

## Final Evaluation Report

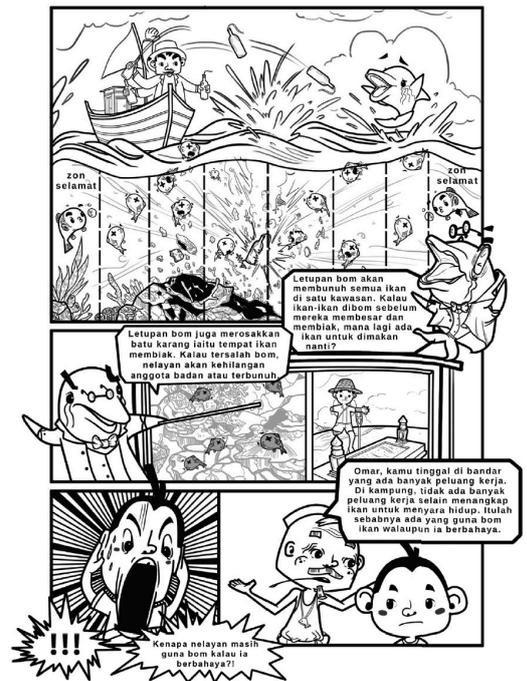
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Your Details	
<b>Full Name</b>	Voon-Ching Lim
<b>Project Title</b>	Understanding the Socio-Ecological Systems in the Tun Mustapha Park (TMP), Sabah, Malaysia through the Local Communities' Perspectives
<b>Application ID</b>	28095-1
<b>Grant Amount</b>	GBP 4976
<b>Email Address</b>	<u><a href="mailto:Lim.VoonChing@monash.edu">Lim.VoonChing@monash.edu</a></u> (Previously <u><a href="mailto:yclim@um.edu.my">yclim@um.edu.my</a></u> )
<b>Date of this Report</b>	25 January 2022

**1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

Objective	Not achieved	Partially achieved	Fully achieved	Comments
To produce an overview of socio-ecological systems in Tun Mustapha Park from the local communities' perspectives				We successfully conducted participatory mapping and Photovoice activities with the communities in 2019 to: (i) map the marine habitats in the marine park; and (ii) obtain their perception of marine ecosystem services in the park.
Several scientific articles in an international ISI-listed journal are also expected.				The results from this project has been published in "PLoS ONE" ( <a href="https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0253740">https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0253740</a> ). The publication fee was supported by this Rufford grant.
The data from this project will facilitate the development of informative models and planning tools which could support sustainable marine resource use and improve the understanding of relationships between marine environment and well-being of coastal communities.				The data from this project were used to support regional assessment of ecosystem services using matrix for Malaysia, Indonesia, the Philippines, and Vietnam. The results of the regional assessment have been published in "Ecosystem Services" ( <a href="https://www.sciencedirect.com/science/article/pii/S2212041621001042">https://www.sciencedirect.com/science/article/pii/S2212041621001042</a> ) A technical guideline which detailed the method of this regional assessment is currently under way, spearheaded by Plymouth Marine Laboratory, UK. This technical guideline will be shared with other institutes and organisations once published.
Coffee-table books will be produced to generate additional income for the participants.				Due to the low response from local communities, we did not publish a coffee table book using the photographs provided to them. Rather, we consulted communities to validate the content of an educational comic book. This comic book detailed the drivers and impacts of fish bombing, as well as the current effort by local government agency, NGOs and

communities in curbing this fish bombing issues (Figure 1). The printing costs of the comic book was covered by this grant and a total of 300 copies in local Malay language have been distributed to schoolchildren in Tun Mustapha Park and Klang Valley, Malaysia. 200 copies were printed using this grant (28095-1), whereas the remaining 100 copies were printed by Universiti Malaya Publisher as part of their corporate social responsibility programme



			 <p>The comic book consists of several panels. The top panel shows two men in a boat, one holding a net. A speech bubble from one man says: 'Mereka telah menanam semua telur ikan di kawasan perairan sekitar rumah ini yang akan ditumbuhi ikan. Tetapi, bila mereka sudah mulai memelihara ikan, mereka akan dapat ikan yang mereka inginkan. Ikan-ikan ini akan mereka makan.' A speech bubble from the other man says: 'Hoh! Tidak! Mereka akan menanam semua telur ikan di kawasan perairan ini.' The middle panel shows a man in a boat with a net, with a speech bubble: 'Mereka telah menanam semua telur ikan di kawasan perairan ini yang akan ditumbuhi ikan. Tetapi, bila mereka sudah mulai memelihara ikan, mereka akan dapat ikan yang mereka inginkan. Ikan-ikan ini akan mereka makan.' The bottom panel shows a man in a boat with a net, with a speech bubble: 'Dan mungkin saja hari nanti, ikan-ikan ini akan sudah ada di rumah mereka.' The comic also includes illustrations of fish and a boat.</p>
<p>At the end of this project, a photo exhibition will be organised to serve as a platform for the participants to showcase their photography skills and promote their homeland, hence instilling the sense of pride and ownership among the participants who are the residents of the marine protected area.</p>			<p>Unfortunately, the Covid-19 pandemic had made this impossible due to the implementation of gathering and travelling activities in Malaysia from 2020 to 2021. Therefore, we did not organise the photo exhibition.</p>
<p>The resulted findings will be presented to relevant stakeholders including local communities, businessmen, and state government.</p>			<p>The co-Principal Investigator (Hong-Ching Goh) had started to reengage with the local communities and state government in January 2022 thanks to the recent lifting of travel restrictions. Previously, the physical engagement was impossible due to the travel restrictions as a measure to curb the spread of Covid-19. It is hoped by the</p>

		<p>March 2022, a final seminar series can be conducted to present the overall outcome of this project to the public. Nevertheless, we managed to conduct few virtual seminars to share the progress of the project, of which we extended the invitation to the local government agencies (Figure 2).</p>  <p>Figure 2: The project was shared with the scientific communities and local government agencies through virtual seminars.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.**

The data collection was completed right before the Covid-19 pandemic. However, the engagement with local communities and state government was halted due to the travelling and gathering restrictions imposed by the government of Malaysia due to the pandemic in 2020 and 2021. Therefore, we only managed to share the findings with the scientific communities through publications.

Nevertheless, we still managed to conduct few seminars where we presented the progress with local government agencies and scientific communities.



Figure 3: Presentation of the project's progress to Monash University communities.

The publication resulting from this project also took considerably longer to be published, likely due to the reviewers being affected by the pandemic. This also resulted in us seeking for extension of the grant several times until December 2021. Nevertheless, the editorial team has been very helpful and tried to assist our team in many ways. Eventually, the results were published on PLoS ONE by July 2021.

### **3. Briefly describe the three most important outcomes of your project.**

1. This project had provided more in-depth information of marine ecosystem services based on local knowledge. Previously, such information for the study site was limited and only available from few research studies.
2. The results of this project had contributed to another larger project which assessed marine ecosystem services in a regional scale (<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0253740>),
3. Through participatory mapping and Photovoice activities in this project, we have fostered a positive relationship with the local communities. Furthermore, we had provided an opportunity for youths and women to voice their thoughts. In many previous research projects in the same study site, senior male members of communities were often engaged which consequently had excluded youths and women from the previous projects.

### **4. Briefly describe the involvement of local communities and how they have benefited from the project.**

Here we invited male, female and youth members of the communities to participate in our participatory mapping and Photovoice activities. While the senior male members were already used to collaborating with researchers, this collaboration was indeed new to the youths and female members of the communities. Therefore, they have provided information from their perspectives which were clearly different than those provided by the senior male members. Therefore, this project had provided an opportunity to youth and female members of the communities to contribute to a research project which could enhance the current management plan of the marine park where they are residing.

Furthermore, prior to the Photovoice activities, we had conducted a photography workshop with the participants where they learned about ecosystem services and photography skills. Through this workshop, we hoped that they will understand ecosystem services better and that the photography skills maybe helpful to them in other potential jobs.

During the engagement activities with the communities, we also interviewed them about fish bombing. Information provided by them together with information from literature review were visualised in an educational comic book. Consequently, we have distributed 200 copies of the comic book in local language to the schoolchildren in the study site. In addition, we distributed 100 copies to the children in Klang Valley in Peninsular Malaysia.

**5. Are there any plans to continue this work?**

We wish to engage more with other communities in the marine park about other environmental issues related to the marine ecosystem. Such information can be visualised in several forms of educational material (e.g., educational comic book and coffee table book) which can be disseminated to not only the communities in the marine park but other areas as well (e.g., Klang Valley including Kuala Lumpur city).

**6. How do you plan to share the results of your work with others?**

We have shared the results of the project to local government agencies and scientific communities through virtual seminars. Furthermore, the details about fish bombing provided by the communities during the data collection activities have been visualised in an educational comic book which have been distributed to the local communities. In future, hopefully by March 2022, we hope that we can conduct a physical engagement activity with the local communities to further disseminate the information to them.

**7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?**

This project began in July 2020 and was expected to be completed by July 2021. However, due to the unexpected pandemic of Covid-19, the grant for this project was extended to December 2021. Although the results were published in PLoS ONE journal in July 2021, we unfortunately could not carry out the physical engagement activities with the communities (e.g., photo exhibition) with the remaining time (July to December 2021) due to the gathering restrictions implemented by the government of Malaysia. Therefore, this project had taken additional an additional 1.5 years compared to original timeline.

**8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Subsistence during fieldwork (meals: 3GBP/day for 12 months)	960	203		
Land transportation (including car rental and fuel: 0.1GBP/km x 500km/month x 12 months)	600	890		
Sea transportation (using	576	490		

ferry or boat: 12GBP/trip x 4 trips/month x 12 months)				
Accommodation (Rental fee for a field house for 12 months)	600	193		
One photo Exhibition at Kota Kinabalu as a result of PhotoVoice activity (i.e., rental fee)	300		-300	Did not conduct due to gathering restriction by government of Malaysia as a response to COVID-19.
Production of coffee-table book as a result of PhotoVoice activity (additional income for participants: 6GBP x 30 units)	180		-180	Did not produce due to dwindling response from participants.
Rental of venue for training and meeting workshops with local communities (i.e., community hall at Kudat, Kota Marudu, Banggi Island and Pitas over 12 months)	240	36		
Refreshment for participants of training and meeting workshops with local communities (over 12 months)	240	399		
Materials and stationeries for activities during training and meeting workshops with local communities	120	173		
Printing (Educational materials, documentation)	120	243		
Equipment (Memory card for smartphone for PhotoVoice activity: Remax Original 16GB, 8 units)	80		-80	Participants used own smartphones.
Equipment (Smartphone with Geotagging to allow photo transfer and reporting on real-time basis for PhotoVoice activity: Xiaomi Redmi 6A, 8 units)	720		-720	Participants used own smartphones.
Communication with communities (Internet and phone calls for 12 months)	120		-120	Participants and researchers used their own phone credit.
<b>Sub-total</b>	<b>4976</b>	<b>2627</b>	<b>-2131</b>	
Flight tickets		238	+238	To cover our air travel from Peninsular Malaysia to East

				Malaysia. This was covered by the allocation to subsistence.
Production & printing of educational comic (200 copies)		221	+221	An additional output as a result of interviews with participants during participatory mapping and Photovoice activities. This was covered by the allocation to photo exhibition and production.
Honorarium – Wendell Don Ginggaing (talk on photography technique @ citizen science photo voice workshop Dec 2019)		360	+360	We invited a professional photographer to provide photography training to participants of Photovoice activities.
Publication fee PLOS One (Eliciting local knowledge of ecosystem services using participatory mapping and photovoice: A Case Study of Tun Mustapha Park, Malaysia).		1281	-169	Rufford Foundation agreed to used underspend of £1450 towards this cost.
<b>TOTAL</b>	<b>4976</b>	<b>4727</b>	<b>-249</b>	*MYR 1 = GBP 0.18 as on 25 January 2022

## 9. Looking ahead, what do you feel are the important next steps?

Due to the unprecedented Covid-19 pandemic, our engagement with the local communities has been disrupted. We could not engage with them physically and continuously which may explain why there were dwindling responses from them afterwards. Nevertheless, we were still able to engage with one secondary school in the study site, conducted virtual activities with the schoolchildren and mailed the (additional) comic books to them.

Therefore, the next step will be to continue working with the school and the schoolchildren as they had and were keener to participate in such educational activities. Furthermore, through our research here, we found that youths tend to be more participative compared to working adults as they were keener to learn new knowledge and more motivated to do something for their communities. As a number of them have contributed photographs and narrative captions for the Photovoice, they may be keen to visualise these details captured in the photographs and caption in the form of educational comic books such as the ones that we have disseminated to them. Another ongoing project from PI (VCL) also found that the particular comic books (given to the schoolchildren) had facilitated improvement and retention of knowledge over time among schoolchildren, likely due to the aesthetic visuals that helped them to imagine the scenarios of fish bombing. Hence, it would be worth trying to engage with schoolchildren to further visualise other environmental issues in the study site either in the form of educational comic book or coffee table book.

**10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?**

Yes, we included the logo in our activity material with the local communities (Figure 4).

**MANUAL "CITIZEN SCIENCE PHOTOVOICE"**



**DISEDIAKAN OLEH:**

Encik Kamal Solhami Fadzil (Pensyarah dan Penyelidik, Universiti Malaya)  
 Dr. Lim Voon Ching (Felo Penyelidik Pascadoktoral, Universiti Malaya)  
 Dr. Mohd Iqbal Mohd Noor (Felo Penyelidik Pascadoktoral, Universiti Malaya)

**PROJEK PENYELIDIKAN OLEH:**



**DITAJA OLEH :**



**Figure 4: The front cover of the manual for Photovoice for local communities which included The Rufford Foundation logo.**

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

Unfortunately, during the execution of the project, there were changes of team members. The members who then actively contributed to this project were:

**Voon-Ching Lim** – Framed the project (i.e., concepts and methodology), conducted workshops, performed group discussions, analysed data, wrote original draft of publication

**Kamal Solhaimi Fadzil** – Framed the project (i.e., concepts and methodology), conducted workshops, provide comments to the draft of publication

**Eva Vivian Justine** – Engaged with participants, conducted workshops, performed group discussions, analysed data, contributed to original draft of publication

**Kamila Yusof** – Conducted workshops, managed finances and operations, contributed to original draft of publication

**Wan Nur Syazana** – Conducted workshop, managed research permits and ethics clearance, contributed to original draft of publication

**Hong Ching Goh** – Provided technical guidance for execution of project, provide comments to the draft of publication

## **12. Any other comments?**

Due to the unprecedented Covid-19 pandemic, there were many hindrance and unexpected changes to this project. For example, the travelling and gathering restrictions imposed by the Government of Malaysia as a response to the pandemic had affected many parts of the project (i.e., subsequent Photovoice activities with local communities and photo exhibition). Therefore, the outcomes of this project as detailed here were quite different from the expected outcomes stated in the grant application. Nevertheless, we were still able to complete the two types of activities with local communities which were participatory mapping and Photovoice activities. The results of these activities were articulated and published in PLoS ONE during the first year of Covid-19 pandemic.

Most importantly, we would like to express our gratitude to Simon Mickleburgh and Jane Raymond from The Rufford Foundation for accommodating our requests to changes in budget and extension of the grant's expiry due to the Covid-19 pandemic. We would also like to thank the local communities in Tun Mustapha Park, particularly Kudat Turtle Conservation Society, Banggi Coral Conservation Society, Kelab Belia Taritipan, Persatuan Pelancongan Supirak and SMK Abdul Rahim, for supporting our participatory research project.