

Final report to The Primate Society of Great Britain and The Born Free Foundation - Conservation Grant

Monitoring and outreach program to conserve endangered Javan Gibbon (*Hylobates moloch*) in Gunung Halimun Salak National Park, Indonesia

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Executive summary

The pandemic forced us to modify the way we worked and how to adapt to it by new safety fieldwork protocol. The forest patrol was conducted by our field staff from June to July 2020 and the three groups of wild Javan gibbons were followed to collect their behavioral data from August 2020 to March 2021 in Citalahab Forest, Gunung Halimun Salak National Park, as one of the last stronghold habitats for this endemic primate. The gibbons were active for 10.5 hours on average and they usually started their day from 06:00 to 17:30. The three groups have a home range area with an average size of 29.9 ha and it's overlapping one another. The Javan gibbons spend 49% of their time feeding, 13% traveling, 33% feeding, 4% engaging in social behavior (grooming, playing), and 1% in aggressive interaction.

The outreach was conducted in the Citalahab Sentral Village from January to February 2021 through an informal class attended by 15 children with an age range from 6 to 11 years old. The media campaign was made and distributed in form of educational books for children and calendars for the local community that reached three villages around our site.

The collaboration is the key and good relationship that we have built with our partner, the authority of Gunung Halimun Salak National Park made us still able to operate during the pandemic and be in the frontline and model for long-term monitoring for one of the key species in this area.

Introduction to the project

Gunung Halimun Salak National Park which located in West Java, Indonesia is the largest remaining sub-mountain forest block in the region and represents the last stronghold habitat harboring between 25% to 50% of the global Javan gibbon population. As encroachment by humans on the remaining Javan gibbon habitat increases due to logging and agriculture expansion, it is necessary to address the importance of conserving the forest and its biodiversity as well as the impact of destruction to among young generation living around the park. By collecting detailed information about Javan gibbon's ecology, we hope that our study will generate information that can be useful for species-specific conservation activities such as reforestation and habitat rehabilitation projects and rehabilitation and reintroduction of captive populations as well as to develop conservation management plan for Javan gibbons in Gunung Halimun Salak National Park. Besides, it is necessary to disseminate the information and develop the pride of the young generation about one of the treasures nearby the place their living in order to build sense of belonging and get the conservation support from the ground.

Goals and objectives

The goal of this project is to ensure long term conservation of Javan gibbon and forest as its home at Citalahab Forest, Gunung Halimun Salak National Park by generate enough support from the ground level through research and increase awareness with expected outcomes:

1. Database compiling behavioral ecology of Javan gibbon
2. Map of distribution of disturbance finding in the home range area of Javan gibbon in Citalahab Forest.
3. Media campaign for outreach and raise awareness.

Methods

1. Monitoring Javan Gibbons

The regular monitoring was conducted on the daily basis from Monday to Friday within August 2020 – March 2021 with assistance from four local community members that we recruited and trained to helped as field assistants. Three habituated groups of Javan gibbons that we called Group A, B and S were followed on a rotating basis, two days each group. Each group was followed from sleeping tree to next sleeping tree for periods of two consecutive days whenever possible. We collected the activity

budget (feeding, resting, traveling, socializing and other) using scan sampling with 10 minutes interval, and the position was marked by handheld GPS for adult individuals for each group. We also marked the disturbance that happened to surround the area during the monitoring and forest patrol. In addition, we also collected daily temperature and rainfall data from our station.

2. Outreach program

Due to the pandemic where schools must be closed, we changed the target of our outreach program to 15 children with an age range from 6- to 12-year-old in the Citalahab Sentral Village where our project is located. The activities were running for eight sessions from January to February 2021 helped by two internship students from the Faculty of Veterinary Medicine, IPB University.

Results and Discussion

When the pandemic hit Indonesia in March 2020, the government announced to close the border, and other restrictions on movement and continue with the closure of conservation areas, including our site in Gunung Halimun Salak National Park. It affected our works on the ground and organization itself in terms of the interruption of long-term data collection, budget efficiency and the delay of upcoming research by foreign and Indonesian students, and also our community engagement program.

Our field staff who are mainly part of the local community also at the risk of losing their livelihood since they rely on the research project as their income, and we do not want to sacrifice the field staff who employed by us, therefore we coordinated with the national park authority and they gave special permission for our field staff who stayed in the village to enter the forest between June to July 2020 (twice a week) to checked the gibbons and helping the authority to secure the area by prevent and report illegal activities through forest patrol while at the same time they still secured their earning.

In August 2020, the national park announced they opened the area for limited visitors, including us and we could operate again by applying a new safety field protocol as a response to the pandemic followed the advisory of IUCN SSC Primate Specialist Group (2020), and we only allowed the core team to monitor the Gibbons which mainly consist of our local staff and did rapid antigen test whenever our team back from other area.

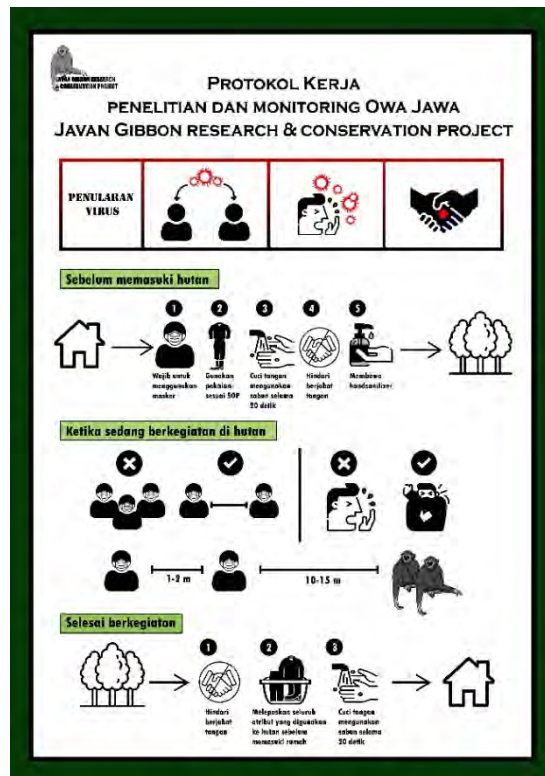


Figure 1. The safety field protocol we developed as a response to the pandemic



Figure 2. I explained about the protocol for our field staff before and after enter the forest when we got permission to operated again.

1. Monitoring the Javan Gibbons and Forest Patrol

We were able to follow the three habituated groups of Javan gibbons that we called Group A, B, and S. The monitoring activity to checked the gibbons' condition was conducted from June to July 2020

and the data collection was started later due to the permission from national park authority from August 2020 to March 2021.

Climate condition

Our site in Citalahab Forest, Gunung Halimun Salak National Park received a large amount of rainfall every year. Climate conditions that we recorded from June 2020 to March 2021 showed the rainfall averaged 418.9 mm/month with annual rainfall was 4,189.4 mm. This amount is relatively stable compare with the annual 10-year data of rainfall on our site (4,079.8 mm). From September to December 2020, the rainfall reached its peak and decrease in January 2021. The temperature was stable throughout the monitoring period, with the maximum daily temperature of 29.4°C and minimum temperature of 16.5°C.

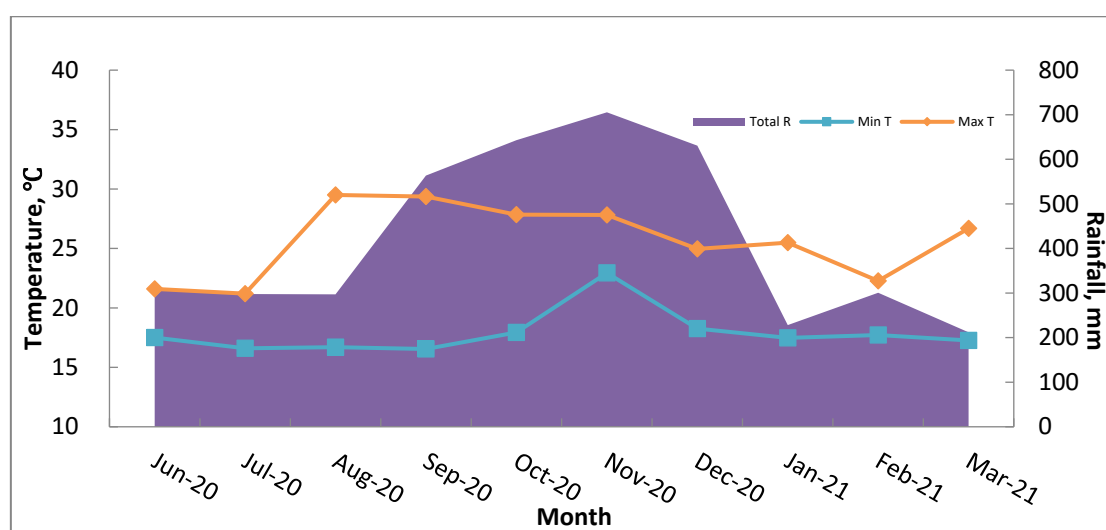


Figure 3. Monthly rainfall and means of the daily minimum/maximum temperatures at our site.

Group Composition

Javan gibbons live in a small group, and the group size in Citalahab forest ranges from four to five individuals. In February 2021, the infant of Group A was disappeared that probably eat by a predator or experienced a natural accident. However, no carcass was found yet and it left group A to have four individuals in the group (A pair of adult male and female, adult male, and juvenile). In the same month, we also found out the adult female of Group S has a new baby that we predicted born between December to January 2021 and the adult male of Group S was dispersed from his natal group in March 2021. Now this group contained five individuals (a pair of adult male and female, sub-adult, juvenile, and a newborn). While Group B still consist of four individuals (A pair of adult male and female, sub-adult and a juvenile). In total, currently, there are 13 individuals from three groups of Javan gibbons

with a complete age structure from infant to adult. A long-term monitoring program is essential to complete the demographic information that is rarely recorded from the wild population of Javan gibbons.



Figure 4. Our site in submontane Citalahab Forest, Gunung Halimun Salak National Park.



Figure 5. Clockwise: (1) The adult male of Group A, (2) The sub-adult of group B, and (3) The adult female from Group S with the newborn.

Behavior and activity budget

In total, we followed the Gibbons for 82 days with 44 days in Group A, 23 days in Group B, and 15 days in Group S. The difference was affected by the topography, climate and especially for Group S, they ranged in the hilly area and make it difficult for the team to follow them and resulted in fewer observation days, especially during December 2020 to January 2021 where we could not find the group at all.

As a frugivore species, fruits are the most important food for Javan gibbons, and they preferred to selected ripe fruits (62%), followed by young leaves 21%, flowers (8%), unripe fruits (5%), and live prey like insects for 4%. Regarding the activity budget, on average, the Javan gibbons in Citalahab spent 49% of their time resting, 13% travel, 33% feeding, 4% engaging in social behavior (grooming, playing), and 1% in aggressive interaction. The gibbons were active for 10.5 hours on average and they usually started their day from 0600 hr to 1730 hr. This activity budget is relatively similar compared with the Javan gibbons in the lowland area (Malone, 2007).

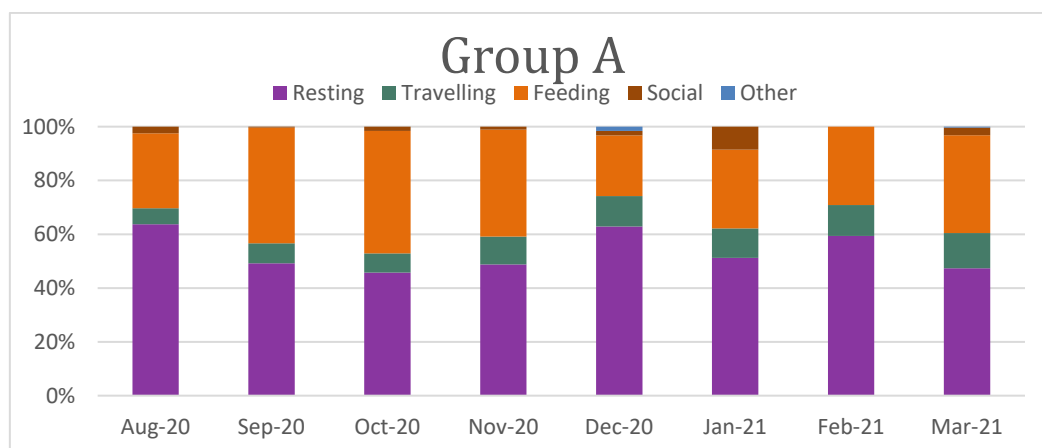


Figure 6. Mean percentage of time spent in each activity in each study month for Group A.

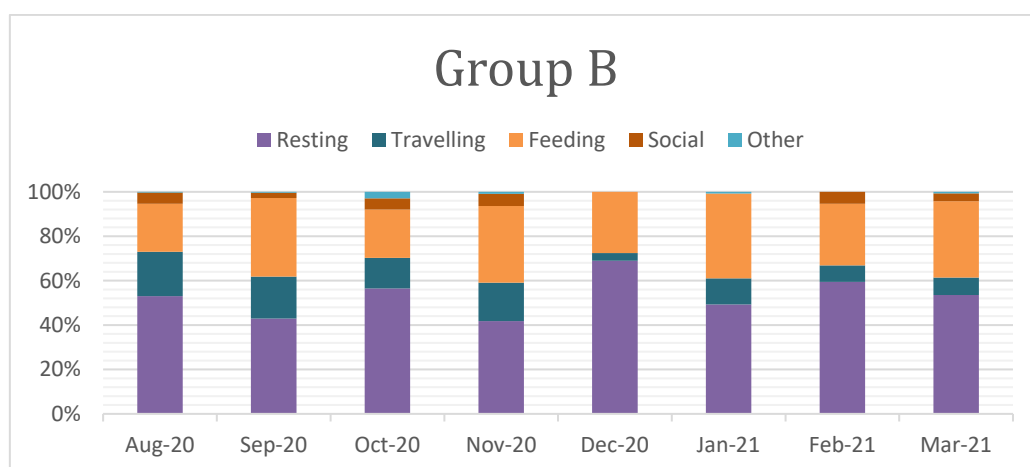


Figure 7. Mean percentage of time spent in each activity in each study month for Group B.

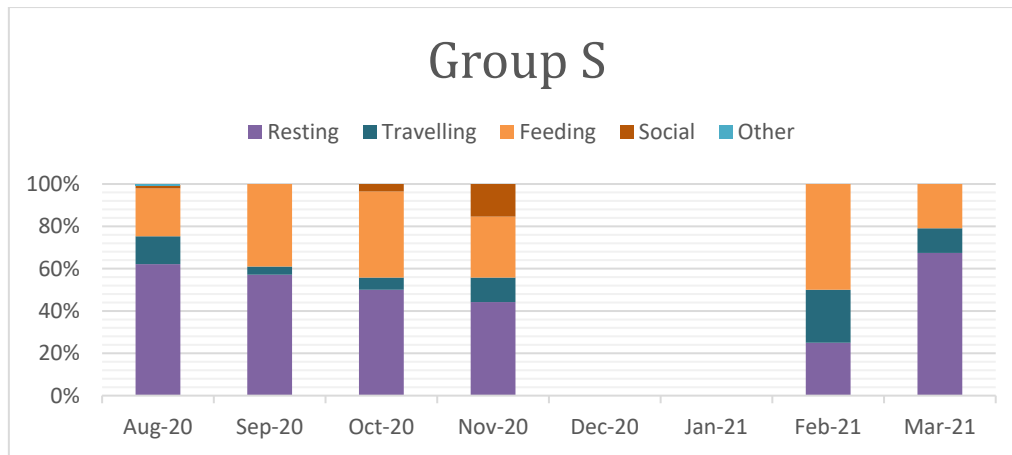


Figure 8. Mean percentage of time spent in each activity in each study month for Group S.

However, if we compare the home range area with the gibbons in the lowland area, the Javan gibbons in our site that are located in the submontane forest have larger home range size that may be caused by the distribution and abundance of food resource. Based on the data we collected, it showed the average home range is 29.9 ha (Group A: 17.7 ha; Group B 43.8 ha and Group S 28.2 ha, respectively). The smaller home range size of Group S could be affected from lack of direct encountered data, especially from December 2020 to January 2021. The three groups we followed have an overlapping area, and usually, the intergroup interaction occurred in this area.

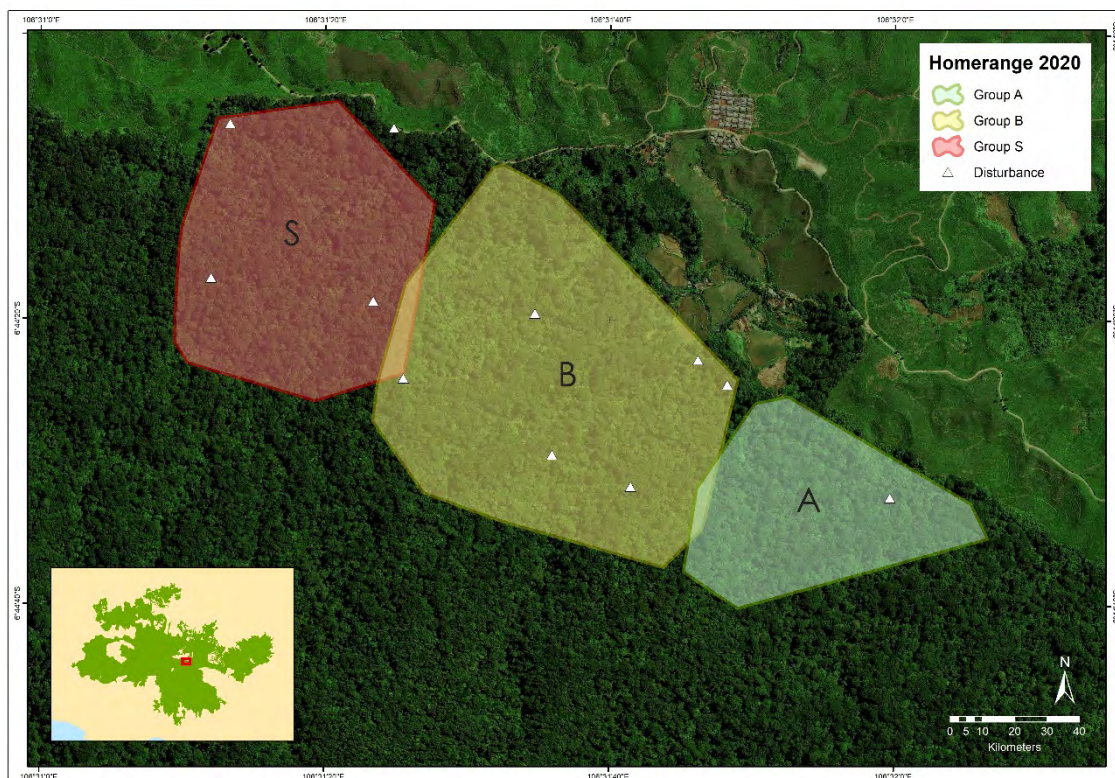


Figure 9. The home range area of three groups and disturbance found around it.

During the forest patrol and monitoring period, we found several illegal activities happened around the area such as logging and bird hunting which occurred in the forest area and expansion of agricultural land in the peripheral area that mostly happened in the early months of a pandemic where there was no regular patrol. We have coordinated with the national park authority to reported it and later, we will have a community meeting with villagers of Citalahab Sentral village and the authority to socialize the area boundaries and alternative livelihood program through biodiversity monitoring and community-based ecotourism program.

The result of the project has been presented to the national park authority and the report was submitted. As the result, this year we will collaborate with the national park authority to develop a community-based patrol team and identify the biodiversity. in the future, we will collaborate with the national park authority to conduct training and capacity building for national park staff to adapt the monitoring program for Javan gibbons in other sites. Moreover, our conservation activities were presented and contributed in the webinar organized by the Association of Indonesian Primatologists as part of the road map to develop an action plan for nine Gibbon Species in Indonesia in 2021.

2. Outreach program

As the pandemic caused the closing of schools, we were not able to conduct our regular conservation education program in the classroom. However, we were adapted and still committed to bringing awareness to the young generation by changed the target to children who live nearby our project site in Citalahab Sentral Village.

In the rural area, the coronavirus information could be misleading and left the community in the vulnerable position to get the negative impacts from the pandemic. Therefore, as we work closely with the community, we took a step to disseminate the information and helped protect the forest-edge community by distributed cloth masks, hand soaps, and health posters about the risk of zoonosis and good sanitation. We also distributed two storybooks about coronavirus and the sanitary for children in the village to let them aware and explore practical ways to prevent the transmission.



Figure 10. The distribution of health package for forest-edge community

In January 2021, 230 calendars were distributed in the three forest-edge villages around our site (Citalahab Sentral, Citalahab Bedeng, and Citalahab Kampung). The calendar displays the Javan gibbons as the key species, activities by the local community, and the landscape. The essential part is the conservation message written in the local language and the community was excited with the calendar distribution and feeling proud to see their faces and activities are featured in the calendars.



Figure 11. The calendar distribution to the local community.

From January to February 2021, we conducted eight sessions of conservation education activities every weekend in the village with lessons covering the ecology of plants and animals commonly found surrounding them, both in the village and in the forest. We ended the activities by organized a field trip for the children to see the Javan gibbon's habitat. Even though they are living in a village that has a direct boundary with the forest area, they rarely explore and get the chance to know about the biodiversity around them. The parents and children were enthusiastic about it since the schools were

closed and they could not conduct online classes like in the urban area due to limited internet connection and they missed their lessons and experiences. A short video was made to describe the journey in the forest: <https://www.youtube.com/watch?v=F38dzlqUGew>.



Figure 12. The conservation education activities for children in Citalahab

3. Additional activity: Knowledge Sharing and Internship program

With your support, we were able to purchase essential equipment needed in the field such as binoculars and a digital camera. It really helps us during the monitoring activity, and the digital camera helps our local assistants to explore the biodiversity and they are really excited about it. Our field staff has an eagle eyes to spotted the wildlife, and it is necessary to support it and elevate their photography skills. Thus, in October 2020, we invited an Indonesia Wildlife Photographer: Mr. Riza Marlon to share the knowledge about the manual to use the camera and the application in the field. Nowadays, our field staff able to document the various food plants eaten by Javan gibbons and the biodiversity of Citalahab forest.



Figure 13. The equipment and supplies (raincoat, digital camera and binoculars) we purchased from the conservation grant.





Figure 14. The photography training with Indonesian wildlife photographer for our field staff.

We were also able to support the next generation of conservationists through an internship program that running from February to March 2021. Two students from the Faculty of Veterinary Medicine – IPB University were selected and for two months, they joined the team to learn about how to collect behavioral data for wild Javan gibbons and assisted us in the outreach program in the village. It is necessary to share the opportunity for the next generation of conservationists to get experience from the field and we are very happy to assist it.



Figure 15. Two internship students learn about behavioral sampling method and how to collect rainfall data

During the pandemic, we also maximized the use of social media to keep spreading the news and information widely about javan gibbons and the forest through our Instagram/Facebook/Instagram account: @owahalimun. As Javan gibbons not as popular as Orangutan, it is important to mainstreaming the information about the only small ape living in one of the densely populated islands on earth, especially for Indonesian people. The pandemic taught us to utilized more our social media channel to grab more attention and make people care.

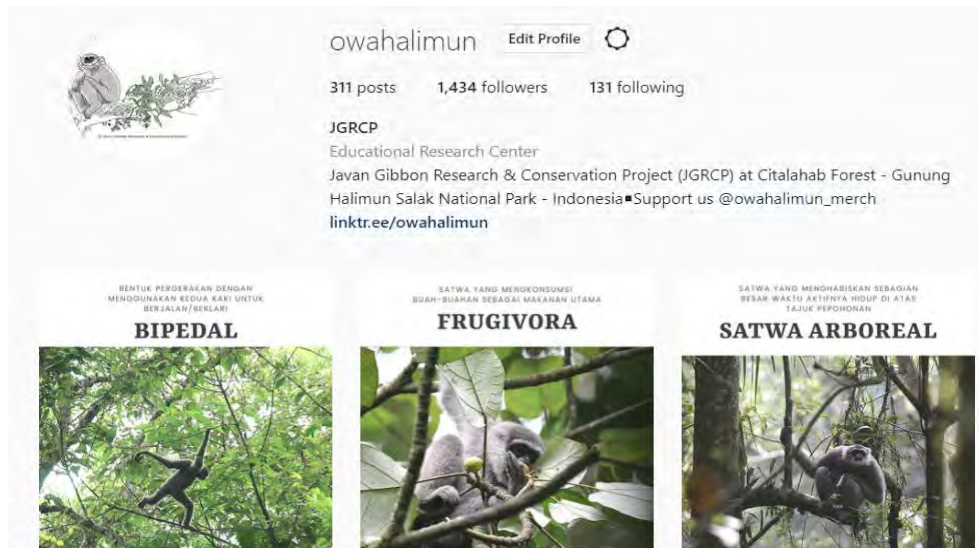


Figure 16. Our Instagram account @owahalimun that purposing to mainstreaming information about Javan gibbon and the conservation efforts

Despite all of challenges imposed by the pandemic, our project has grown and adapted. All of these steps are not only considering the safety of primates and researchers but also safeguard the health and economic impact on local staff and their families. We remain grateful for your support, and look forward to the continuous partnership to make valuable contributions to saving Javan gibbons, the forest as its home and serving the forest-edge communities.

Full financial summary

The total fund £1,500 was distributed mostly to cover the essential equipment and supplies need by our team in the field. As a response to COVID-19, we also covered the medical cost and safety supplies like masks, hand sanitizers and disinfectants.

No.	Type of expense	Amount
1	Field supplies and equipment (rain coat, rubber boats, field notes)	£513

2	Transportation	£576
3	Education materials	£250
4	Medical expense	£161
	Total Cost	£1,500

1. Field supplies and equipment: We bought essential field equipment need in the field such as two binoculars (£207.5), and one digital camera (£234). The supplies purchased with this budget were: six rubber boats (£34), and eight raincoats (£37.5).
2. Transportation: Since there is no public transportation to reach our field site, we rent a car from Bogor – the nearby city for @ £72/trip.
3. Education materials: We used it to printed calendars: £150, education book about Coronavirus: £75, and stationary: £25.
4. This budget was used to cover the rapid test (£100), medicines, masks and disinfectants (£61).