

Country Region Indonesia / Java / Gunung Sewu karst Landscape

Project Title Initial Conservation Action Of Java Sparrow *Padda oryzivora* In
Gunung Sewu Geopark Java Island

Final Report July 2017-June 2018

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Executive Summary

Finally, we have completed all activities we have been planned during July 2017-May 2018. There three aspect of activities we have conducted during that period including field survey, Awareness raising and encouraging population monitoring involving stakeholder including local villager and student of University in Jogjakarta.

We have visited 14 locations in Gunungkidul karst landscape to survey java sparrow population at roosting site, breeding site and staging sites of java sparrow. The result shows from 15 identified location only five locations which is still occupied by Java sparrow comprising Song Gobar , gua macan cliff, Jothak Cave, Song banyu and Paliyan Nature Sanctuary with The total population of between 83-123 individuals. There 12 location was only visited once time, 3 location was visited more than one time (Jothak cave 2 times and song gobar cave 3 time and song kadut 2 times) which all shows different population from the first time visiting.

All locations were found on limestone cliff which spreads between 0 to 275 m above sea level. Poaching is the major threat which lead java sparrow to local extinction in many locations in Gunungkidul.

Following up this survey, we have conducted awareness raising in pejaten Village and Elementary school of SD Negeri Pejaten which were situated near to current java sparrow population at Song gobar Giriwungu. For awareness raising purpose we also printed 500 pieces poster Calendar to be distributed among stakeholder especially for community around java sparrow habitat in Gunungkidul Regency.

To monitor the java sparrow population, we conducted observation in some identified java sparrow site which also involving local villager. To encourage java sparrow conservation involvement among stakeholder we also conducted discussion and presentation. This activities was attended by BKSDA, student and Lecturer from Gadjah Mada University and Atmajaya University.

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INTRODUCTION

Java sparrow *Padda oryzivora* is an endemic bird to Java Island and Bali Island possibly also present on Madura Island. The conservation status of this species is vulnerable which triggered by over harvesting. Most of the population has been extirpated in their origin habitat due to hunting and trading, in other hand this species is being introduced to other island like some city in Kalimantan, Sulawesi. This species also introduced to other country like Malaysia, Taiwan and Hawaii (USA), (Birdlife International 2012).

Muchtar and Nurwatha (2001), reported from 64 former locations surveyed only observed 109 individuals at 17 sites. Muchtar and Nurwatha (2001) suggested The remaining population is only occurred in Cikepuh Wildlife Reserve, Baluran and Meru betiri National Parks on Java, and Bali Barat National Park on Bali. But according to (Yudha 2008) Java sparrow population still found in Gunungkidul (part of Gunung Sewu karst landscape) Yogyakarta Indonesia in very little population. The population is spread in some location in Gupak warak, Jotak Cave, Mandung Cave Tritis and Maria cave, but disappeared from the former habitat, Gelatik Cave and Gelatik island.

Population of Java sparrow on Java Island is facing alarming condition, as this species is often reported to be traded in bird market. The investigation which was conducted by Kanopi Indonesia and WCS June 2016-oktober 2016 reported 289 individuals have been traded in 3 bird markets around Gunungkidul (Yogyakarta, Surakarta and Purbalingga). The survey indicates the birds some were supplied from Gunungkidul karst region. According the observation in 2015, BKSDA reported disappearing population of Java sparrow in some cave in Gunungkidul Karst region (Chandra pers.com. 2016).

In 2015 UNESCO has recognized Gunung Sewu Karst landscape as one of Global Geopark, where has specific management with a holistic concept of protection, education and sustainable development (UNESCO 2015). Gunungkidul karst region has importance role for java sparrow population as it has about 40000 conical hill which provide suitable habitat for java sparrow to nest, feed and roost.

This initiative will be aimed to Identify habitat site of java sparrow in Gunungkidul, raising awareness for local community about java sparrow conservation and encourage its population monitoring involving local people. We hope this initiative will encourage population and habitat management with the collaboration among local community and local government as well as the nature conservation agency.

DESCRIPTION OF THE SITE

Gunungkidul karst region is part of gunung sewu karst landscape where has thousands limestone hill. Our survey was mostly taken place on southern part which is characterized strongly mountainous contain of massive coral reef limestones. Gunungkidul has 54670 ha forest consist of State owned forest and small holder forest area however no more natural forest remaining. Vegetation are dominated by plantation mostly by teak tree (*Tectona grandis*), and the other important tree comprising Mahoni (*Swietenia mahagoni*), Akasia (*Acacia auriculiformes*), sonokeling (*Dalbergia latifolia*), Randu(*Ceiba pentandra*), Pule (*Alstonia scholaris*) and scrub of *chromolaena odorata* and *Lantana camara*. Number of Rain days and Rainfalls is 198,78 mm per years, however this area considered to be dry area which caused by rapid and substantial infiltration of water into the soil and rock (Whitten *et al.* 1996). Water necessity are dominantly supplied from rain water.

Gunungkidul regency area is located between 7o 46'- 8 o 09' South Latitude and 110o 21' - 110o 50' East Longitude. This Region is bounded by Klaten Regency, Sukoharjo Regency, Central Java Province at north side. Wonogiri Regency, Central Java Province at east side. Indonesia Ocean at south side and Bantul Regency, Sleman Regency, DI Yogyakarta Province at west side. The area of Gunungkidul Regency is 1.485,36 sq. Km which consist of 18 districts and 144 villages /wards. (BPSK 2015).

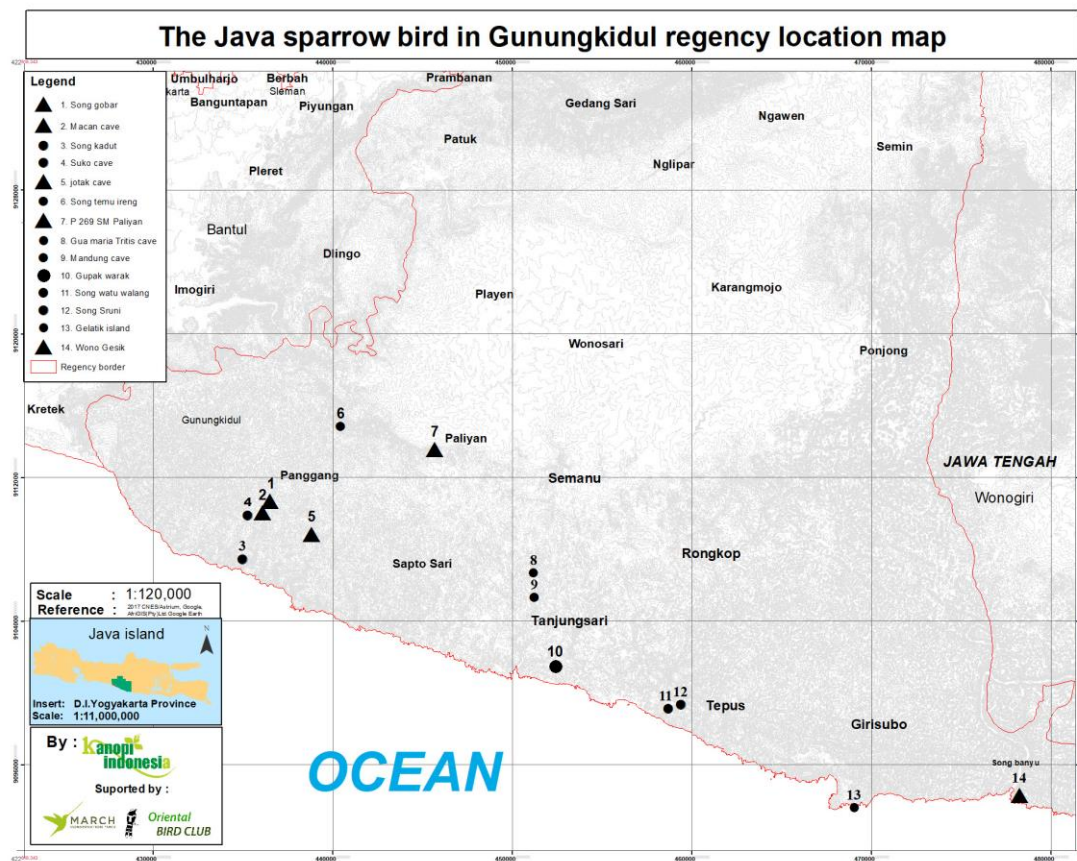


Figure 1. Map of Gunungkidul Regency showing the sites covered in the text (1 song gobar, 2 gua macan, 3 song kadut, 5 jotak cave, 6 temu ireng, 7 legong cave, 8 cave of maria tritis tritis 9 mandung cave, 10 gupak warak cliff, 11 watu talang cliff, 12 seruni, 13 gelatik island, 14 song banyu)

OBJECTIVE

This project will update the information of sparrow population in Gunungkidul by identify the location of nesting and roosting. Then we can develop site management by collaborate with local community and local government as well as Government institution of nature conservation (KSDA). To achieved that we use four objectives comprising:

1. Identify feeding, nesting and roosting site of java sparrow as well as the threat to their population.
2. Raising awareness for local community regarding java sparrow conservation.
3. Initiate monitoring of java sparrow population in nesting and roosting site involving local people and local government.

4. Reporting and project management

METHOD

1. **Identify location of recent feeding, nesting and roosting habitat of java sparrow as well as the threat to their population.**

We will survey java sparrow nest site , feeding grown and its roosts as well location based on previous literature information. The target location will be in Panggang district, Saptosari district, and Tepus district we will also survey location opportunistically by obtaining information from local people with knowledge of the locations.

2. **Raising awareness for local community regarding java sparrow conservation**

After roost and nest site be identified we will conduct awareness raising activity for local people and school near the site. The activity will be carried out by presentation, game and discussion.

3. **Initiate monitoring of java sparrow population in nesting and roosting site involving local people.**

To save java sparrow population will be initiated population monitoring involving local people. This activity will be carried out by discussion and simple training in the roosting and nesting site.

4. **Project management and reporting**

The activity would be discussion and coordination to make sure the project running well. Reporting would be included progress report, activity report final report and scientific paper.

PROJECT ACHIEVEMENTS AND RESULTS

OBJECTIVE 1 . IDENTIFY LOCATION OF RECENT FEEDING, NESTING AND ROOSTING HABITAT OF JAVA SPARROW AS WELL AS THE THREAT TO THEIR POPULATION.

A. LITERATURE STUDY

Before conducting survey, we started with collecting information of java sparrow encounter report which is achieved from literature study and interview as well. We have collected five reference which is reporting java sparrow encounter in Gunungkidul, comprising Scripts, Dissertation, Journal and unpublished Survey report which most of them also reported roosting and nesting site. We also interviewed key person who have conducted survey or observation of java sparrow including KSDA's staff and ranger.

Laudisensius et al. (2000) reported there were eight location occurred java sparrow including, Song dawung, gua slawu, song banyu rongkop, Siung beach, Glatik island, kanigoro, Sendang sari and girikarto. Nuning wardani (2005) during 2004-2005 has been conducting survey on java sparrow population in some nesting and roosting site in Gunungkidul. The survey only found maksimum of 50 individual java sparrow were found at four location, comprising 34 individuals observed in Jothak cave and 13 individuals at gupak warak cliff, and about 3-4 individual at Maria tritis cave and mandung cave. On August 2005 Matalabiogama was conducting Survey of bird diversity in panggang district Gunungkidul. The survey team observed Java sparrow near Ngungah beach also at its roosting site in Temu ireng.

Pramana yuda (2008) at his dissertation reported his observation to java sparrow in Gunungkidul. During 2003 he encountered 20 individduals at jothak , 12 individuals at guak warak 5 individuals at maria tritis and 7 individuals at gua mandung cliff. But at 2004-2005 he found that no more bird could be observed in gupak warak cliff, and only 3 individuals recorded from Maria tritis and Mandung cave. In this dissertation he also reported the escaping population of java sparrow in

gelatik island and gelatik cave.

Mas untung (2012) at his survey of bird diversity in three coastal area also reported to encounter java sparrow at Pok tunggal beach and Drini beach. He observed one individuals perch on the cavity of the cliff Song watu walang cliff (about 19-14 m high) is occurred around peak of limestone hill, about 2 km from the coastal area.

B. SURVEY AND OBSERVATION

During August 2017 to March 2018 total of 14 location has been visited which some identified according to the literature including jothak cave, maria tritis cave, mandung cave, Gupak warak, Sng banyu, Gelatik island dan di Paliyan Nature sanctuary, song watu walang cliff, Cliff near Temuireng village. There also some new location which was identified according to the information from local villager like in Song Gobar cliff, Goa macan cliff , and Song kadut cliff.



Figure 2. interview with several informant to investigate java sparrow habitat and its threat

The observation shows only five locations were still occupied by java sparrow consist of luweng jothak, Gesik/ song banyu, song gobar, Gua macan and Paliyan Natural Sanctuary. While nine locations was reported to be historically occupied by java sparrow.

Table 1. Java sparrow habitat according to literature and interview

NO	Location	Year of Last encounter	Size Population(individuals)		Observer /reference
			Present	Previous observation	
1	Jothak cave	2005, 2015,2018	12-20	34	Wardani, KSDA, UNY birding club, this survey
2	Mandung cliff	2003, 2010 villager	-	5	Yudha 208
3	Gua maria cilff	2003	-	7	Yudha 2008
4	Watu walang cliff	2010	-		Untung 2012
5	Paliyan Nature Sanctuary	2015, 2017	3-10	10	KSDA 2015, this survey
6	Temu ireng Cliff	2005	-	2	Matalabiogama 2005
7	Pulau gelatik	1999		No data	Laudisensius 2000
8	Song gobar	2017,2018	30-50	-	This survey
9	Song kadut	2017	-	20	Villager poacher
10	Gua macan	2017 2018	3	10	this survey
11	Seruni cliff	Around 1970		-	villager
12	Gua legong	2000	-	-	this survey
13	Desa Gesik /song banyu	Before 2000, 2018	30-40	No data	Laudisensius, this survey
14	Gupak warak	2003, 2004,	-	13	Wardani, Yuda,

1. Jothak Cave

This site situated in Pejenan sub village Girikarto village, Panggang District. The observation at this location was conducted before dusk 22 August and before dawn at 23 and 24 august 2017. There was no java sparrow observed roost in this location. But in the morning at the last days 24 august at 06.40 am was about eight individual of java sparrow observed while flying very fast from south side pass on about 20 meters over the cave but not sure whether they occupy this cave or not.



Figure 3. Observation at Jothak cave

According to the local villager Pak yono who lives nearest to the cave, the bird was still observed when Polhut (KSDA forest ranger) conducted observation in 2015. They also asking him to prohibit every one of catching bird in this area. Pak Yono also explained about his experience drove out a poacher from Dlingo Bantul who coming to poach java sparrow with a miss-net. But he suggest that possibly the poacher still coming another days without his control. He also suggested that the bird in this cave possibly no longer exist.

Jothak cave is an vertical cave with about 35 m deep at its first pitch and diameter of 20 m at its entrance's. The java sparrow used to roost at the southern side of it cliff which has second pitch entrance on its base. Many caver from Jogjakarta known to be used to descend this cave by SRT set, but they doesn't meant to disturb this habitat.

During observation, There also another species who was using this cave for roost or nest like squirrel, bats and bird : Swift *Collocalia spp*, owl *Tyto alba*, and *Chalcopaps indica*. On 22 august at 05. 50 two individuals of *Tyto alba* came out from the caves. More than ten individuals of squirrel coming to the cave cliff to roost.

2. Cliff At Temu ireng sub village and Legong Cave At Girisuko village

The first information of java sparrow is from 2005 when Matalabiogama conducting survey on bird diversity in Panggang Gunungkidul, at least two individuals of java sparrow was observed while perch on the rock camber in the cliff near Temu ireng sub village.

In this survey at 22 August 217 at the morning we conducted interview to local villager who own farmland nearest to the cliff. He said that there are no bird anymore in this cliff but either not in the past, unfortunately he didn't mention when the last individuals seen. The other informant indicated to ever seen ava sparrow somewhere around Temu Ireng village at about two years ago. He also said there also poacher that ever coming to poach birds in this village. This cliff is about 12 meter tall along 8 meters, situated only 5 meters from road makes it very easy to access by whose want to catch them. Other informant from temuireng informed us that java sparrow often stay in this cliff in the day light for staging, but they does roosting in other place which possibly Legong cave.

Based this information we continued to investigate Legong cave which located near Pacar sub village about 2 km from temu ireng subvillage. We found that the cave is very difficult to access, and we just conducted interview with the local villager. From the interview suggested that java sparrow was no longer exist in this cave since it habitats has been destructed after a company start to take guano for its phosphate since 5-10 years ago

3. Song Gobar Cliff

This location was identified according to the information from Suwito (poacher) in Pejaten subvillage giriwungu village. Song Gobar cliff is occurred in farmland near pejaten, Giriwungu village Panggang district. The cliff is about 7-10 meters high along 50 meter beside farmland. Suwito claimed used to poach java

sparrow during rice harvesting in rainy season. He explained that java sparrow should be still present at this location and possibly to be observed at morning, before dusk and at the middle of day as well.



Figure 4. Bird observation at Song Gobar Cliff

The first observation was conducted on 24 August 2017 at the middle of day (11.00 am-01. 00 pm). We observed java sparrow flock perch on *kelor* tree *Moringa oleifera*, some of them perch at the cliff just 3 meter from the tree which was likely taking rest. We couldn't count the real population size but we estimated to be around 25-30 individuals stayed in this location, During observation they just flying around that area before they moved away gradually at 01:30 pm.

We are interested to check whether they come again at last hour of daylight. From the observation before dusk we found they come to this location again at 5:25 pm. Four individuals coming to the shrub over the cliff then come to the fig tree which grow at the cliff. Two minutes later we observed about 20 individuals coming and perch on the tree over the cliff but then fly again followed by four individual which have been coming first. They likely to roost in big tree around the cliff. During observation we also found many of squirrel coming to the cliff with very noisy sound. It is presumably being its competitor or its predator.



Figure 5. *Padda oryzivora* at Song Gobar Cliff, a cavity with nest material found in Song gobar cliff.

During survey we also found java sparrow's nests at the cavity in Song Gobar cliff which spread on the height of 2,4 m-4 meters. The cavities has narrow entrance with the larger camber inside of 8-12 cm diameters

According to suwito there also mammals which still occurred in this cliff like primate *Macaca fascicularis* (we didn't see Macaque during observation), squirrel , and bat. Suwito also added in the past time this cliff also used to be occupied by red breasted parakeet (*Psittacula alexandrii*) to roost but no longer exist doe to poaching activity. During survey we also heard gecko shouting.

4. Gua Macan cliff and song kadut cliff.

According to interview with mr. Suwito we also visiting gua macan cliff and song Kadut cliff. Song Macan cliff location is only about 400 meters from song gobar, while song Kadut cliff is just near coast about 3 km from song Gobar. Those cliff were occurred at the slope of the small limestone hill. After we conducted observation at the morning 25 August 2017 we assumed that there were no java sparrow at these location.

The caution of situation in song was: at July 2017 Mr. Suwito claimed to poach about 10-20 Java sparrows by mistnet and sell it to Bantul Rp 30.000/individual. While in Gua Macan cliff after we did an interview with the owner of farmland near the cliff, we got information that birds could only be found at approaching rice harvesting in this farm land.



Figure 6. Nest site at Songkadut (left) and song macan cliff

5. Paliyan Nature Sanctuary

We also visited Paliyan Nature Sanctuary to check the location which is reported Java sparrow encounter. It is needed official letter (SIMAKSI: surat ijin masuk kawasan konservasi) from BKSDA to get in this conservation area. Actually the natural habitat in this area has been already damaged. Formerly this area was managed by Perhutani as production forest however during reformation 1998-2000 most of plantation have been cut down to be converted for farm area. At 2003 began to be replanted with *Tectona grandis*, *Swietenia mahogani*, *Acacia mangium* and since 2004 this area was established as Natural sanctuary.

At 2015 Yusuf (KSDA forest ranger) reported for observing Java sparrow at Block 269 at Paliyan Sanctuary. There is no specific time explained but he said once upon time at 09.00 am he saw a flock of Java sparrow on the ground about 8-10 individual at block 169.

Based on this information we conducted observation at the location have been mentioned. We also conducted observation through transect seeing there is no information of the roosting, or nesting site have been mentioned but a little cliff which not make sense as roosting place. The transect observation was conducted on three transect during 20-21 October 2017 where one of those was made crossing block

169. Considering to what happened at song Gobar that the encounter to Java sparrow occurred at the middle of day we made observation at block 169 at 01:00-02:00.pm.

Fortunately at block 269 we observed 2 individual of java sparrow flying from the cliff toward east. To ensure the size of flock we stop at this location to do intensive observation around cliff. Although couldn't see the bird we still heard Java sparrow voice "Tik-tik-tik" from *Tectona grandis* in front of cliff. After the voice fading without bird encounter we conclude that the total individual (both voice and observed individual), at least three individual was stay in this location. To ensure whether java sparrow coming again to roost in the cliff we continued observation at 05:00-06:00 evening but we still didn't observed java sparrow. It suggest that this location was not used to be occupied by java sparrow to roost. Considering there is consistence of place from two observation both 2015 and at this survey we suggest that should be there something important of this location.

During this visit, we also interviewed local villager who taking grass near location but he signed to never seen java sparrow at this location. He stated that java sparrow should be extinct at this location for long time ago. We didn't have no idea but we assumed some expectation (1) he didn't has good knowledge or interest about bird, (2) Java sparrow was over looked for long time seeing its small population as well as its body sized or (3) He is a poacher who make an alibi.

6. Gua Maria Tritis and Mandung cave

This survey still visiting this location because BKSDA still recognize this location as important habitat for java sparrow. In this survey we visited Maria tritis cave at 19 and mandung cave at 21 September 2017. The observation on both location was only conducted at last hour of daylight before dusk, we hope that there will be java sparrow coming to roost. We also conducted interview with local villager (the farm land owner) to get confirmation about the java sparrow existence in and around this location.

Based on the observation we conclude that the population in this location is no longer exist. This is also confirmed by forest ranger (KSDA) that suggested java sparrow at Maria Tritis cave should be no longer exist. During observation we observed white collared kingfisher (*Todirhampus chloris*) coming to roost in this area. We also heard *Tyto alba* shouting from this location which likely going to come out.

The next location in mandung cliff has the same case, there is no population of java sparrow remain in this location, according to the farmer near location, the last encounter of java sparrow was about seven years ago. Poaching also being the major threat which made disappearing of java sparrow in this location.

Mandung cliff has 14 meters' height along 40 meter, occurred beside farm land near village road. When observation was conducted farmland is prepared for rice but still waiting rain.



Figure 7. Former Java sparrow roosting and nesting habitat at wall above Gua maria Tritis cave entrance, (Left) Mandung cliff situated side by side with farmland.

7. Song Watu Walang

Before started observation at location we interviewed local villager named pak Joko which live just 500 m from the cliff. He claimed to saw little flock of java sparrow at this location about 8-9 months ago (December-January). We considered this information seeing he seemly has good knowled about bird as he mentioned the other bird which could be found around this location like javan coucal, white eye , great tit, Sooty-headed Bulbul and Crested-serpent Eagle.

The observation was conducted on 17 and 18 October 2017 at the middle of day 12:00-02:00 pm and the evening before dusk 04:30-06:00 pm, but no java sparrow was observed. We also met other local villager which was taking grass at that location when we conducted observation. The interview indicated that he had never seen the bird. But we guessed he doesn't familiar with bird as he couldn't point which is java sparrow figure at field guide.

8. Gelatik Island

Gelatik island is very small island (only 0,010785 km²). About 30 meters separated from the coastline. This is located about 1 km from Wedi ombo Beach which known as a tourism object. Since about 5 year ago this area combined with Greweng beach also begin to be managed for tourism object and there is already a bridge installed makes it possible to access this island.

We visited this location at 18 sept 2017 to see how is the habitat characteristic and investigated why the population disappear. According to our interview with local villager, Pak Wono, the last encounter to java sparrow at pulau gelatik was in 1997 when still few people know this location. From the interview reveals that Poaching was the major threat which causing java sparrow disappear. Despite of local villager, the poacher mostly come from other cities, Bantul is frequently mentioned regarding where is the poacher come from. During observation we also observed javan starling *Acridotheres javanicus* around the coast area which believed to nest in the cavity at the gelatik island cliff according to local villager.

9. Cliff in seruni sub village

During 17-19 October we also visited some location we think suitable for Java sparrow nesting habitat. The cliff around Seruni sub village and wedi ombo beach, has similar characteristic to mandung cliff and song gobar cliff which previously known as java sparrow nesting habitat. We didn't conduct intensive observation to this location since we got information from some local villager closest to the location which said to never seen java sparrow in that place. We just try to ask the informant in Seruni (47 years old) about when the last time of java sparrow sight in around that area and he said that the last encounter to java sparrow was since long time ago when he was still children.

10. Gupak warak cliff

Gupak warak is java sparrow roost site which already identified for longtime, Wardani 2005 have observed java sparrow at this location and found about 13 individuals. The location is situated in kemadang village, about four kilometers toward south from mandung cave.

We visited this location at 29 March, The cliff was in the top of conical hill which are surrounded by dry farmland. Observation was conducted at afternoon, but there was no bird observed. According local people the last encounter to java sparrow in this location was five days before we visit, he also told us that there was poacher who coming in few day earlier which was indicating the existing of java sparrow flock in this location.



Figure 8. cliff in gupak warak area which was hictorically ocupied by java sparrow flock

11. Song Banyu

This site was identified from the report of Laudisensius (2000) which mentioned java sparrow encounter in Song banyu. There was no other observation conducted after that until we visiting this location 30 April 2018. Song banyu is the name of Village in Girisubo, District Gunungkidul regency. More specific location was identified from interview with local villager. According to the interview Java sparrow habitat was situated in Gesik sub-village.



Figure 9 java sparrow flock was found spreading in opened area, at Gesik , Song Banyu Village

According to local villager around java sparrow site, There is already community awareness to prohibit people poaching java sparrow in this location. This makes Population in Song banyu has different fate with pulau gelatik which was already vanished due to poaching activity.

Observation was conducted at afternoon, 14.00-17.50. Some were spread perch on tree which grow among peanut plantation. We also observed two flock of java sparrow flying in the different direction. The total population in this location was estimated of between 30-40 individuals. Habitat of the location is opened area which has been cultivated for farmland. When this observation was conducted, the farmland have been planted by peanut, with grow side by side with sapling of sengon (*Paraserianthes falcataria*,) and some other plantation such as Banana, papaya, Casava and leresede (*Gleresidia sepium*).

OBJECTIVE 2. AWARENESS RAISING FOR LOCAL COMMUNITY REGARDING JAVA SPARROW CONSERVATION

A. Village Visit

At 18 December 2017 we have conducted awareness raising at Giriwungu Village where an active breeding and roosting site (song Gobar) occurred. this event was taken place in Pak RT house which attended by 25 persons (eight of them female). This also attended by chief of village of Pejaten, Basuki. Most of the audience is a farmer as this event was combined with sekolah lapangan (Field school which managed by *Balai Penyuluhan Pertanian, Perikanan dan Kehutanan* (BP3K) Agricultural, fishery and forestry counseling service from Agricultural ministry.



Figure 10. Situation of presentation and discussion with community at Giriwungu Village

The activity was comprising presentation and discussion. some issue about the java sparrow was outlined during presentation including its conservation issue, its endemic and rareness as well as its interaction with people especially farmer. At the end of the presentation we introduced some example of how to conserve bird from around the world especially birdwatching based ecotourism.

During discussion reveals that there some other roosting site location or feeding ground of java sparrow in Giriwungu village. This information come from

some farmer which reporting the sight to java sparrow in his field. And what is interesting is they doesn't think java sparrow as pest. It was also revealed that many other bird species like white eye, rufous-backed shrike, black-naped oriole, great tit, yellow-vented bulbul was disappearing from the village because of poaching activities. One of audience (farmer) who was attending concerned by this situation but he still hesitate to prohibit the poacher since he feel that the poacher need fresh money for his family. He then asking for the strategy to avoid poaching activities in this village as most poacher is come from other village. We propose there must be local agreement regulation.

At the end of this event we share Poster-Calendar with the audience. For Awareness raising purpose we also produced Poster which is combined with Calender. We think this poster would be more useful if combined with calendar, and would be kept up on the room wall at least for one year. About 500 pieces of Calendar have been printed, and would be distributed among stakeholder especially for community around java sparrow habitat in Gunungkidul Regency (Figure 8).

SCHOOL VISIT IN ELEMETARY SCHOOL OF SDN PEJATEN

Awareness raising also conducted at Elementary school of SDN Pejaten which is situated near *Padda oryzivora* roosting site at song Gobar cliff. We visited SDN Pejaten on Friday 20 January 2018 to introducing about wildlife around us. Taken time about an hour the activities was comprising introduction, drawing bird and other wildlife around us, game and discussion. This activities was attended by 35 student of 5 th and 6 th grade elementary school

In introduction we presented simply way to distinct wildlife with pet and livestock consist behavior, how they life, where they can be found and where they roost and nest. Then we ask student to mention wildlife which often sight around us and ask them to sketch in the paper work we have been share.

By sketching activities, we will see what species which is often encountered by student around their village. At this session we saw varied kind of wildlife at their paper work consist of butterfly, snake, porcupine, and bird, sparrow, oriole , sunbird. From this session we also found that they already know that java sparrow is occurred in song Gobar cliff.

At the game session some activities conducted at the outside and some else was conducted at the classroom. Theme of the game was about wildlife and its role in ecosystem, which consist of food chain, diversity understanding, and (knowledge about wildlife name game) “who am I”. Each game was followed by discussion to interpret the game meaning.

At the end of the activity, students wrote their message and their hope about nature and java sparrow conservation at paper (apple figured paper) to be hanged at the tree of hope. This craft was displayed at class wall. We also distributed calendar to student and teacher to take it home.



Figure 11 . The activities during school visit at Elementary school of SDN pejaten

OBJECTIVE 3. Initiate monitoring of java sparrow population in nesting and roosting site involving local people.

We conducted monitoring to four location of java sparrow habitat which have been identified. This activities was aimed to update population of java sparrow at those location. This monitoring have involved local villager and birdwatcher in Yogyakarta.

At Jothak cave

Monitoring in jothak cave was conducted two times at 30 March and 11-12 May 2018. During these activities we always overnight at Bapak wiyono house near the location. Fortunately he always available to join us to do observation in jothak cave. We found he also showing enthusiastic face when observing java sparrow population at jothak cave.



Figure 12 Bapak wiyono, his wife and student of Gadjah mada university

Observation:

At 30 March 2018 monitoring observation was conducted In the morning at 07.15 am-08.11 am. we observed three individual perching on the tree around the cave. We didn't know where the bird coming from but we know that the bird were not coming from cave hole.

At second monitoring , Observation conducted on two days 11-12 may. in first day observation conduted in the evening at 16 45 pm until dusk at 18:15 pm while in second day observation was continued in the morning at 5:30-08:06 am.

During observation in the first day we didn't observe java sparrow individual which coming to roost in or around the cave. While in the morning 12 May 2018 at least 12 individuals were observed in and around the cave. At 05.55 first individual of java sparrow observed flying and perch into the cave, some individual coming gradually. But some individual were observed in couples. One individuals was observed while bring the nest material to start to breeding season. This observation was shows different situation with our last visit (august 2017) which was no bird observed to roost in this area. The different condition between observation in august 2017, march 2018 and may 2018 presumably indicates that the java sparrow flog is shifted time by time depend on the season.

During this activity we got information from Pak Wiyono that the owner of jotak cave area which live in Jakarta, have just begun to construct this area for tourism. But it still unclear how is the tourism concept will applied unless its name will be change to be meteor cave something worrying is that likely it will be unsustain managed. Some area around cave have been cleared for track to make it easy to be accessed from main road. To avoid people approaching to close to the cave hole there is ring fence from bamboo. To carried out that he hired local villager by piece work job system including pak wiyono.



Figure 13 left, the situation of surrounding jothak cave which have been cleared , and notice board have installed to avoid people encouraging the cave hole entrance, right Pak Wiyono guided us to pass bamboo ring fence which surround the cave for our observation.

Based on this information, we advise Pak Wiyono to inform the owner about the existence of java sparrow population in jothak cave. We hope that the tourism will not disturb java sparrow population. Instead of disturb we hope that the tourism will be applied synergic with the java sparrow conservation. We give the example that the jothak cave with the

sustain java sparrow population could be managed as ecotourism. As we know java sparrow is being rare species it would be something attractive for tourism especially for birdwatcher.



Figure 14 Java sparrow at jothak cave was observed in couples

Song Gobar Cliff and gua Macan cliff)

We conducted monitoring in Song Gobar and song song macan on 11- 12 May 2018.

Observation at song gobar cliff was conducted in evening and afternoon while at gua macan cliff at morning on 12 May 2018. During this activity we overnight at head of village house meanwhile we invite him and others local villager to join our observation. Unfortunately no one available to join us due to there was another duty they must do at the same time, however they still have a time to do discussion.

The observation in in Song gobar at evening 11 May 2018, showed only 21 individuals, but bigger size of java sparrow flog could be observed during observation in the next day at Afternoon 12 May 2018 of 35-50 individuals. This indicates increasing population of java sparrow in this location comparing with the result of observation at August 2017 of 25-30 individual. During this observation we also observed at least 10 juvenile individuals which seemly have just hatched two month ago , we also notice four couples of java sparrow while perch on the holes.

Java sparrow population observation in gua macan cliff at morning on 12 May 2018 also showed different situation to the first observation at 24 August 2017 which was not encountering java sparrow. At least three individuals observed during this observation. At 6:15 am we heard java sparrow shouting from jati tree in front of gua macan cliff but we didn't saw the bird, finally at 06.30 am we can observe tree individuals of java sparrow perch on Jati tree *Tectona grandis*, but we didn't see any other individual until we finished observation at 08: 30 am. Due to this location close to Song gobar, it is possible that the both population is interconnected.



Figure 15 Juvenile individual in song gobar ,Java sparrow observation at song gobar with student of Gadjah mada university and UNY

DISSEMINATION INFORMATION THROUGH PRESENTATION AND DISCUSSION

To encourage research and field observation on java sparrow in order to conserve its population and the habitat at 28 may 2018 we conducted presentations and discussion which was taken place at seminar room of Faculty Of Biology , Gadjah Mada University. This activity was attended by 22 audience consist of student from Gadjah mada university, atmajaya university and also forest ranger of KSDA Yogyakarta. The main topic of this presentation was about sharing our survey research result which presented by Irfan Rosyadi. Meanwhile we also invited lecturer of two university to give lecture presentation. First person was Bambang Agus Suropto MSc from university of Gadjah mada University which was presenting about taxonomy and general bio-ecology of java sparrow. the second lecturer was Pramana Yuda PhD from Atma Jaya University which was sharing about his research about java sparrow including its population and genetic. Pramana Yuda is also known as president of IdOU Indonesia Ornithologist Union which had some experience of research about java sparrow including his dissertation.



Figure 16 Situation during presentation and discussion in seminar room Faculty Of Biology Gadjah Mada University

DISCUSSION

HABITAT

All of the roosting site we visit are spread from 0-275 m, which is confirms its roosting preference on the lowland area. Java sparrow prefer to nest in the hole at overhang wall with the high of more than 10 m, and the surrounding is tend to be opened area mostly farmland area. We think that it is possibly still any other un surveyed location with java sparrow population in study area.

SIZE OF POPULATION

According to our observation to five location we estimate the total population of java sparrow is between 83-123 individuals. Its consist of song gobar (35-50 individuals), jotak (12-20 individuals) , song banyu (30-40 individuals) paliyan nature reserve (3-10 individuals) and gua macan cliff (3 ind). Seeing gua macan cliff is possibly interconnected with song gobar cliff so we will assume it as one population. It is difficult to count size of population precisely in every location, since java sparrow was very mobile, as well as difficult to localize all individual position.

From the observation on song gobar we found that the population was showing different size from the first observation to the last observation. We still need to continue Population monitoring in order to understand the population dynamic as well as the trend.

Table2. java sparrow flock size during observation at five location which conducted on two different time

Location	Aug-Sep		March-May	
	min	max	min	max
Song Gobar cliff	22	30	35	50
Luweng Jothak cave	0	0	12	20
Song banyu farm area	no data	no data	30	40
Paliyan natural sanctuary	3	10	No data	no data
Gua macan Clif	0	0	3	3
Total	28	43	83	113

THE THREAT AND THE CHALLENGE

Poaching

The major threat is poaching using miss-net or harvesting the chick during breeding season. Some of poacher were local villager who live near site but some were from Bantul (Neighbor regency of Gunungkidul still in Yogyakarta Province). We also found Java sparrow were sold at birdmarket in yogyakarta PASTY and Prambanan bird market. Although some of them known were supplied from captive stock but from the interview the seller informs us that some java sparrow were originally catch from Gunungkidul.



Figure 17 Java sparrow at PASTY bird market Yogyakarta

Negative Stigma as pest

This species also considered to be pest whereas rice is dominantly planted during rainy season in gunungkidul. Although Gunungkidul is considered to be dry area which is water crisis usually occurred during dry season but rice still used to be planted once time a year during rainy season. More over, almost all java sparrow nesting site were found side by side with rice field.

Intensive development of tourism

On the last few year tourism bussiness in gunungkidul regency is growing rapidly along with the intensive development of tourism sector by the local government Gunungkidul. The number of tourists increased by 13,25 % from 2,6 million tourists in 2015 to 2,9 million in 2016 (Badan Pusat Statistik Kabupaten Gunungkidul 2017). That will go positive if managed through sustain ecotourism concept like for birding ecotourism. But will be give negative impact if it operated with unsustain management with mass tourism concept.

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Annex 1 Calendar Producing As Awareness Material



Annex 2. Budget Expense Progress

Table of budget which have been expensed during July 2017-June 2018

Items	SUM of Amount
Accommodation	230
Briefing and coordination	75
Fee facilitator	30
Fee local guide	85
Food	420
Reporting	35
Tools	120
tools rent	92
Transportation	412
Totals	1499