

Project Title:

ENGAGING LOCAL COMMUNITY IN CONSERVATION OF ENDANGERED JAVAN GIBBON IN GUNUNG HALIMUN SALAK NATIONAL PARK, INDONESIA

Project Summary:

Community who live alongside endangered species in a protected area can be crucial conservation partners and it is necessary to bridging the knowledge gap and turn local community into allies to gain their support and working together for conservation. Therefore it is necessary to develop an effective conservation program that positively impacts the survival of a species while considering the needs of local community by develop an equal and effective partnership. Using Javan gibbon as a flagship species, this project will integrate local community in the conservation of endangered Javan Gibbon (*Hylobates moloch*) in Citalahab Forest, Gunung Halimun Salak National Park, Indonesia through (1) Regular monitoring detailing behavioral ecology and threats of Javan gibbon and its habitat, (2) Community empowerment program that demonstrate economic value while protecting Javan gibbon and the forest as its home, and (3) Conservation education program to increase knowledge that will foster learning and promoting positive behavior that will ensure the survival of this endemic species. We believe an integrated program that demonstrates direct benefit to local community is valuable to achieve long term conservation goals for Javan gibbon and its habitat.

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Introduction:

Javan gibbon (*Hylobates moloch*) is endemic to Java, Indonesia, where they are generally restricted to the western and central parts of the island (Nijman 2004). Deforestation and forest degradation are primary threats as they disrupt the forest canopy and result in habitat fragmentation, the largest threats to Javan gibbon along with illegal pet trade. It is estimates that Javan gibbon has lost up to 96% of its original habitat (Malone 2007; Supriatna 2006) and most of the remaining habitats are located

in the protected areas such as Gunung Halimun Salak National Park (GHSNP). GHSNP is the largest remaining forest block in the region and represents the last stronghold habitat harboring the largest remaining Javan gibbon's population, which is >800 individuals (Nijman 2006) predicted occupy this area. As Javan gibbon's habitats become smaller and more fragmented while human populations increase, the need to develop strategies that demonstrate tangible benefits to conserving Javan gibbon is essential, especially from local community who are living nearby the habitat.

The village where our research station is located (Citalahab Sentral, GHSNP) is known as one of the ecotourism destinations where the local community is able to get economic benefit by working as a service provider (local guide, home stay owner, catering service) to bring domestic and foreign visitors to explore the forest where Javan Gibbon's lives. Therefore, it is important to transfer our knowledge regarding Javan Gibbon's behavior and the effort to conserve this species as well as the habitat in order to increase their capacity and skill as a professional guide so they can play a role as conservation agent and distribute better information to raise awareness of the visitors by using this swinging ape as a flagship species.

Project goal:

The goal of this project is to ensure long term conservation of Javan gibbon and forest as its home by generate enough support from the ground level through scientific research, increase awareness, and bridging knowledge gap to minimizing negative impacts while benefit livelihood, wildlife and ecosystem.

Objectives and Activities:

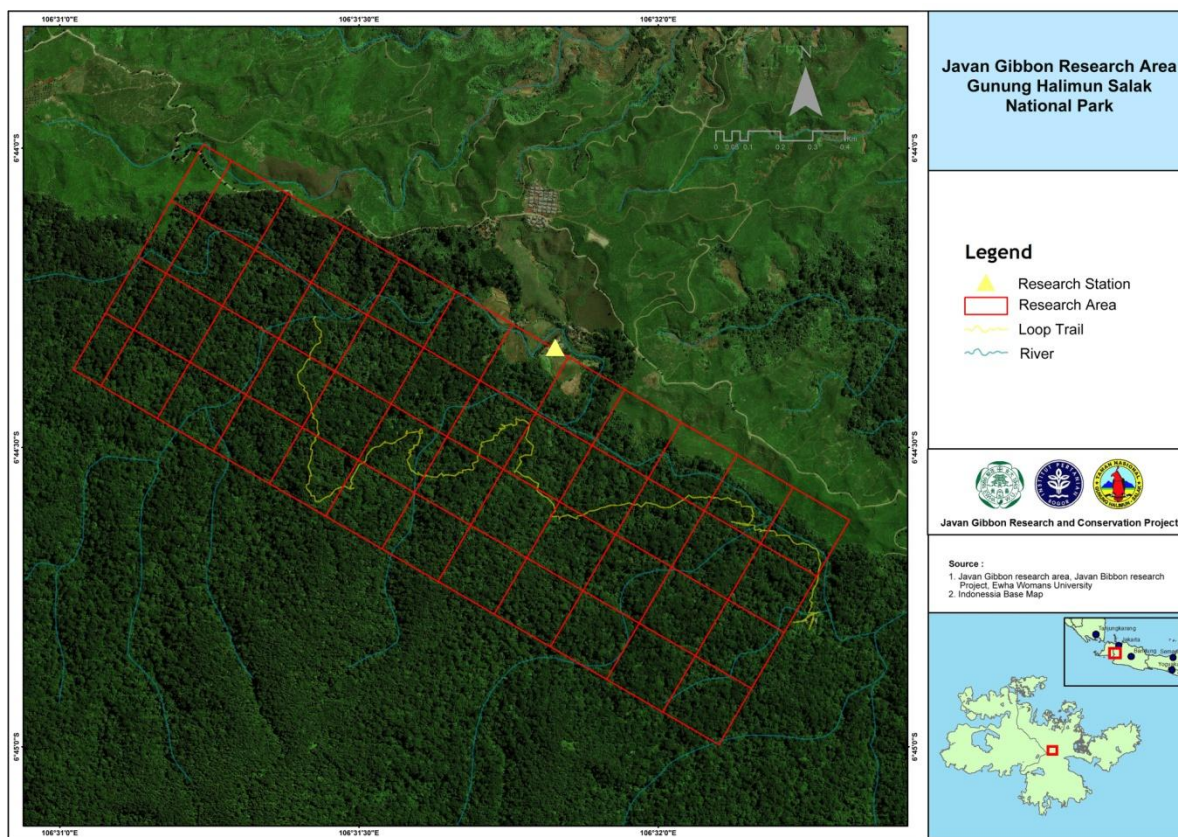
- 1. Conduct a long term monitoring program and develop database of Javan gibbon's behavior and ecology**
 - 1.1. Capacity building and training for local assistants to collect behavioral and threats data
 - 1.2. Field activity through regular monitoring and collect detail behavioral data
 - 1.3. Monitoring the threats twice a month around our project area
 - 1.4. Develop data management system
- 2. Spread information about Javan gibbon and develop capacity for local community in ecotourism sector**
 - 2.1. Baseline survey through focus group discussion to gather knowledge and perception towards Javan gibbon and Citalahab forest from local community
 - 2.2. Management planning and capacity building as service provider in ecotourism sector as well as the ethics of primate watching
 - 2.3. Business planning and management plan implementation
 - 2.4. Program evaluation

3. Educate future generation to influence their parents today and lead community for more sustainable tomorrow.

- 3.1. Identify school target and conduct preliminary survey
- 3.2. Develop conservation based curriculum and monthly lessons
- 3.3. Program implementation
- 3.4. Program evaluation

Project Area:

The project will be conducted in the Citalahab Forest Area (-6.739429, 106.530156), GHSNP in West Java, Indonesia in an area of primary hill and sub-montane forest (950–1,100 m asl) adjacent with village of Citalahab, tea plantation and agriculture land belong to locals. The project area has been used for long term ecological and behavior study of Javan Gibbon by Ewha Womans University, South Korea and IPB University, Indonesia through Javan Gibbon Research and Conservation Project (JGRCP). 240 ha grids of trail in length with 200 m intervals has been established as part of Javan gibbons monitoring activity in our project area.



Methods:

1. Monitoring data collection

We will follow three groups of Javan gibbons (Group A, B and S) that already habituated helping by four trained local assistants on a rotating basis. Each group will follow from sleeping tree to sleeping tree for periods of two consecutive days whenever possible. Currently all groups are consisting of five individuals per group.

We will collect daily behavior data and recording Gibbon's activity (feeding, resting, travelling, socializing and other) by using scan sampling with 15 minutes interval and marking the position through GPS.

We also will make a note of different plant species consume by Javan gibbon with the help of local field assistants and monitor flowering and fruiting pattern in 25 random plots (10x50 m) once a month. We will visually assess each tree and scored the phenological state used 0-4 scale to estimate the percent of fruit in the canopy. The scale is expressed as the percent of an estimated maximum fruit production (or canopy cover), where 0 = no fruits, 1 = 1 - 25 percent of the maximum, 2 = 26 - 50 percent of the maximum, 3 = 51 - 75 percent of the maximum and 4 = >75 percent of the maximum.

To monitor the threats around our research area, we will train additional two local assistants and collect threats data (i.e trap, logging) by GPS marking and data sheet including information of date, location, type of disturbance, number, they will monitor the trails twice a month in random schedule. Additional data of rainfall and temperature data also will be collected to observe the climate in our research area.

2. Develop a guideline and recommendations for ecotourism management

Qualitative survey through focus group discussion to identify basic knowledge and mapping the local assets for 25 local people living in Village of Citalahab Sentral and working as ecotourism service providers will conducted in the beginning of project to obtaining information and opinions from informed individuals about their relationship with natural resources. This method can demonstrate the depth of ecological knowledge and natural resource management (Wali et al 2017).

We will do multiple community visits, facilitate workshop through dialogue sessions for each phase to identify aspects related with organizational structure and community ecotourism management plan as well as sharing knowledge about Javan Gibbons monitoring activity. The progress will monitor and this program will be in collaborative scheme where local people carry out the activity by themselves with training and supervision by us and partner organizations. At the end, evaluation will be done through community assembly and questionnaire distribution.

3. Conservation education program

We have handed permission from two local elementary schools to conduct regular conservation education program, and our educational strategy will involve preliminary survey by interview teachers and distribute pre test questionnaire for students in the beginning of program to gather information on students' knowledge and attitude towards Javan gibbon and protected area. Then, we will develop formal program in classroom and field activities for 5-6 grade elementary school students around our project site which have direct boundary with national park. In total more than 50 students will be involved in regular conservation education program that will running twice a month per school. The 60 minute lessons in the class and outdoor activity will cover several topics related with wildlife, threats and forest

such as: endemic species, forest structure, characteristic of Javan gibbon and primate species, threats, etc. We also will produce an activity book about Javan Gibbon and bring the local students to have a field trip at Javan gibbon's habitat. At the end, we will distribute post test questionnaire for the students to measure the success of this program.

Outputs:

The results of this project are:

1. Monitoring Program

- 1.1. Database compiling behavioral ecology and seasonal food variation of Javan gibbon that will contribute in monitoring of endangered species management plan from the authority of Gunung Halimun Salak National Park and Ministry of Environment and Forestry, Indonesia. We also are planning to share the data with A.P.E.S database belongs to IUCN Primate Specialist Group.
- 1.2. Map of distribution of disturbance finding in the home range area of Javan gibbon in Citalahab Forest.
- 1.3. Media campaign (poster, flyer) of new list of food eaten by Javan gibbon that will distribute to all of stakeholders.
- 1.4. Final report that will distribute to all of stakeholders.

2. Community Empowerment Program

- 2.1. Guidelines for local community as service provider for standard home stay, local guides, visitor program plan including primate watching.
- 2.2. Sign board describes support from local community to protect Javan Gibbon and its habitat.

3. Conservation Education Program

- 3.1. Conservation-based curriculum as guidance for teachers.
- 3.2. Activity book about Javan Gibbon and primates in GHSNP.

The mid report will be delivered 6 months after the project started and final report will be delivered at the end of the project. The progress of the project also will be updated in our blog: www.owahalimun.wordpress.com and in our social media (Facebook, Instagram, and Twitter): @Owahalimun. The result will be present using PowerPoint presentation to the national park office once it finish where hopefully it can give information for better management program in the future. We also will coordinate with IUCN Section on Small Apes to synchronize our activities to share knowledge and expertise to support gibbon conservation.

Project stakeholders:

1. **Authority:** Gunung Halimun Salak National Park, this project will assist authority through availability of database that useful to completed monitoring program belongs to national park and in the future, the information can be used as consideration for species management.

2. **Local Community of Citalahab Village**, this project will provide local community with opportunity to to encompass the direct involvement of local communities and generation of benefits both to the environment and to grassroots economies.
3. **Academy institution**: IPB University. Students from IPB University are welcome to join this project through internship and/or research scheme.
4. **University students**: Fauna Conservation Club at IPB University. We will involve university students as volunteers to join us in conservation education program to gain more experience and opportunity to support conservation through education.
5. **Local NGOs partners**:
 - 5.1. Aksioma institute. We will collaborate with Aksioma Institute, a local NGO who has experienced in capacity building and develop ecotourism program in several area in Indonesia to develop ecotourism guideline and empowerment of local community.
 - 5.2. International Animal rescue (IAR). We will collaborate with staffs from IAR-Indonesia Program to raise awareness in term of threats facing by Javan Gibbon especially from illegal hunting to keep it as pet.
 - 5.3. Wildlife Conservation Society-Indonesia Program (WCS-IP). We are planning to collaborate with WCS-IP to gather more knowledge in develop database system for long term monitoring of Javan gibbon.

We have been conducting the regular monitoring for three groups of Javan gibbon with complete data set of behavioral activity for more than five years, and we believe that this program is the longest long term monitoring program for wild Javan gibbon in Java Island and several publications has been produced (Kim et al. 2011, 2012; Dewi et al. 2016; Ham et al. 2016, 2017; Oktaviani 2018). However we realized there is a gap between scientific researches we have been conduct with the knowledge of local community about the conservation effort through monitoring program of Javan gibbon. This project will bridging the gap and gathers the support we needed from local community in our project area. I have discussed and exchanging ideas with local community in our project area and they gave positive response about the project I proposed through knowledge dissemination can brings community at the forefront of the conservation effort.

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2. Community Engagement Program												
2.1 Baseline survey through focus group discussion to identify opportunities and threats												
2.2 Management planning and capacity building as service provider: Home stay, local guide, sustainable program for provider and visitor												
2.3 Business planning and Management plan implementation												
2.5 Program evaluation												
3. Conservation Education Program												
3.1 Identify school target and conduct preliminary survey												
3.2 Develop curriculum and lesson material												
3.3 Program implementation												
3.4 Evaluation												
4. Reporting												
4.1 Mid term report												
4.2 Final Report												

Budget:

Type of expense	Amount	GCA* Request	BFK* Request (Confirmed)	Justification
1. Project preparation				
Permit to enter national park (@USD 20/person)	7	140	-	
Medical supplies	1	90	-	
2. Equipment				
Handheld GPS for patrol team (@USD 250/unit)	2	500	-	We have research equipment for monitoring team such as binoculars and GPS, but we need extra GPS for patrol team.

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Field supplies (@USD 40/person)	6	240	-	We will equip the local assistants with note books, rubber boots, rain coats, backpacks and machetes.
3. Project implementation				
Accommodation	1	550	600	We will rent local people's house nearby our project site.
Food supplies for team members (@USD 230/month)	12	1,860	900	We will buy most of the food supplies from nearest city (Bogor) because it is cheaper, while for vegetables and protein we will buy from local residents.
Transportation (@USD 100/month)	12	1,200	-	There is no public transportation to reach our project site, and we need to rent a car back and forth twice a month.
Workshop (@USD 105/month)	3	315	-	Workshop as part of community empowerment program will be held three times at the village and cover meals for participants.
Education materials	1	385	200	We will use this budget to develop education materials such as activity book, field trip for local students and sign board in the village.
Honorarium local assistant (behavior monitoring team) 4 person (@USD 135/person/month)	12	3,700	2,780	Community members who worked with the research team directly were compensated for their time based on prevailing local wage rates.
Honorarium local assistant (patrol team) 2 person. Twice a month	12	700	500	

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(@USD 50/person/month)				
4. Post field work				
Report production and dissemination	1	250	-	We will disseminate the project reports to all of stakeholders and produce several posters related with research activity i.e. Diversity of food eaten by Javan gibbon.
Total Cost		9,930	4,980	

Remarks: *GCA: Gibbon Conservation Alliance, *BFK: Biodiversity Foundation Korea

Investigators' Qualifications:

1. **Principal Investigator:** Rahayu Oktaviani

I have been studying about Javan gibbon behavioral ecology since I was an undergraduate student at IPB University, Indonesia; and working in the field of primate conservation has been my passion since then. Began in 2014, I am managing JGRCP with main responsibilities such as manage the field site and database monitoring of three groups of Javan gibbons, and also include communicating with staffs, park officials and locals regularly. Moreover I am familiarizing with our research procedure and have good relationship with the local community. This project will broaden my horizon to communicate science more effectively for local community and how to integrate it with their livelihood. Moreover through this project I will learn the best approach to involve local community as part of long term conservation effort for Javan gibbon.

2. **Team member:** Heri Destrianto

Heri Destrianto has been involved in capacity building for local community in various regions in Indonesia. He will bring his experience to develop firm guidelines for local community in Citalahab.

3. **Team member:** Aisyah Filqisthy

Aisyah Filqisthy has been involved in our conservation education program earlier this year as a volunteer. She has interest in the wildlife conservation and develops creative lessons for children are her strong point.

4. **Team member:** Muhammad Nur

Muhammad Nur is our local team member who has been working with us since this project was build and through the time, we can see his progress and achievement. He has interested in conservation and eager to learn. Through this project, we want

him to take a lead as assistant coordinator by passing information and knowledge to other local people.

5. **Team member:** Fauzia Yudanti

Fauzia Yudanti is a fresh graduate from IPB University. She was actively joined in student organization focus on biodiversity conservation that gave her experience to manage several programs in the organization. This project will expand her knowledge about ground conservation effort and good learning opportunity to be more aware with conservation challenge of endangered species.

References:

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