</td>
<td>3,581,172</td>
<td>9,695,840</td>
<td>4,149,432</td>
<td>42.80%</td>
</tr>
<tr>
<td>Non dedicated overnight</td>
<td>1,198,047</td>
<td>746,412</td>
<td>6,316,275</td>
<td>8,885,637</td>
<td>9,868,081</td>
<td>18,753,718</td>
<td>11,691,031</td>
<td>62.34%</td>
</tr>
</tbody>
</table>

*It remains one ride per trip in Lovina*
3.3. Willingness to Pay

Regarding the Willingness to Pay for conservation fund for nature and culture in Bali, half of the responders gave positive respond (Table 3). However, another half of them refused to pay with various reasons (see below). Willingness to Pay was not associated with tourist satisfaction in four sites (Table 4). Willingness to Pay was also not associated with respondents’ income for Amed and Lovina (Table 4). However, respondents with higher income in Pemuteran and Tulamben were more reluctant to contribute.

Among those who were willing to pay for conservation fund, IDR 50,000 is the general amount agreed for contribution (Table 3). Between 18% to 23% respondents chose to pay the conservation fund as a provincial entrance fee. Most respondents, however, still preferred paying at each site (14%-28%), to have it included in attraction price (14%-22%), or included in Visa on Arrival (10%-19%)

Respondents who were willing to contribute did not trust the government or the system to manage the fund; their vote went to the community and NGO instead. About 15% respondents trusted a consortium, which consists of community, NGOs, private sectors and the government. In another word, these respondents can trust the government as long as the government partners up with other stakeholders.

Half of the respondents were reluctant to pay for conservation fund. Among their justifications are (Figure 1): holiday already taking much of respondents’ money; respondents did not have enough budget for donation; respondents already contributed to other causes; providing conservation fund is seen as government’s responsibility; respondents do not live in Indonesia; respondents do not trust the system (the government, in this case); respondents did not see themselves as the ones causing environmental problems in Bali; that the Balinese must take care of their own environment problems. Some respondents were simply not interested in helping out; some wanted to know more about the said conservation programs before deciding to contribute.

![Figure 1 Justifications for not willing to pay for conservation fund](image-url)
4. Discussion

Respondents’ satisfaction levels varied between four sites, with Lovina the lowest and Amed the highest. Respondents in Lovina and Tulamben have crowding and satisfaction issues. Lovina’s 2013 crowding and satisfaction level were consistent with the 2008/9 crowding and also with the 2008/9 satisfaction level (Mustika et al. 2013). In 2008/9, only 51% respondents provided scores of 8-10 with mean satisfaction of 7.1 and Western respondents were also concerned about crowding.

Among the three diving sites, Tulamben apparently contributed a significant amount of income (in terms of total direct expenditures) to the local economy (Table 5). Amed’s contribution to the local economy was comparatively the smallest among the four sites. Since this is the first research to explore the economic contributions of this industry at the three sites, we are unable to compare it with existing baseline data to see the trends of the three diving sites.

However, time-series data for Lovina is available. Our estimation of the attributable direct expenditures for Lovina (~30%, that is the amount of income Lovina might lose in the absence of the dolphins) is lower than the findings for 2008/9 (Mustika et al. 2012, approximately 46%). We suspect that these declines were influenced by: 1) the smaller sample size than 2008/9 (116 vs 387), and 2) the shorter average length of stay in 2013 (2.54 nights vs 3.54 nights, or 71.75% of the 2008/9 length of stay).

Because 58.6% of our respondents were Europeans, we checked the length of stay of our European respondents. We found a 35% decline in the length of stay for Europeans in Lovina; from 3.86 nights (2008/9, Mustika unpublished data) to 2.54 nights (2013). We attribute this shorter length of stay to the 2013 European economic crisis. However, we do not have the data to compare the length of stay of European tourists in Bali between 2008/9 and 2013 to further verify this hypothesis. We do find that the length of stay of Lovina was the shortest among the four sites (the highest was Pemuteran with 4 nights of stay).

Half of respondents were reluctant to pay for conservation fund, which was worrisome. Since the optional conservation fund fees offered were considerably low (USD 10 and 20), we considered that income was indeed not the reason for their reluctance. We suspected that their lack of trust to the Indonesian government was one of the main reasons behind their reluctance to contribute. We do not have enough qualitative data to conduct further cross-examination. As the results showed, respondents who were willing to pay for the fund still retain doubts in the idea of the government managing the fund. However, respondent’s trust level increased if the government works together with other stakeholders in managing the fund. However, in the light of existing user fees already imposed in the two regencies, the newfound tourist reluctance and preconditions in contributing more to local conservation initiatives should be used to redesign sustainable financing at regency and provincial levels.
5. Conclusion and recommendation

Although a tourist site contributes significantly to the local economy, if the main attraction (e.g., coral reefs or the dolphins) are not properly conserved and managed, the site may lose a significant portion of its profit because dissatisfied tourists are not returning for a second visit or not recommending the attraction to others. Managers should pay manage factors associated with tourist satisfaction (such as crowding) such that these factors do not adversely impact the industry’s prospect in the future.

Because conservation fund through tourism contribution will play a crucial element in the future conservation finance in Bali, the government should address the trust issue between them and the tourists. Publishing positive conservation news and clear, transparent financial accounting online and on-site are some options to consider increasing tourist’s trust level. The island-wide sustainable financing should also be designed as to not add to the already complex regency-level user fee systems.

The importance of this work warrants another series of survey in the four sites (particularly for low visitation seasons) and other tourist sites in Bali (for low and high visitation seasons) to see the general pattern of tourist experience, expenditures and the level of support for conservation efforts on the island, particularly in conjunction with the new initiative of Bali Marine Protected Areas (MPA) Network.

Three papers will be submitted to international peer-review journals in 2014 to detail the methodology, data analyses and discussions of the findings in this report. The first two papers will discuss the direct expenditures, tourist experience, and Willingness to Pay for Conservation Fund for the four sites. The last paper will discuss the repercussions of these findings at island-wide scale, in conjunction with a similar study conducted at the Bukit Peninsula by Conservation International Indonesia, Save the Waves, Margules and Mustika.

Acknowledgement

The author would like to acknowledge Riccardo Welters (James Cook University), Derta Purwita (Reef Check Indonesia), Retno Nuraini (Reef Check Indonesia), and Made Sudana for their help during the design and data collection phases of this research.

Reference


APPENDICES
Tourist Perception Survey for Karangasem and Buleleng: AMED SECTION

This survey is conducted by the Coral Reef Alliance and Reef Check Foundation Indonesia in cooperation with local government and local partners to understand the perception of tourists visiting the Regencies of Karangasem and Buleleng in Bali. It specifically is designed to understand tourist satisfaction, economic benefits to the locals and tourist’s willingness to pay for conservation of nature and cultural preservation. Your responses are very important to meet this goal. You will remain anonymous unless you state otherwise. PLEASE CIRCLE ONLY ONE RESPONSE TO EACH QUESTION. Thank you very much for your cooperation!

Year of birth: __________________________ Date questionnaire filled in: __________________________
Nationality: __________________________ Country of residence: __________________________
Highest education level: __________________________ Gender: __________________________
Email: __________________________ (to submit paper or report to you)

1. What attracted you to visit Amed?
________________________________________________________________________

2. In the absence of the coral reefs here, would you still go to Amed?
   a) Yes, with the same amount of time
   b) Yes, with reduced amount of time
   c) No, I will skip this site

3. If you answer B or C, where in Bali would you have spent your holiday?
   __________________________ [name of site], for ____ days

4. Is this your first visit to Amed? Yes / No

5. If not the first time, how many times have you visited the site (including this trip)? ________________

6. How many people are visiting Amed with you? (this number includes you)

7. Where and for how many nights do you stay in Amed? In __________________________ for ____ nights

8. If you are just doing day trip here, where are you staying overnight? __________________________

9. If you are just doing day trip here, why aren’t you staying overnight here?
   a) site is easy to access from where I stay
   b) no decent accommodation in the area
   c) not enough to do in this area to justify an overnight trip
   d) other reason (please explain): __________________________

10. Approximately, how much do you spend total PER DAY (in Indonesian Rupiah) for these items? (this info helps us to understand the contribution of this attraction to the local communities)

<table>
<thead>
<tr>
<th>Item \ Daily cost</th>
<th>Up to IDR 150K</th>
<th>IDR 151K–1IDR 300K</th>
<th>IDR 301K–IDR 450K</th>
<th>IDR 451K–IDR 600K</th>
<th>&gt; IDR 600K (how much)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) food and drinks (per person)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>b) accommodation (per room)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>c) communication (internet, phone) (per person)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>d) souvenirs (per person)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>e) local transportation (per person) or rent car (per day/car)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
11. What aspects of Amed do you **like** the most?

____________________________________________________________________________

12. What aspects of Amed do you **dislike** the most?

____________________________________________________________________________

13. When you were doing the diving/snorkelling trip, how many divers and/or snorkelers were there around you?

   a) 0  b) 1-5  c) 6-10  d) 11-15  
   e) 16-20  f) 21-25  g) More than 25, how many?________

14. Do you find this number (**circle only one number**):

   
   
   

far too many  too many  just about right  too few  far too few

   divers/snorkelers  (I felt crowded there)

15. Please indicate the number of divers/snorkelers **you would have liked around you** while diving/snorkelling **(it has to be ABOVE zero)**

____________________________________________________________________________

16. Please explain your answer above________________________

17. **If you come with a dive guide**, how did you feel about the way your guide guided you through your dive?

   -2  -1  0  1  2

   Extremely not comfortable  Not comfortable  Neutral  Comfortable  Very comfortable

   (I felt crowded there)

18. Why did you feel this way?____________________________________________________

19. How satisfied were you about your overall diving/snorkelling trip? (please circle one number)

   1--------2---------3--------4--------5--------6--------7--------8--------9--------10

   Not satisfied  Very satisfied

20. Would you join the trip again?  Yes/No

21. Would you recommend the trip to others?  Yes/No

In recent years, Bali has witnessed increasing threats to its environment. The island has more pollution, waste problems, coral reef degradation, reduction of large marine species like sharks, sea turtles, marine mammals, etc. The government is planning to create a conservation fund for **BOTH** the preservation of the environment and the Balinese culture. The fund will be used for, among others, community patrols, community education, environmental-related trainings (such as how to conduct better tourism activities), or preservation of Subak (the traditional paddy field irrigation system in Bali).
22. Do you want to contribute to this conservation fund? Yes/No

23. If yes, why?____________________________________________________________

24. If not, why?____________________________________________________________

25. If yes, how much do you want to pay? (in Indonesian Rupiah)
   a) IDR 10,000 b) IDR 20,000
c) IDR 50,000 d) IDR 100,000
e) Other amount, how much____________________

26. For what kind of environmental and cultural activities do you want this fund to be used?
   _______________________________________________________________________

27. Are there any conditions that are important to your being willing to pay into the fund?
    _______________________________________________________________________

28. Who do you trust to manage this fund?
   a) community b) NGO
c) government d) private sector
e) a consortium consisting of all of the above f) others:__________________

29. What is your preferred way to pay the fund? **(choose one option only)**
   a) One-time entrance fee at provincial level b) One-time entrance fee at regency level
c) Entrance fee at each tourism attraction d) Included in the attraction price
e) Airport/harbour departure tax f) Included in the airfare/bus fare to Bali
g) others:__________________ h) included in the Visa on Arrival

30. What range encompasses your total annual income? **(In US dollars, for willingness to pay analysis, NOT for any tax purposes)**
   a) Under USD 15,000 b) USD 15,000 – USD 34,999
c) USD 35,000 – USD 59,999 d) USD 60,000 - USD 89,999
e) USD 90,000 - USD 119,999 f) USD 120,000 – USD 199,999
g) USD 200,000 or higher h) rather not specify

**THANK YOU VERY MUCH FOR YOUR HELP!**
Tourist Perception Survey for Karangasem and Buleleng: LOVINA SECTION

This survey is conducted by the Coral Reef Alliance and Reef Check Foundation Indonesia in cooperation with local government and local partners to understand the perception of tourists visiting the Regencies of Karangasem and Buleleng in Bali. It specifically is designed to understand tourist satisfaction, economic benefits to the locals and tourist’s willingness to pay for conservation of nature and cultural preservation. Your responses are very important to meet this goal. You will remain anonymous unless you state otherwise. PLEASE CIRCLE ONLY ONE RESPONSE TO EACH QUESTION. Thank you very much for your cooperation!

Year of birth: Date questionnaire filled in:  
Nationality: Country of residence:  
Highest education level: Gender:  
Email: (to submit paper or report to you)

1. What attracted you to visit Lovina?  
__________________________________________________________________________

2. In the absence of the dolphins, would you still go to Lovina?  
a) Yes, with the same amount of time  
b) Yes, with reduced amount of time  
a) No, I will skip this site

3. If you answer B or C, where in Bali would you have spent your holiday?  
__________________________________________________________________________

4. Is this your first visit to Lovina? Yes / No

5. If not the first time, how many times have you visited the site (including this trip)?

6. How many people are visiting Lovina with you? (this number includes you)

7. Where and for how many nights do you stay in Lovina? In _____________ for ____ nights

8. If you are just doing day trip here, where are you staying overnight? ____________________

9. If you are just doing day trip here, why aren’t you staying overnight here?  
a) site is easy to access from where I stay  
b) no decent accommodation in the area  
c) not enough to do in this area to justify an overnight trip  
d) other reason (please explain):

10. Approximately, how much do you spend total PER DAY (in Indonesian Rupiah) for these items? (this info helps us to understand the contribution of this attraction to the local communities)

<table>
<thead>
<tr>
<th>Item (per person)</th>
<th>Up to IDR 150K</th>
<th>IDR 151K – IDR 300K</th>
<th>IDR 301K – IDR 450K</th>
<th>IDR 451K – IDR 600K</th>
<th>&gt; IDR 600K (how much)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) food and drinks</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b) accommodation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) communication</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>d) souvenirs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>e) local transportation (per person) or rent car (per day/car)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
11. What aspects of Lovina do you like the most?

____________________________________________________________________________

12. What aspects of Lovina do you dislike the most?

____________________________________________________________________________

13a. If you saw dolphins in this trip, how many dolphins approximately did you see?
   a) 1-10  b) 11-20  c) 21-30
   d) 31-40  e) More than 40  f) We saw ___ numbers of large whales

13. When you were doing the dolphin trip, how many boats were there around you?
   a) 0  b) 1-5  c) 6-10  d) 11-15
   e) 16-20  f) 21-25  g) More than 25, how many? ______

14. Do you find this number (circle only one number):
   -2 far too many boats (I felt crowded there)
   -1 too many
   0 just about right
   1 too few
   2 far too few (I felt lonely there)

15. Please indicate the number of boats you would have liked around you while watching the dolphins (it has to be ABOVE zero)

____________________________________________________________________________

16. Please explain your answer above__________________________________________

17. How did you feel about the way your boatman drove the boat around the dolphins?
   -2 Extremely not comfortable  -1 Not comfortable  0 Neutral  1 Comfortable  2 Very comfortable

18. Why did you feel this way?________________________________________________

19. How satisfied were you about your overall dolphin trip? (please circle one number)

    1----------2----------3----------4----------5----------6----------7----------8----------9----------10
    Not satisfied   Very satisfied

20. Would you join the trip again? Yes/No

21. Would you recommend the trip to others? Yes/No

In recent years, Bali has witnessed increasing threats to its environment. The island has more pollution, waste problems, coral reef degradation, reduction of large marine species like sharks, sea turtles, marine mammals, etc. The government is planning to create a conservation fund for BOTH the preservation of the environment and the Balinese culture. The fund will be used for, among others, community patrols, community education, environmental-related trainings (such as how to conduct better tourism activities), or preservation of Subak (the traditional paddy field irrigation system in Bali).
22. Do you want to contribute to this conservation fund? 
   Yes/No

23. If yes, why? ____________________________________________

24. If not, why? ____________________________________________

25. If yes, how much do you want to pay? (in Indonesian Rupiah)
   a) IDR 10,000
   b) IDR 20,000
   c) IDR 50,000
   d) IDR 100,000
   e) Other amount, how much____________________

26. For what kind of environmental and cultural activities do you want this fund to be used?
   ________________________________________________________

27. Are there any conditions that are important to your being willing to pay into the fund?
   ________________________________________________________

28. Who do you trust to manage this fund?
   a) community
   b) NGO
   c) government
   d) private sector
   e) a consortium consisting of all of the above
   f) others:__________________

29. What is your preferred way to pay the fund? (choose one option only)
   a) One-time entrance fee at provincial level
   b) One-time entrance fee at regency level
   c) Entrance fee at each tourism attraction
   d) Included in the attraction price
   e) Airport/harbour departure tax
   f) Included in the airfare/bus fare to Bali
   g) others:__________________
   h) included in the Visa on Arrival

30. What range encompasses your total annual income? (In US dollars, for willingness to pay analysis, NOT
    for any tax purposes)
   a) Under USD 15,000
   b) USD 15,000 – USD 34,999
   c) USD 35,000 – USD 59,999
   d) USD 60,000 - USD 89,999
   e) USD 90,000 - USD 119,999
   f) USD 120,000 – USD 199,999
   g) USD 200,000 or higher
   h) rather not specify

THANK YOU VERY MUCH FOR YOUR HELP!
Tourist Perception Survey for Karangasem and Buleleng: PEMUTERAN SECTION

This survey is conducted by the Coral Reef Alliance and Reef Check Foundation Indonesia in cooperation with local government and local partners to understand the perception of tourists visiting the Regencies of Karangasem and Buleleng in Bali. It specifically is designed to understand tourist satisfaction, economic benefits to the locals and tourist’s willingness to pay for conservation of nature and cultural preservation. Your responses are very important to meet this goal. You will remain anonymous unless you state otherwise. PLEASE CIRCLE ONLY ONE RESPONSE TO EACH QUESTION. Thank you very much for your cooperation!

Year of birth: Date questionnaire filled in:
Nationality: Country of residence:
Highest education level: Gender:
Email: (to submit paper or report to you)

1. What attracted you to visit Pemuteran?

__________________________________________________________________________

2. In the absence of the BioRock and other reef rehabilitation projects, would you still go to Pemuteran?
   a) Yes, with the same amount of time   b) Yes, with reduced amount of time
   c) No, I will skip this site

3. If you answer B or C, where in Bali would you have spent your holiday?

______________________________ [name of site], for ____days

4. Is this your first visit to Pemuteran? Yes / No

5. If not the first time, how many times have you visited the site (including this trip)? _____________

6. How many people are visiting Pemuteran with you? (this number includes you)

7. Where and for how many nights do you stay in Pemuteran? In _____________ for ____nights

8. If you are just doing day trip here, where are you staying overnight?________________________

9. If you are just doing day trip here, why aren’t you staying overnight here?
   a) site is easy to access from where I stay   b) no decent accommodation in the area
   c) not enough to do in this area to justify an overnight trip   d) other reason (please explain):

10. Approximately, how much do you spend total PER DAY (in Indonesian Rupiah) for these items? (this info helps us to understand the contribution of this attraction to the local communities)

<table>
<thead>
<tr>
<th>Item \ Daily cost</th>
<th>Up to IDR 150K</th>
<th>IDR 151K–300K</th>
<th>IDR 301K–450K</th>
<th>IDR 451K–600K</th>
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</tr>
</thead>
<tbody>
<tr>
<td>a) food and drinks (per person)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>b) accommodation (per room)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>c) communication (internet, phone) (per person)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>d) souvenirs (per person)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>e) local transportation (per person) or rent car (per day/car)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
11. What aspects of Pemuteran do you like the most?
____________________________________________________________________________

12. What aspects of Pemuteran do you dislike the most?
____________________________________________________________________________

13. When you were doing the diving/snorkelling trip, how many divers and/or snorkelers were there around you?
   a) 0  b) 1-5  c) 6-10  d) 11-15
   e) 16-20  f) 21-25  g) More than 25, how many?__________

14. Do you find this number (circle only one number):
   -2 far too many
      -1 too many
       0 just about right
       1 too few
       2 far too few
   divers/snorkelers
   (I felt crowded there)

15. Please indicate the number of divers/snorkelers you would have liked around you while diving/snorkelling (it has to be ABOVE zero)
   __________________________

16. Please explain your answer above______________________________

17. **If you come with a dive guide**, how did you feel about the way your guide guided you through your dive?
   -2 Extremely not comfortable
      -1 Not comfortable
       0 Neutral
       1 Comfortable
       2 Very comfortable

18. Why did you feel this way?____________________________________________________

19. How satisfied were you about your overall diving/snorkelling trip? (please circle one number)
   1-----------2-----------3-----------4-----------5-----------6-----------7-----------8-----------9-----------10
   Not satisfied
   Very satisfied

20. Would you join the trip again? Yes/No

21. Would you recommend the trip to others? Yes/No

In recent years, Bali has witnessed increasing threats to its environment. The island has more pollution, waste problems, coral reef degradation, reduction of large marine species like sharks, sea turtles, marine mammals, etc. The government is planning to create a conservation fund for BOTH the preservation of the environment and the Balinese culture. The fund will be used for, among others, community patrols, community education, environmental-related trainings (such as how to conduct better tourism activities), or preservation of Subak (the traditional paddy field irrigation system in Bali).
22. Do you want to contribute to this conservation fund? Yes/No

23. If yes, why? ____________________________________________

24. If not, why? ____________________________________________

25. If yes, how much do you want to pay? (in Indonesian Rupiah)
   a) IDR 10,000
   b) IDR 20,000
   c) IDR 50,000
   d) IDR 100,000
   e) Other amount, how much____________________

26. For what kind of environmental and cultural activities do you want this fund to be used?
   ___________________________________________________________________

27. Are there any conditions that are important to your being willing to pay into the fund?
   ___________________________________________________________________

28. Who do you trust to manage this fund?
   a) community
   b) NGO
   c) government
   d) private sector
   e) a consortium consisting of all of the above
   f) others:__________________

29. What is your preferred way to pay the fund? *(choose one option only)*
   a) One-time entrance fee at provincial level
   b) One-time entrance fee at regency level
   c) Entrance fee at each tourism attraction
   d) Included in the attraction price
   e) Airport/harbour departure tax
   f) Included in the airfare/bus fare to Bali
   g) others:__________________
   h) included in the Visa on Arrival

30. What range encompasses your total annual income? *(In US dollars, for willingness to pay analysis, NOT for any tax purposes)*
   a) Under USD 15,000
   b) USD 15,000 – USD 34,999
   c) USD 35,000 – USD 59,999
   d) USD 60,000 - USD 89,999
   e) USD 90,000 - USD 119,999
   f) USD 120,000 – USD 199,999
   g) USD 200,000 or higher
   h) rather not specify

THANK YOU VERY MUCH FOR YOUR HELP!
Tourist Perception Survey for Karangasem and Buleleng: TULAMBEN SECTION

This survey is conducted by the Coral Reef Alliance and Reef Check Foundation Indonesia in cooperation with local government and local partners to understand the perception of tourists visiting the Regencies of Karangasem and Buleleng in Bali. It specifically is designed to understand tourist satisfaction, economic benefits to the locals and tourist’s willingness to pay for conservation of nature and cultural preservation. Your responses are very important to meet this goal. You will remain anonymous unless you state otherwise. PLEASE CIRCLE ONLY ONE RESPONSE TO EACH QUESTION. Thank you very much for your cooperation!

Year of birth: Date questionnaire filled in:
Nationality: Country of residence:
Highest education level: Gender:
Email: (to submit paper or report to you)

1. What attracted you to visit Tulamben?

________________________________________________________________________

2. In the absence of the Liberty Wreck, would you still go to Tulamben?
   a) Yes, with the same amount of time  
   b) Yes, with reduced amount of time
   c) No, I will skip this site

3. If you answer B or C, where in Bali would you have spent your holiday?
   __________________________ [name of site], for ____ days

4. Is this your first visit to Tulamben? Yes / No

5. If not the first time, how many times have you visited the site (including this trip)? ____________

6. How many people are visiting Tulamben with you? (this number includes you)

7. Where and for how many nights will you stay in Tulamben? In _________________ for ____ nights

8. If you are just doing day trip here, where are you staying overnight?_____________________

9. If you are just doing day trip here, why aren’t you staying overnight here?
   a) site is easy to access from where I stay  
   b) no decent accommodation in the area
   c) not enough to do in this area to justify an overnight trip
   d) other reason (please explain):
   __________________________________________________________

10. Approximately, how much do you spend total PER DAY (in Indonesian Rupiah) for these items?
    (this info helps us to understand the contribution of this attraction to the local communities)

    | Item | Daily cost | Up to IDR 150K | IDR 151K–IDR 300K | IDR 301K–IDR 450K | IDR 451K–IDR 600K | > IDR 600K (how much) |
    |------|------------|----------------|--------------------|--------------------|--------------------|----------------------|
    | a)   | food and drinks (per person) | o | o | o | o | o |
    | b)   | accommodation (per room) | o | o | o | o | o |
    | c)   | communication (internet, phone) (per person) | o | o | o | o | o |
    | d)   | souvenirs (per person) | o | o | o | o | o |
    | e)   | local transportation (per person) or rent car (per day/car) | o | o | o | o | o |
In recent years, Bali has witnessed increasing threats to its environment. The island has more pollution, waste problems, coral reef degradation, reduction of large marine species like sharks, sea turtles, marine mammals, etc. The government is planning to create a conservation fund for BOTH the preservation of the environment and the Balinese culture. The fund will be used for, among others, community patrols, community education, environmental-related trainings (such as how to conduct better tourism activities), or preservation of Subak (the traditional paddy field irrigation system in Bali).
22. Do you want to contribute to this conservation fund?  Yes/No

23. If yes, why?  __________________________________________________________

24. If not, why?  __________________________________________________________

25. If yes, how much do you want to pay? (in Indonesian Rupiah)
   a) IDR 10,000  b) IDR 20,000
   c) IDR 50,000  d) IDR 100,000
   e) Other amount, how much____________________

26. For what kind of environmental and cultural activities do you want this fund to be used?
   ________________________________________________________________

27. Are there any conditions that are important to your being willing to pay into the fund?
   ________________________________________________________________

28. Who do you trust to manage this fund?
   a) community  b) NGO
   c) government  d) private sector
   e) a consortium consisting of all of the above  f) others:__________________

29. What is your preferred way to pay the fund? (choose one option only)
   a) One-time entrance fee at provincial level  b) One-time entrance fee at regency level
   c) Entrance fee at each tourism attraction  d) Included in the attraction price
   e) Airport/harbour departure tax  f) Included in the airfare/bus fare to Bali
   g) others:__________________  h) included in the Visa on Arrival

30. What range encompasses your total annual income?  (In US dollars, for willingness to pay analysis, NOT for any tax purposes)
   a) Under USD 15,000  b) USD 15,000 – USD 34,999
   c) USD 35,000 – USD 59,999  d) USD 60,000 - USD 89,999
   e) USD 90,000 - USD 119,999  f) USD 120,000 – USD 199,999
   g) USD 200,000 or higher  h) rather not specify

THANK YOU VERY MUCH FOR YOUR HELP!