Map of the Kundasang area

The map of the area is submitted along with the rapport. It consists of five maps joined together. The five maps are from a series of topographic maps in the scale of 1:12,500 covering the districts of Dareah and Ranau. The number of the five maps used are R.-676682, R-676526, R-676622, R-676628 and R-675662.

On the map KPD’s four water intake’s are pointed out. Furthermore, one sampling location (Naradaw) used by the water group is pointed out along with the location of the Kundasang Water Treatment Plant. This is done by using arrows. By circles the areas in which the agricultural group has conducted their interviews are marked.

Appendix 1
### Sabah Parks statistics 1997

<table>
<thead>
<tr>
<th></th>
<th>Malaysian</th>
<th>Foreign</th>
<th>Total</th>
<th>Day visitors</th>
<th>Staying in the Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>675</td>
<td>715</td>
<td>1390</td>
<td>5610</td>
<td>3262</td>
</tr>
<tr>
<td>February</td>
<td>1015</td>
<td>829</td>
<td>1844</td>
<td>15.618</td>
<td>5147</td>
</tr>
<tr>
<td>March</td>
<td>1820</td>
<td>934</td>
<td>2754</td>
<td>7930</td>
<td>7536</td>
</tr>
<tr>
<td>April</td>
<td>1262</td>
<td>1176</td>
<td>2838</td>
<td>8399</td>
<td>6942</td>
</tr>
<tr>
<td>May</td>
<td>2855</td>
<td>1089</td>
<td>3944</td>
<td>16.277</td>
<td>9505</td>
</tr>
<tr>
<td>June</td>
<td>2133</td>
<td>1322</td>
<td>3455</td>
<td>13.447</td>
<td>8373</td>
</tr>
<tr>
<td>July</td>
<td>1654</td>
<td>1597</td>
<td>3251</td>
<td>10.661</td>
<td>8085</td>
</tr>
<tr>
<td>August</td>
<td>1558</td>
<td>1917</td>
<td>3475</td>
<td>12.357</td>
<td>7499</td>
</tr>
<tr>
<td>September</td>
<td>1759</td>
<td>1424</td>
<td>3183</td>
<td>11.137</td>
<td>7628</td>
</tr>
<tr>
<td>October</td>
<td>1356</td>
<td>499</td>
<td>1855</td>
<td>5413</td>
<td>5034</td>
</tr>
<tr>
<td>November</td>
<td>1698</td>
<td>527</td>
<td>2225</td>
<td>8975</td>
<td>5708</td>
</tr>
<tr>
<td>December</td>
<td>2070</td>
<td>918</td>
<td>2988</td>
<td>19.731</td>
<td>8459</td>
</tr>
<tr>
<td>Total</td>
<td>20,255</td>
<td>12,947</td>
<td>33,202</td>
<td>135,555</td>
<td>83,178</td>
</tr>
</tbody>
</table>

### KGR Statistics september 1998

<table>
<thead>
<tr>
<th></th>
<th>Climbers</th>
<th>Non-climbers</th>
<th>Staying in the Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysian tourist</td>
<td>1955</td>
<td>2459</td>
<td></td>
</tr>
<tr>
<td>Foreign tourists</td>
<td>1051</td>
<td>732</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3006</td>
<td>3191</td>
<td>6197</td>
</tr>
</tbody>
</table>

### Appendix 2
Appendix 3
<table>
<thead>
<tr>
<th>Define actors/action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is given the water</td>
</tr>
<tr>
<td>Who is the polluter of the water</td>
</tr>
<tr>
<td>Who is paying for the water</td>
</tr>
<tr>
<td>Who has the best changes to receive more water</td>
</tr>
</tbody>
</table>

**Questionnaire Matrix**

<table>
<thead>
<tr>
<th>OOOOO = Highest score</th>
</tr>
</thead>
<tbody>
<tr>
<td>OOOO = High score</td>
</tr>
<tr>
<td>OO = Low score</td>
</tr>
<tr>
<td>O = Lowest score</td>
</tr>
</tbody>
</table>
Questions for interviewing farmers and local population

Introduction – who are we, what is our purpose and what is our questions about.
Irrigation water II. Drinking water
We are not from any government and either the KPD.

Background

1. Who is the decision-maker of this household?

2. For how long time have you lived here?

3. How many people are living in the household? Age? Are they all living here all year?

4. How many animals?

5. How many fields do you cultivate? Ac.?

6. Are you cultivating permanently?

7. Who is supplying you with water both for the fields and household?
   (KPD or private pipelines)

Irrigation water

8. Do you use water for irrigation?

9. So how much water do you use for irrigation?

10. Do you get as much as you need?

11. How do you water the fields?

12. How are the conditions of your sprinklers or pipelines?
    (Ex. Blockage, price, material’s quality...)

13. Who is fixing the sprinklers?

Drinking water

Quality
14. How is the quality of the drinking water?

15. How can you tell if the water is good?
16. Do you treat your drinking water before consuming it?

17. Why do you do that? Or Why don't you treat your water?

18. If boiling: Do you think you would be able to drink the water if it was not boiled? and do you sometimes do it?

Quantity

19. How much drinking water do you need?

20. Do you think you get the amount of drinking-water that you need?

22. How are the conditions of the pipes?

23. If there is a leakage, who will fixe it? and will it be done right away?

Administration

24. Does everybody get as much water as they should have? Also the people in the outer areas of Kundasang?

25. Can you make some groups of the users of water in Kundasang?

MATRIX

26. Do you think that it is fair that some people are using their own pipelines?

27. Is it legal to have private pipelines?

28. Is there an agreement in the Kampong (if households in Downtown, then among the neighbours), how the private pipes are placed?

29. Would it be preferable that everybody was supplied by the mixed system with their own private pipelines and KPD or would it be better, if there was only one way of getting water?

Appendix 5.2
30. What is your opinion about KPD's work?

31. Do you prefer to join the programs of KPD or the local farmers' association or others?

32. Is the water in Kundasang different from other villages? Is it different in the way it is or in the amount of water?

**Changes**

33. Do you pay according to a water-meter or do you pay flat-rate?

34. Do you have a water-meter?

35. If a farmer with water-meter: Do you sometimes use the water from the sprinklers in the household?

36. KPD is trying to implement meter-system in Kundasang, what do you think of joining that?

37. Do you think your way of using water will change when you get a water-meter? Or Do you think your way of using water changed when you got the water meter?

38. How do you think the future will be in the water supplying system?

---

**Appendix 5.3**
Interview with farmer in kampong XX??

Mr. Ramon

Christian Ohmsen was interviewing. Supervisor Peter was joining silently listening. We are were sitting under the house by the back stairs. There is some nice stairs at the front and more simple one at the back. A couple of dogs that dont belong to the house are lacyly lying around and cats, chickens and children are walking around. Under the house fishing gear is hanging togeether with tools.

Government gives pipes, KPD helps fixing.
He pays 5 RM pr. month.
He has his own pipe to the nearest stream. Some houses in the kampong dig for water.
He has been living here 27 years, since he was born, also parents(?)
He has 2 fields, one at 2 ha, one at 1 ha. They are 3 miles away. There is ½ a mile from the house to the river. The river is far from the fields. He gets no irrigation water. (Later he will tell that they have their own sprinkler system.)
He does not get as much water as he wants in the dry season, that was 5 months last time.
The rain water that supplies his fields is of good quality. If there is too much of it, it is a problem for the vegetables, that happens especially in december. There is no protection build.
The Mesilau supplies the household.
In the household 7 people are living. His father (he has no mother), 2 brothers, 1 sister and 2 kids. 5 of them are living permanently, some go to Ranau, K.K. or Tambunen(?). All in all they are 8.
There is also 40 chicken and 6 cows.
The water is safe, there is no pollution upstream, and they get the water just from the foot of the hill.
The quality is checked by looking at the colour of the water, if it is clear then it is good. They boil the water because they want to be careful. They store it in a tank before the water reaches the house.
There is not only one tank. If one tank is dry they will get water from another tank.
KPD is fixing it, if the pipe gets blocked by leaves and branches.
In the dry season it is possible to dig a hole to get drinking water.
They are afraid of diarrhoea.
The only time there is a problem is in the dry season, when there is only enough water for drinking and cooking. They will wash in the river.
The pipes are in good condition.
In the house they fix them themselves, other places it is KPD (despite they have no irrigation!!).
Sometimes KPD is a bit late, that is one day.

Groups of users are Kampong Sebarang, Kampong Kepas. We ask him about farmers, hotel or golf course and he adds a school, farmers accomodations and Hotel Perkasa. Doing the matrix he says that farmers use too much water for sprinkling in the morning and the afternoon. The farmers use a lot when they are sprinkling. Even when the water is low the farmer will get water, he cant tell why.
They have their own sprinkler system.

<table>
<thead>
<tr>
<th>Farmers</th>
<th>School</th>
<th>Hotel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is given = using the water</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>
Polluter | 4 | 3 | 2
--- | --- | --- | ---
Who is paying | 5 | 3 | 3
Best chances to receive more? | 5 | 4 | 4 why are the chances less than the farmers? Because farmers can use water all day.

Farmers are paying 40 RM pr. ha pr month, for him that is a lot. Pollution is by chemicals and chicken beeps. The school is also polluting because the tank runs over when it is full. The hotel is using soap for cleaning clothes.

He knows Ranau and that they use water meters. The difference of the water is, that they get it directly from the hill. Ranau treat the water first. He doesn’t know much about the amount.
Are there any problems between those with their own and those without their own pipelines? No problems. Nobody is blaming them for going far with the pipelines to get water if it is dry. There will still be water to those downstream, because they are not taking everything.

He is hopping for a new system, but he doesn’t know who will be responsible for a new system. Do you prefer your own or KPD’s system? He prefers that he can get more water. It’s about money, Why should he use KPD then he cannot afford his own system!
He pays 5 RM pr. month.

He doesn’t know what he would think of implementation of a metersystem. But he doesn’t want a meter because then it is not free to use the water. He doesn’t know if it will be more than the 5 RM. He would change his behaviour by controlling and limiting washing and cooking.

#Maybe it also means something to get the ressource for free, even that prices for constructions are more expensive. It can be the question of who’s nature it is and who can charge money for that.
Hydrological Services Pty. Ltd., Australia

Certificate of Calibration

Date 19/6/97

Current Meter Model: OSS-PC1 Serial No. 97-05
Fan No. 1 Serial No. 96-25
Diameter: 50 mm Pitch: 0.05 m
Type of Support: 9 mm diameter rod
Method of Calibration: Average Value Equation

\[ \begin{align*}
    n < 1.34 & \quad V = 0.0681 n + 0.0155 \text{ m/s} \\
    1.34 < n < 6.79 & \quad V = 0.0577 n + 0.0295 \text{ m/s} \\
    n > 6.79 & \quad V = 0.0531 n + 0.0608 \text{ m/s}
\end{align*} \]

Starting Velocity = 0.025 m/s
Maximum Velocity = 2.000 m/s

Note: 'n' denotes the number of revolutions of the propeller per second and 'V' the water velocity in meters per second.

Date: 19/6/97

Inspected: [Signature]

Appendix 6.1
<table>
<thead>
<tr>
<th>n</th>
<th>0.00</th>
<th>0.01</th>
<th>0.02</th>
<th>0.03</th>
<th>0.04</th>
<th>0.05</th>
<th>0.06</th>
<th>0.07</th>
<th>0.08</th>
<th>0.09</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>*****</td>
<td>*****</td>
<td>*****</td>
<td>*****</td>
<td>*****</td>
<td>*****</td>
<td>0.025</td>
<td>0.026</td>
<td>0.026</td>
<td>0.027</td>
</tr>
<tr>
<td>0.1</td>
<td>0.036</td>
<td>0.037</td>
<td>0.037</td>
<td>0.038</td>
<td>0.038</td>
<td>0.039</td>
<td>0.040</td>
<td>0.041</td>
<td>0.041</td>
<td>0.042</td>
</tr>
<tr>
<td>0.2</td>
<td>0.050</td>
<td>0.050</td>
<td>0.051</td>
<td>0.052</td>
<td>0.052</td>
<td>0.053</td>
<td>0.054</td>
<td>0.054</td>
<td>0.055</td>
<td>0.056</td>
</tr>
<tr>
<td>0.3</td>
<td>0.065</td>
<td>0.065</td>
<td>0.066</td>
<td>0.067</td>
<td>0.067</td>
<td>0.068</td>
<td>0.069</td>
<td>0.069</td>
<td>0.069</td>
<td>0.069</td>
</tr>
<tr>
<td>0.4</td>
<td>0.083</td>
<td>0.084</td>
<td>0.085</td>
<td>0.086</td>
<td>0.086</td>
<td>0.087</td>
<td>0.088</td>
<td>0.088</td>
<td>0.089</td>
<td>0.090</td>
</tr>
<tr>
<td>0.5</td>
<td>0.100</td>
<td>0.101</td>
<td>0.102</td>
<td>0.103</td>
<td>0.103</td>
<td>0.104</td>
<td>0.105</td>
<td>0.105</td>
<td>0.105</td>
<td>0.105</td>
</tr>
<tr>
<td>0.6</td>
<td>0.117</td>
<td>0.118</td>
<td>0.119</td>
<td>0.120</td>
<td>0.121</td>
<td>0.121</td>
<td>0.122</td>
<td>0.122</td>
<td>0.122</td>
<td>0.122</td>
</tr>
<tr>
<td>0.7</td>
<td>0.134</td>
<td>0.135</td>
<td>0.136</td>
<td>0.137</td>
<td>0.137</td>
<td>0.138</td>
<td>0.139</td>
<td>0.139</td>
<td>0.139</td>
<td>0.139</td>
</tr>
<tr>
<td>0.8</td>
<td>0.151</td>
<td>0.152</td>
<td>0.152</td>
<td>0.153</td>
<td>0.154</td>
<td>0.154</td>
<td>0.155</td>
<td>0.155</td>
<td>0.155</td>
<td>0.155</td>
</tr>
<tr>
<td>0.9</td>
<td>0.168</td>
<td>0.169</td>
<td>0.170</td>
<td>0.171</td>
<td>0.171</td>
<td>0.172</td>
<td>0.172</td>
<td>0.173</td>
<td>0.173</td>
<td>0.173</td>
</tr>
<tr>
<td>1.0</td>
<td>0.185</td>
<td>0.186</td>
<td>0.187</td>
<td>0.187</td>
<td>0.187</td>
<td>0.188</td>
<td>0.189</td>
<td>0.190</td>
<td>0.191</td>
<td>0.191</td>
</tr>
<tr>
<td>1.1</td>
<td>0.197</td>
<td>0.198</td>
<td>0.199</td>
<td>0.200</td>
<td>0.200</td>
<td>0.201</td>
<td>0.202</td>
<td>0.202</td>
<td>0.202</td>
<td>0.202</td>
</tr>
<tr>
<td>1.2</td>
<td>0.203</td>
<td>0.204</td>
<td>0.205</td>
<td>0.206</td>
<td>0.206</td>
<td>0.207</td>
<td>0.207</td>
<td>0.207</td>
<td>0.207</td>
<td>0.207</td>
</tr>
<tr>
<td>1.3</td>
<td>0.214</td>
<td>0.215</td>
<td>0.216</td>
<td>0.217</td>
<td>0.217</td>
<td>0.218</td>
<td>0.218</td>
<td>0.219</td>
<td>0.219</td>
<td>0.219</td>
</tr>
<tr>
<td>1.4</td>
<td>0.226</td>
<td>0.226</td>
<td>0.227</td>
<td>0.228</td>
<td>0.228</td>
<td>0.229</td>
<td>0.230</td>
<td>0.230</td>
<td>0.230</td>
<td>0.230</td>
</tr>
<tr>
<td>1.5</td>
<td>0.237</td>
<td>0.238</td>
<td>0.239</td>
<td>0.240</td>
<td>0.240</td>
<td>0.241</td>
<td>0.242</td>
<td>0.242</td>
<td>0.242</td>
<td>0.242</td>
</tr>
<tr>
<td>1.6</td>
<td>0.243</td>
<td>0.244</td>
<td>0.245</td>
<td>0.246</td>
<td>0.246</td>
<td>0.247</td>
<td>0.247</td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
</tr>
<tr>
<td>1.7</td>
<td>0.249</td>
<td>0.250</td>
<td>0.251</td>
<td>0.251</td>
<td>0.252</td>
<td>0.252</td>
<td>0.253</td>
<td>0.253</td>
<td>0.253</td>
<td>0.253</td>
</tr>
<tr>
<td>1.8</td>
<td>0.255</td>
<td>0.256</td>
<td>0.256</td>
<td>0.257</td>
<td>0.257</td>
<td>0.258</td>
<td>0.259</td>
<td>0.259</td>
<td>0.260</td>
<td>0.260</td>
</tr>
<tr>
<td>1.9</td>
<td>0.260</td>
<td>0.261</td>
<td>0.262</td>
<td>0.263</td>
<td>0.263</td>
<td>0.264</td>
<td>0.264</td>
<td>0.265</td>
<td>0.265</td>
<td>0.266</td>
</tr>
<tr>
<td>2.0</td>
<td>0.266</td>
<td>0.267</td>
<td>0.268</td>
<td>0.269</td>
<td>0.269</td>
<td>0.270</td>
<td>0.270</td>
<td>0.271</td>
<td>0.271</td>
<td>0.272</td>
</tr>
<tr>
<td>2.1</td>
<td>0.272</td>
<td>0.273</td>
<td>0.274</td>
<td>0.275</td>
<td>0.275</td>
<td>0.276</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
</tr>
<tr>
<td>2.2</td>
<td>0.276</td>
<td>0.278</td>
<td>0.279</td>
<td>0.280</td>
<td>0.281</td>
<td>0.282</td>
<td>0.282</td>
<td>0.282</td>
<td>0.282</td>
<td>0.282</td>
</tr>
<tr>
<td>2.3</td>
<td>0.284</td>
<td>0.285</td>
<td>0.286</td>
<td>0.286</td>
<td>0.287</td>
<td>0.288</td>
<td>0.288</td>
<td>0.288</td>
<td>0.288</td>
<td>0.288</td>
</tr>
<tr>
<td>2.4</td>
<td>0.289</td>
<td>0.290</td>
<td>0.291</td>
<td>0.292</td>
<td>0.292</td>
<td>0.293</td>
<td>0.293</td>
<td>0.294</td>
<td>0.294</td>
<td>0.294</td>
</tr>
</tbody>
</table>

Appendix 6.2

Page 1
### Appendix for quantitative analysis

#### Kumawanan

<table>
<thead>
<tr>
<th></th>
<th>a1</th>
<th>a2</th>
<th>a3</th>
<th>a4</th>
<th>a5</th>
<th>a6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(m²)</td>
<td>0.17</td>
<td>0.35</td>
<td>0.44</td>
<td>0.53</td>
<td>0.46</td>
<td>0.18</td>
</tr>
<tr>
<td>rps</td>
<td>0.05</td>
<td>0.29</td>
<td>0.93</td>
<td>0.9</td>
<td>0.25</td>
<td>0.03</td>
</tr>
<tr>
<td>n</td>
<td>-</td>
<td>0.035</td>
<td>0.079</td>
<td>0.077</td>
<td>0.033</td>
<td>-</td>
</tr>
<tr>
<td>V(m³/s)</td>
<td>-</td>
<td>0.018</td>
<td>0.021</td>
<td>0.021</td>
<td>0.018</td>
<td>-</td>
</tr>
<tr>
<td>A*V(m³/s)</td>
<td>-</td>
<td>0.006</td>
<td>0.009</td>
<td>0.011</td>
<td>0.008</td>
<td>-</td>
</tr>
</tbody>
</table>

Total Water flow: \((0.006+0.009+0.011+0.008)\) m³/s = **0.034** m³/s

#### Mesilau East

<table>
<thead>
<tr>
<th></th>
<th>a1</th>
<th>a2</th>
<th>a3</th>
<th>a4</th>
<th>a5</th>
<th>a6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(m²)</td>
<td>0.38</td>
<td>0.73</td>
<td>0.58</td>
<td>0.38</td>
<td>0.32</td>
<td>0.17</td>
</tr>
<tr>
<td>rps</td>
<td>0.21</td>
<td>0.7</td>
<td>1.4</td>
<td>0.93</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>n</td>
<td>0.03</td>
<td>0.063</td>
<td>0.11</td>
<td>0.079</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>V(m³/s)</td>
<td>0.018</td>
<td>0.02</td>
<td>0.023</td>
<td>0.021</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>A*V(m³/s)</td>
<td>0.007</td>
<td>0.015</td>
<td>0.013</td>
<td>0.008</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Total water flow: \((0.007+0.015+0.013+0.008)\) m³/s = **0.043** m³/s

#### Mesilaw West

<table>
<thead>
<tr>
<th></th>
<th>a1</th>
<th>a2</th>
<th>a3</th>
<th>a4</th>
<th>a5</th>
<th>a6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(m²)</td>
<td>0.13</td>
<td>0.27</td>
<td>0.29</td>
<td>0.29</td>
<td>0.29</td>
<td>0.14</td>
</tr>
<tr>
<td>rps</td>
<td>0.042</td>
<td>0.46</td>
<td>0.43</td>
<td>0.13</td>
<td>0.66</td>
<td>0.54</td>
</tr>
<tr>
<td>n</td>
<td>-</td>
<td>0.047</td>
<td>0.045</td>
<td>-</td>
<td>0.06</td>
<td>0.052</td>
</tr>
<tr>
<td>V(m³/s)</td>
<td>-</td>
<td>0.019</td>
<td>0.019</td>
<td>-</td>
<td>0.02</td>
<td>0.019</td>
</tr>
<tr>
<td>A*V(m³/s)</td>
<td>-</td>
<td>0.005</td>
<td>0.006</td>
<td>-</td>
<td>0.006</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Total water flow: \((0.005+0.006+0.006+0.003)\) m³/s = **0.02** m³/s

### Appendix 7
### Mantaki

<table>
<thead>
<tr>
<th></th>
<th>a1</th>
<th>a2</th>
<th>a3</th>
<th>a4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(m²)</td>
<td>0.11</td>
<td>0.11</td>
<td>0.24</td>
<td>0.11</td>
</tr>
<tr>
<td>rps</td>
<td>0</td>
<td>0.15</td>
<td>0.46</td>
<td>0.31</td>
</tr>
<tr>
<td>n</td>
<td>-</td>
<td>0.026</td>
<td>0.047</td>
<td>0.037</td>
</tr>
<tr>
<td>V(m³/s)</td>
<td>-</td>
<td>0.017</td>
<td>0.019</td>
<td>0.018</td>
</tr>
<tr>
<td>A*V(m³/s)</td>
<td>-</td>
<td>0.002</td>
<td>0.005</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Total water flow: \((0.002 + 0.005 + 0.002)\) m³/s = **0.009** m³/s

### Naradaw

<table>
<thead>
<tr>
<th></th>
<th>a1</th>
<th>a2</th>
<th>a3</th>
<th>a4</th>
<th>a5</th>
<th>a6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(m²)</td>
<td>0.449</td>
<td>0.936</td>
<td>1.024</td>
<td>1.097</td>
<td>0.902</td>
<td>0.341</td>
</tr>
<tr>
<td>rps</td>
<td>0.242</td>
<td>1.83</td>
<td>2.46</td>
<td>2.54</td>
<td>2.93</td>
<td>1.25</td>
</tr>
<tr>
<td>n</td>
<td>0.032</td>
<td>0.135</td>
<td>0.172</td>
<td>0.176</td>
<td>0.199</td>
<td>0.101</td>
</tr>
<tr>
<td>V(m³/s)</td>
<td>0.018</td>
<td>0.025</td>
<td>0.027</td>
<td>0.027</td>
<td>0.029</td>
<td>0.022</td>
</tr>
<tr>
<td>A*V(m³/s)</td>
<td>0.008</td>
<td>0.023</td>
<td>0.028</td>
<td>0.03</td>
<td>0.026</td>
<td>0.008</td>
</tr>
</tbody>
</table>

Total water flow: \((0.008 + 0.023 + 0.028 + 0.030 + 0.026 + 0.008)\) m³/s = **0.123** m³/s
First edition of semi-structured interview guide for households

1. Basic information
   a. Household composition (family members all year round)
   b. Labour (family, hired)
   c. Farm area, number of fields
   d. Crops: types, varieties (indigenous/exotic, HYV), subsistence/cash crops
   e. Cropping practice (shifting cultivation, permanent)
   f. Off-farm activities

Questions for an evaluation of degree of intensification of farming

2. Technology:
   a. Do you use irrigation?
   b. How do you irrigate? By what means do you irrigate?
   c. How often do you irrigate?
   d. Do you irrigate all your fields or only some of them? (Maybe only cash crops)
   e. Do you use fertilizer?
   f. What kind of fertilizer do you use?
   g. How much do you use (per year)? (Subsidized or bought)
   h. How often do you use fertilizer?
   i. Do you fertilize all your fields or only some of them?
   j. Do you use pesticides?
   k. How much do you use (per year)? (Subsidized or bought)
   l. How often do you use pesticides?
   m. Do you use pesticides on all your fields or only on some of them?
   n. What kind of tools do you use in the field work? (Mechanized)

3. Market orientation:
   a. Do you grow crops for selling or only for your own use?
   b. How big a part of your fields (how many) are cash crops? (Or subsistence crops)
   c. How big a part of your time is spent on cash crops compared to subsistence crops?
   d. Where do you sell your products?
   e. To whom? (Has this changed in the last 5-10-15 years?)
   f. If you produce more, would you be able to sell it?
   g. How do you bring your products to the market?
   f. How much time do you spend on this transport?
   (Has it always been like this? Have infrastructure improvements affected this?)

Appendix 8
4. Cropping intensity:

a. Do you grow any permanent crops?
b. How often do you harvest (per year)?
c. Do you use fallow?
d. How long are your (different) fallow periods?

Questions concerning opportunities and constraints for agricultural intensification

Changes from past to present

1a) You have now described your present farming practice, but how will you characterize/describe your farming practice (5 - 10 - 15) years ago?

1b) What kind of changes have you experienced during the last (5 - 10 - 15) years regarding:
   - yields
   - cropping pattern: fallow and frequency
   - crops (types, varieties)
   - inputs (fertilizer, manure, pesticides, mechanization, irrigation, genetic material, labour)
   - capital availability
   - off-farm activities
   - environment - pests, diseases, weeds
   - soil degradation/conservation practices (if not mentioned, ask!)

Question 2a to 6b only for farmers who have changed their farming practice

2a) Which of these changes in farming practice had most influence on your life as a farmer

2b) Why

3a) Why did you choose to change your agricultural practice (ask for all of the changes the informant has mentioned)
   - income/capital
   - increasing demand (internal/external)
   - policy/subsidies
   - New knowledge or skills
   - security, risk minimization
   - more time for other activities
   - religious, traditions, social network
   - access to land, labour, inputs
   - environment, soil erosion
4a) What made these changes possible?
   - Institutional support (Do you have any connections to organisations/extensions workers? What farming activities do these organisations encourage you to use?)
   - support from friends, family,
   - inputs
   - traditions
   - knowledge, skills
   - labour
   - land
   - capital
   - access to market
   - environment conservation measures

4b) Not all farmers have experienced the same changes, why not?

5a) What kind of problems did you face in changing your agricultural practice
   - labour
   - market/demand
   - technology (fertilizer, pesticides, irrigation....)
   - land (small plots spread over a large area/long distance)
   - traditions, ethnicity, religion
   - knowledge/skills/social networks
   - risk minimization
   - allocation of time between different activities
   - environment

6a) What are the advantages and disadvantages of the changes in farming practice you have experienced

6b) What advantages and disadvantages did you expect before you changed your farming practice

Question 7a to 8a only to farmers who have not changed farming practice

7a) Many farmers in the area have changed their farming practice within the last (5-10-15) years. Have you ever considered a change in farming practice? If the answer is no, continue to question 8a.

7b) What kind of changes have you considered?

7c) What made you drop these plans?

Question 8a only for farmers who answered no in question 7a

8a) Why not?

Future changes

9a) What could make you change your farming practice in the future?
   - demand/market
- technology
- land
- labour
- knowledge/skills
- income/capital
- environmental conservation measures

10a) Do you have any plans for the future regarding your farming practice?

*Question 10b-10c only if the answer to 10a is yes*

10b) What are you doing to fulfil these plans

10c) What problems are you facing regarding your future plans?

**Soil erosion**
Is the soil as good as it was some years ago? Why?
What changes have you noticed (colour, ease of tillage)?
Is there erosion? What do you then?
Do you re-surface the terraces (if there are)?
Is there anything you think you should do to improve it?
What happens to the soil under intense rainfall? Is this a problem? Does this happen every year?
Do you often need to re-seed or re-fertilize?
Reviewed interview guide for households

Basic information

1. How long have you been in this area? On this farm?
2. Household composition
3. Labour (familial/hired)?
4. Crops?
5. Off farm activities?
6. Tourists?

Land tenure

7. Do you own any land? (Do you rent?)
8. Do you own the land you farm on? (Do you rent the land you farm on?)
9. Do you have any shared land?

Questions for owner:

10. Farm size/size of land owned?
11. How did you get your land?
12. Was it already developed? Did you clear it yourself?
13. Is all the land you own cultivated (used for vegetable production)?
14. Have you acquired more land since you started farming here?
15. Is the cultivated area bigger now than when you started?
16. Have you rented out or sold land? To who?
17. Would you like to have more land? Why/Why not?
18. Do you have access to more land (get, buy, rent)? Why/Why not?
19. Do you have plans to get more land in the future? Why/Why not?
20. Discuss labour problem: Is labour a problem for you?
21. Why do you think there are large uncultivated areas? Who owns them?

Questions for renter:

22. On what conditions do you rent?
23. Would you change your farming if the conditions were changed?
24. Are you renting from one or several people?
25. Is the rent period limited?
26. Why don’t you own?
1. Do you have access to more land?
2. Discuss labour problem: Is labour a problem for you?
3. Why do you think there are large uncultivated areas? Who owns them?
Water

30. Do you use irrigation?
31. How do you irrigate?
32. How often do you irrigate (in the dry season)?
33. Where do you get the water (stream, well, rainwater, KPD)?
34. If KPD, why? If not KPD, why?
35. Would it be possible for you to get water from KPD? (Criteria?)
36. Is your water supply reliable?
37. Is water shortage a (big) problem for you?

Fertilizer and pesticides/insecticides

38. Which kinds of fertilizer do you use?
39. How often do you fertilize (per crop/per year)?
40. Which kinds of pesticides/insecticides do you use?
41. How often do you spray for pests or insects?
42. How much pesticide/insecticide do you use per year?
43. Are insects or pests a (big) problem for you?

Market

44. Where do you sell your products? Alternative?
45. Is access to market a (big) problem?
46. Do you sell to middle men?
47. Do you sell to KPD, FAMA……?
48. Do the prices for your products fluctuate? Is it a problem?
49. Do you respond in any way to these fluctuations?
50. If you produced more, would you be able to sell it?

Capital

51. Is access to new capital a (big) problem?
52. If you had to raise new capital, who would you turn to? Alternatives?

Organizations/policies

53. Do you have connections to any organizations (KPD, Local Farmers Association, FAMA…….)?
54. Do these organizations have an effect on how/what you farm?
55. What do you use the organization for/How does it help you?
56. How could the organization help you more?
57. KPD would like to see vegetable production on all land in the Kundasang area. How do you think they could encourage this?

Discussion of which are the major problems, pairwise ranking……….
We are students from Denmark who are examining the impact and preferences of tourists in and around Kinabalu National Park. We would therefore be grateful if you would answer the questions below and return the questionnaire at the park entrance when leaving.

1. Sex? [ ] Male [ ] Female

2. Age (years)?

3. Nationality?

4. Occupation?

5. How many days are you staying in or nearby the park?

6. Which hotel are you staying in during this period?

7. How are you traveling? [ ] Alone [ ] With family/friends [ ] In a group

8. Type of tour arrangement? [ ] Prepaid through an agency [ ] Self arranged

9. How important were the following activities/sights in your decision to visit Kinabalu National Park?

1 = Not important
2 = Less important
3 = Very important

Mountain climbing
Enjoying nature;
(Trails & Botanical garden)
Golf
Climate
Hot springs
Visiting friends/family
Others, please specify

10. Please rate on a scale of 1-3 the impression of the places visited?

0 = Have not been there
1 = Not nice
2 = Average
3 = Very nice

Mountain climbing
Enjoying nature;
(Trails & Botanical garden)
Golf
Climate
Hot springs
Others, please specify

11. In connection with visiting the National Park how much have you spent (RM) on average per day on:

Local restaurants
0-10 [ ] 11-30 [ ] 31-50 [ ] more than 50 [ ]

Local markets/shops
0-10 [ ] 11-30 [ ] 31-50 [ ] more than 50 [ ]

12. If you climbed the mountain, what were your expenses (RM) to:

Guides/porters: ________________

Please return this questionnaire at the park entrance when leaving the Park.

Thank you very much for your cooperation

Appendix 9
Interview guide for hotels

1. Who are you - sex, age, local/nonlocal?
2. What is your background?
3. How old is this hotel?
4. How many people can you accommodate a day?
5. What is the occupancy rate?
6. What is your yearly accommodation?
7. What are your room rates?
8. From where do you get your goods?
9. How many employees do you have?
10. How many employees are local?
11. What are their monthly wages?
12. How is your business going?
13. Do you have any other sources of income?
14. What do you do to promote the hotel?
15. Are you a member of the Kundasang Motel and Resort Association?
12. What are your future plans?

Interview guide for restaurants, shops and market stands

1. Who are you - sex, age, local/nonlocal?
2. What is your background?
3. How old is this business and for how long have you been the owner?
4. From where do you get your goods?
5. How many employees do you have?
6. How many employees are local?
7. What are their monthly wages?
8. How much income and expenses do you have?
9. How is your business going?
10. How many customers are tourists relative to locals?
11. Do you have any other sources of income?
12. What do you do to promote your business?
13. What are your future plans?

Appendix 10
<table>
<thead>
<tr>
<th><strong>Hotel</strong></th>
<th><strong>Years</strong></th>
<th><strong>Owner</strong></th>
<th><strong>Background</strong></th>
<th><strong>Other income</strong></th>
<th><strong>Beds</strong></th>
<th><strong>Occupancy rate</strong></th>
<th><strong>Price per person RM</strong></th>
<th><strong>Employees</strong></th>
<th><strong>Monthly wages RM</strong></th>
<th><strong>Promotion</strong></th>
<th><strong>Future Plans</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairy Garden</td>
<td>1</td>
<td>Chinese</td>
<td>From K.K.</td>
<td>Gambling machines</td>
<td>188</td>
<td>10%</td>
<td>17-30</td>
<td>12</td>
<td>350-450</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Golden Highlands</td>
<td>3</td>
<td>Share Holding</td>
<td>?</td>
<td>Yes</td>
<td>52</td>
<td>30%</td>
<td>20-30</td>
<td>Full time 3</td>
<td>500</td>
<td>Agency in K.K.</td>
<td>?</td>
</tr>
<tr>
<td>KGR HQ.</td>
<td>20</td>
<td>KGR</td>
<td>From K.K.</td>
<td>Other resorts</td>
<td>280</td>
<td>66%</td>
<td>12-115</td>
<td>61</td>
<td>400-500</td>
<td>Agency in K.K.</td>
<td>Improving service</td>
</tr>
<tr>
<td>KGR Messilau</td>
<td>½</td>
<td>KGR</td>
<td>From K.K.</td>
<td>Other resorts</td>
<td>100</td>
<td>18.6%</td>
<td>17</td>
<td>Full time 26</td>
<td>400-500</td>
<td>Agency in K.K.</td>
<td>?</td>
</tr>
<tr>
<td>KGR Laban Rata</td>
<td>½</td>
<td>KGR</td>
<td>From K.K.</td>
<td>Other resorts</td>
<td>136</td>
<td>67%</td>
<td>30</td>
<td>11</td>
<td>400-500</td>
<td>Agency in K.K.</td>
<td>None</td>
</tr>
<tr>
<td>KGR Poring</td>
<td>½</td>
<td>KGR</td>
<td>From K.K.</td>
<td>Other resorts</td>
<td>94</td>
<td>50%</td>
<td>12-48</td>
<td>24</td>
<td>360</td>
<td>Agency in K.K.</td>
<td>Renovation</td>
</tr>
<tr>
<td>Mountain View</td>
<td>4</td>
<td>Local</td>
<td>From Ranau</td>
<td>Farming &amp; cosmetics</td>
<td>50</td>
<td>11%</td>
<td>11-49</td>
<td>4</td>
<td>?</td>
<td>None</td>
<td>New hotel</td>
</tr>
<tr>
<td>Haleuyah</td>
<td>4</td>
<td>Local</td>
<td>?</td>
<td>Farming</td>
<td>100</td>
<td>20%</td>
<td>20</td>
<td>8</td>
<td>?</td>
<td>Agency in K.K.</td>
<td>New chalets</td>
</tr>
<tr>
<td>Perkasa</td>
<td>18</td>
<td>Perkasa</td>
<td>?</td>
<td>Yes</td>
<td>148</td>
<td>46%</td>
<td>88-166</td>
<td>85</td>
<td>300</td>
<td>SHA</td>
<td>Five star hotel</td>
</tr>
<tr>
<td>Pine Resort</td>
<td>4</td>
<td>Joint Venture</td>
<td>?</td>
<td>No</td>
<td>132</td>
<td>56%</td>
<td>75-92</td>
<td>50</td>
<td>500</td>
<td>Agency in K.K.</td>
<td>Expansion</td>
</tr>
<tr>
<td>Rina Rina</td>
<td>6</td>
<td>From Ranau</td>
<td>From Ranau</td>
<td>Farming</td>
<td>50</td>
<td>20%</td>
<td>21</td>
<td>3</td>
<td>?</td>
<td>None</td>
<td>Expansion</td>
</tr>
<tr>
<td>Rose Garden</td>
<td>6</td>
<td>Chinese</td>
<td>From K.K.</td>
<td>Farming</td>
<td>30</td>
<td>30%</td>
<td>60</td>
<td>4</td>
<td>?</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Sunnys Village</td>
<td>8</td>
<td>Local</td>
<td>From Kundasang</td>
<td>Letting &amp; guiding</td>
<td>20</td>
<td>50%</td>
<td>30</td>
<td>2</td>
<td>?</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>10 RM</td>
<td>6</td>
<td>Chinese</td>
<td>From Labuan</td>
<td>Farming</td>
<td>44</td>
<td>16.5%</td>
<td>10</td>
<td>3</td>
<td>500</td>
<td>Internet</td>
<td>Better promotion</td>
</tr>
<tr>
<td>Tinumpok</td>
<td>5</td>
<td>Chinese</td>
<td>?</td>
<td>Other resorts</td>
<td>80</td>
<td>50%</td>
<td>20-40</td>
<td>1</td>
<td>?</td>
<td>Agency</td>
<td>?</td>
</tr>
<tr>
<td>U Merlin</td>
<td>5</td>
<td>Chinese</td>
<td>?</td>
<td>Other Hotels</td>
<td>40</td>
<td>10%</td>
<td>35-50</td>
<td>4</td>
<td>350-500</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Wildlife Expedition</td>
<td>4</td>
<td>Chinese</td>
<td>From K.K.</td>
<td>Expeditions</td>
<td>30</td>
<td>70%</td>
<td>?</td>
<td>10</td>
<td>400-500</td>
<td>Agency in K.K.</td>
<td>Letting more huts</td>
</tr>
<tr>
<td>Zen Garden</td>
<td>5</td>
<td>Chinese</td>
<td>From K.K.</td>
<td>No</td>
<td>250</td>
<td>70%</td>
<td>50-225</td>
<td>80</td>
<td>500-600</td>
<td>Agency in K.K.</td>
<td>New resort</td>
</tr>
</tbody>
</table>
Table 11.1: Differentiated expenditure among Malaysian and foreign tourists in restaurants and markets/shops

<table>
<thead>
<tr>
<th>Price index (RM)</th>
<th>Malaysian tourists</th>
<th>Foreign tourists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Restaurants</td>
<td>Shops/markets</td>
</tr>
<tr>
<td>0-10 (5)</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>11-30 (20.5)</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>31-50 (40.5)</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>&gt;50 (60.5)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

Source: Questionnaires (Appendix 9).

With the presented figures above an average expenditure of Malaysian and foreign tourists can be calculated.

**Foreign tourists:**

Restaurants: \((5\times 11 + 20.5\times 36 + 40.5\times 16 + 60.5\times 16) / 79 = 30.5\)

Shops/Markets: \((5\times 42 + 20.5\times 23 + 40.5\times 7 + 60.5\times 7) / 79 = 17.6\)

**Malaysian tourists:**

Restaurants: \((5\times 4 + 20.5\times 10 + 40.5\times 9 + 60.5\times 8) / 31 = 34.6\)

Shops/Markets: \((5\times 11 + 20.5\times 4 + 40.5\times 8 + 60.5\times 8) / 31 = 30.5\)

The expenditure of Malaysian tourists is higher in both categories.

To calculate the total expenditure of tourists per year, the total number of overnights have to be calculated. This will be based on interviews with hotel managers/staff. It should be mentioned that the accuracy of the listed occupancy rates is very dependent on the source, meaning that the hotel owners when interviewed were more accurate than the hotel employees (see table 11.2).

**Appendix 11**
### Table 11.2: Overview of important data concerning hotel accommodation and balanced price level.

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Beds</th>
<th>Occupancy rate (%)</th>
<th>Overnights per day</th>
<th>Balanced Pricelevel</th>
<th>Average expenditure RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>U Merlin</td>
<td>40</td>
<td>10</td>
<td>4</td>
<td>38.75</td>
<td>155</td>
</tr>
<tr>
<td>Mountain View</td>
<td>50</td>
<td>11</td>
<td>5,5</td>
<td>30</td>
<td>165</td>
</tr>
<tr>
<td>10 Ringgit</td>
<td>44</td>
<td>16.5</td>
<td>7,26</td>
<td>10</td>
<td>73</td>
</tr>
<tr>
<td>Rose Garden</td>
<td>30</td>
<td>30</td>
<td>9</td>
<td>60</td>
<td>540</td>
</tr>
<tr>
<td>Rina Ria</td>
<td>50</td>
<td>20</td>
<td>10</td>
<td>21,25</td>
<td>212.5</td>
</tr>
<tr>
<td>Sunny</td>
<td>20</td>
<td>50</td>
<td>10</td>
<td>30</td>
<td>300</td>
</tr>
<tr>
<td>Golden Kundasang</td>
<td>52</td>
<td>30</td>
<td>15,6</td>
<td>22,5</td>
<td>351</td>
</tr>
<tr>
<td>KGR, Mesilau</td>
<td>100</td>
<td>18,6</td>
<td>18,6</td>
<td>17</td>
<td>316</td>
</tr>
<tr>
<td>Fairy Garden</td>
<td>188</td>
<td>10</td>
<td>18,8</td>
<td>20,25</td>
<td>381</td>
</tr>
<tr>
<td>Haleluah</td>
<td>100</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>400</td>
</tr>
<tr>
<td>Wildlife Expedition</td>
<td>30</td>
<td>70</td>
<td>21</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tinompoon</td>
<td>30</td>
<td>70</td>
<td>21</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KGR, Porring</td>
<td>94</td>
<td>50</td>
<td>47</td>
<td>21</td>
<td>987</td>
</tr>
<tr>
<td>Perkasa</td>
<td>148</td>
<td>46</td>
<td>68.08</td>
<td>107.5</td>
<td>7319</td>
</tr>
<tr>
<td>Pine Resort</td>
<td>132</td>
<td>56</td>
<td>73.92</td>
<td>79.5</td>
<td>5877</td>
</tr>
<tr>
<td>Zen Garden</td>
<td>250</td>
<td>70</td>
<td>175</td>
<td>93.75</td>
<td>16.406</td>
</tr>
<tr>
<td>KGR, HQ</td>
<td>280</td>
<td>66</td>
<td>184.8</td>
<td>31.75</td>
<td>6976</td>
</tr>
<tr>
<td>Laban Rata Hotel</td>
<td>136</td>
<td>67</td>
<td>91</td>
<td>30</td>
<td>2730</td>
</tr>
<tr>
<td>Total</td>
<td>1824</td>
<td></td>
<td>820</td>
<td>44.188</td>
<td></td>
</tr>
<tr>
<td>Total overnights per year</td>
<td></td>
<td></td>
<td>299,300</td>
<td>16,128.620</td>
<td></td>
</tr>
</tbody>
</table>

Note: The balanced pricelevel is estimated to be ⅓ of the lowest roomrate and ⅔ of the highest roomrate, based on interviews with hotel managers/staff.

The number of overnights is about 300,000 per year, which implies an average stay of 1.4 days per tourist if the visitor number of 219,000 per year is expected (see appendix 2).

Expenditure on hotels per tourist: 44188 / 820 = 53.9

### Table 11.3: The differentiated average expenditure per tourist visiting the area.

<table>
<thead>
<tr>
<th></th>
<th>Expenditure RM per day per tourist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Malaysian tourists</td>
</tr>
<tr>
<td>Restaurants</td>
<td>34.6</td>
</tr>
<tr>
<td>Shops/Market Stands</td>
<td>30.5</td>
</tr>
<tr>
<td>Hotels</td>
<td>53.9</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
</tr>
</tbody>
</table>
Employment.

The wages used in the calculations below are average estimates. We do not take into account that some of the wages are inclusive of food and accommodation and some of them are not.

Table 11.4: Wages generated in the tourist sector in the Kundasang area based on interviews.

<table>
<thead>
<tr>
<th></th>
<th>Number of employees</th>
<th>Average wages per month</th>
<th>Total income per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels</td>
<td>397</td>
<td>475</td>
<td>2,262,900</td>
</tr>
<tr>
<td>Restaurants</td>
<td>66</td>
<td>375</td>
<td>297,000</td>
</tr>
<tr>
<td>Guides:</td>
<td>60</td>
<td>700</td>
<td>504,000</td>
</tr>
<tr>
<td>Sabah Parks:</td>
<td>27</td>
<td>750</td>
<td>243,000</td>
</tr>
<tr>
<td>Golf course</td>
<td>40</td>
<td>270</td>
<td>131,400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>590</strong></td>
<td><strong>486</strong></td>
<td><strong>3,438,300</strong></td>
</tr>
</tbody>
</table>

Sabah Parks
The calculation below are only based on the fixed income and expenses of the park. The variable costs and government subsidies are not included.

Table 11.5: Income and expenses for Kinabalu National Park (Sabah Park).

<table>
<thead>
<tr>
<th></th>
<th>Income</th>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance fee&lt;sup&gt;1&lt;/sup&gt;</td>
<td>RM 436,000</td>
<td></td>
</tr>
<tr>
<td>Climber fee&lt;sup&gt;2&lt;/sup&gt;</td>
<td>RM 1,230,000</td>
<td></td>
</tr>
<tr>
<td>Leasing accommodation</td>
<td>RM 400,000</td>
<td>RM 810,000</td>
</tr>
<tr>
<td>Expenses (wages)&lt;sup&gt;3&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Balance</strong></td>
<td><strong>RM 1,256,000</strong></td>
<td><strong>RM 810,000</strong></td>
</tr>
</tbody>
</table>

Note: <sup>1</sup>RM 2.0 per tourist * 218,000 tourists a year (Park statistics, 1997) = RM 436,000 a year. <sup>2</sup>Foreign tourists; RM 50.0 * 64% of 30,000 = RM 960,000, Malaysian tourists; RM 25.0 * 36% of 30,000 = RM 270,000. <sup>3</sup>90 employees * RM 750 a month * 12 months = RM 810,000 a year.