

# **Community-based ecotourism development as a response efforts in addressing the hunting and trading activities of endemic birds by communities in the center of the Central Maluku District Manusela National Park (A case study in the utilization zone of the Masihulan Village)**

**Yosevita Th. Latupapua, C.K. Pattinasarany and Febian F. Tetelay**

***Faculty of Agriculture, Department of Forestry, University of Pattimura, Maluku, Indonesia***

(Received 21 September, 2020; accepted 28 October, 2020)

## **ABSTRACT**

Ecotourism is a form of tourism management that prioritizes the process of community participation and empowerment. Manusela National Park is one of the ecotourist attraction centers in Central Maluku Regency, Maluku Province, and it has a distinctive as well as an endemic diversity of flora and fauna. Furthermore, it is supported by local communities with the opportunity of being a source of ecotourism attraction. Therefore, this study aims to examine ecotourism towards the activities of communities in buffer zones following the capturing and trading of endemic bird species. Data collection techniques were implemented by observing the habitat of endemic birds, and in-depth interviews were conducted to investigate the activities of catching and trading by the community. Descriptive qualitative and quantitative analytical methods were adopted in this study. Also, analysis of assistance to protect the development of socio-economic measures before and after community-based ecotourism in the Manusela National Park was conducted. The results showed that people increasingly understand the protection of endemic birds, which improves the well-being of communities in the area. The activities of this community have an impact on the capture and trading of endemic birds by increasing the interest of investments.

***Key words:*** CBE, Theft and trade in endemic bird species, Utilization zone, Manusela National Park

## **Introduction**

Different levels of conflicts have been regularly reported between the government and the local community regarding the implementation of the national park area in Indonesia (Simangunsong, 2010; Suramenggala, 2013; Hayati, *et al.*, 2013). These conflicts arise because of the limited rights to access the area or the perceptions of inequality between the

government and the community (Hidayat, 2011). Furthermore, low socio-economic factors, and the lack of socialization of the functions and benefits of establishing a conservation area lead to invasive activities of encroachment, hunting, animal trading, shifting cultivation, and resource exploitation. These activities accelerate the degradation of biodiversity and loss of sustainability of forest functions.

To overcome the phenomena that occur in people living in conservation areas, an alternative management system is needed, which accommodates the interests of the community and the function of establishing reserved centers as life support zones (Dirawan, 2006 in Latupapua, 2015). Ecotourism is an alternative natural resource management system that is able to meet these two principles. This is because it only utilizes environmental services provided by nature in the form of flora fauna, landscape, and social culture of the community to be developed instead of exploiting natural resources in the region. Furthermore, it is a form of management involving the sustainable use of forest ecosystems which is economically beneficial, environmentally friendly, technically applicable, and socially acceptable by the community (Wakyudi *et al.*, 2015). Ecotourism prioritizes the process of conservation and community empowerment directly with tourists (Fandeli and Mukhlison, 2000 and Wakyudi *et al.*, 2015).

Recently, ecotourism activities in conservation areas are becoming an interesting trend experienced by tourists that wish to enjoy different forms of tourism as usual (Satria, 2009; Haryono, 2010; Lucyanti, *et al.*, 2013). The interest in visiting conservation areas with the motivation of gaining additional knowledge and experience offers the opportunities to utilize existing trends as tourist destinations (Latupapua, 2015).

Meanwhile, some conservation areas contribute positively to the development of ecotourism, for example, Mount Ciremai National Park, where the number of visits has increased considerably over a five years (2007-2011) period from 8,478 to 331,258 tourists (Lucyanti, *et al.*, 2013). Also, Bukit Tigapuluh National Park based on observations from 2006-2010 was increased from 1016 to 2233 visitors (Haryono, 2010). Similarly, West Bali National Park since 2010-2013, has increased its annual visits by more than 30 thousand tourists (Suramenggala, 2013). This data shows the possibility of an ongoing shift since ecotourism is predicted to be a very prospective tourism market (Nugroho, 2011 in Latupapua, 2015).

Manusela National Park (MNP) is one of 2 Natural Conservation Areas in Maluku which is located on Seram Island, North Seram District, Central Maluku Regency. The determination of the Manusela National Park (MNP) as a Conservation Area followed the Decree of the Minister of Agricul-

ture No. 736 / Mentan / X / 1982 dated October 14, 1982, with an area of 174,545.59 Ha (Renstra Balai MNP 2010-2014). Astronomically, MNP is located between 129°9'3"-129°46'14" EL and 2°48'24"-3°18'24"SL, and biogeographically located in the Wallace Region. Therefore, the flora and fauna of the Manusela National Park belong to the Wallace biogeographical unit since it contains elements of the Oriental and the Australasian Region (Tuhumury, 2008). This condition causes the National Park to have a very important collection of endemic flora and fauna on the ground that it is developed as an ecotourism destination (Latupapua, 2015).

The potential attractiveness of flora and fauna, especially bird species, in MNP provides the opportunity to develop an excellent attraction as a point of interest in the development of birdwatching ecotourism. The diversity of bird species following the data obtained from the 2014 MNP Strategic Plan is 196 species, 124 are settlement types, 72 are migrant, 17 are endemic to Seram Island, and 41 are protected by PP No.7 of 1999 (RENSTRA MNP, 2010- 2014). The endemic bird species of Seram Island that have important values as birdwatching objects include the Mollucan King parrot (*Alisterus amboinensis*), the Salmon-crested cockatoo (*Cacatua moluccensis*), Red lory (*Eos bornea*), the blue eared lory (*Eos semilarvata*), the purple nape of the neck (*Lorius domicella*), and Elegant Imperial-Pigeon (*Ducula concinna*) (Latupapua, 2015;).

The high potential of endemic birds in the MNP area allows the area manager to develop birdwatching objects for enthusiasts to observe and study their behavior (Asrianny *et al.*, 2018). Birdwatching activities are natural excursions with an emphasis on human appreciation for the beauty of birds that live freely in their habitat (in-situ), both in the independence of their voices, the beauty of their feathers and colors, as well as their unique behavior, including the rarity and specificity of species with ecological value and culture (Muhammad, 2012). In addition, it has a very good prospect (Susmiati, 2016), and in the research of Welforda, (2013), this activity has been reported to have grown on a global scale, where it has become a multi-million dollar business in the United States and has spread to tropical countries, including Indonesia.

Community-based ecotourism patterns are part of development, which supports the full participation of local communities in the planning, imple-

mentation, and management of businesses as well as all the benefits concerned (Budi and Lestari, 2016). Furthermore, community-based ecotourism in the resort district of Masihulan offers the opportunity to become actively involved as a property manager, especially with bird watching objects. This is because people that know and are familiar with nature as well as all its potential are from the community. The application of community-based ecotourism patterns is one of the conservation learning techniques for all parties since it plays a role in preserving the diversity of bird species as well as the surrounding ecosystem (Sukara *et al.*, 2014; Asrianny *et al.*, 2018). Also, through community-based ecotourism management / CBE, bird preservation and community empowerment are improved and realized respectively. This study aims to analyze the pattern of empowerment through community-based ecotourism (CBE) in addressing hunting activities and endemic bird trade in the Masihulan Village of the Manusela National Park Utilization Zone (MNP).

## Research Methods

The research was conducted in the village of Masihulan, which is included in the National Park Management Section (SPTN) of Region I Wahai Resort Masihulan, North Seram as well as Central Maluku district. The determination of the study location was based on purposive sampling since it is a birdwatching observation area that was developed by Balai MNP with the community. A qualitative research method was intensively conducted, where the area managers participated in the field by conducting a reflective analysis of the various documents and reports obtained. Therefore, this study aims to describe, record, and analyze the community-based ecotourism conducted by Balai MNP with the village of Masihulan.

Several data collection techniques such as Literature Studies, observations, in-depth interviews (in-depth interviews), and documentation were used. Furthermore, with regards to qualitative research, the term social situation, which is made up of places, actors, and activities was used in this study. Samples as data sources or as informants need to meet the following criteria:

1. Those that master or understand something through the process of enculturation, so that something is not just known, but also lived.
2. Those classified as still being involved in the examined activities.
3. Those with sufficient time to be asked for information.
4. Those that are not inclined to submit information on their own "packaging".
5. Those that were initially classified as "quite foreign" since it is more exciting to be a teacher or resource person.

The social situation acting as the subject of this study is the implementation of community-based ecotourism (CBE) through the management and development of birdwatching in the MNP utilization zone. Furthermore, the informants were the Head of Region III Manager of the Masihulan Resort; Group Leader of the Masihulan Village Endemic Bird Hunting and trade; Head of Section I of Regional Management; Head of the local Guide Group Masihulan Village, lodging owners, and tourists.

## Results and Discussion

### Potential Attractiveness of Endemic Birds in MNP Utilization Zone

The results showed that there are 17 endemic bird species which are potential objects in birdwatching observations in the MNP Utilization Zone. These species are presented in Table 1 below:

Based on the data in Table 1, it can be explained that the endemic bird species found in the MNP Masihulan Resort Utilization Zone area, included up to 17 species and 9 families as the subject of top attraction. The predominant species are from the family Psittacidae (species of parrots/lories, cockatoos birds), namely the Mollucan King parrot (*Alisterus amboinensis*), Salmon-crested cockatoo (*Cacatua moluccensis*), Red lory (*Eos bornea*), Blue eared lory (*Eos semilarvata*), and Purple-naped lory (*Lorius domicella*).

Based on the regulations of PP No.7 / 1999, seven of the 17 endemic species (47%) were protected. On the contrary, the IUCN list (2013) reported 1, 14, and 2 types of bird species in the Endangered (EN; Genting or Threatened), Vulnerable (Vu: Vulnerable), and in the Data Deficient (DD: lack of data) categories (data presented in figure 1) respectively.

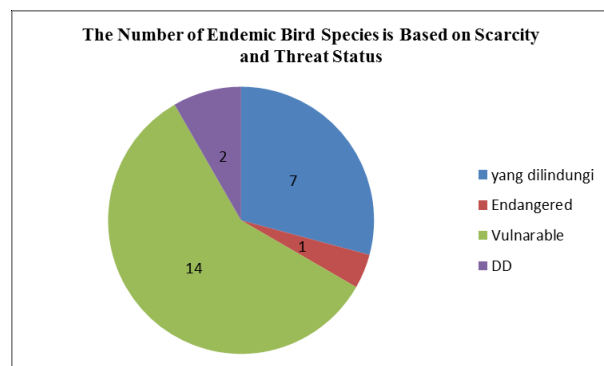
### The Attraction of Birds Based on Uniqueness and Scarcity

The results of bird attractiveness assessment by 30

**Table 1.** Endemic Bird Species at Utilization Zone, Masihulan Resort

No	Bird Species Name	English Name	Family
1.	Nuri raja Ambon ( <i>Alisterus amboinensis</i> ) <sup>End.S-Vu</sup>	Moluccan king-parrot	Psittacidae
2	Cikukuaseram ( <i>Philemon subcorniculatus</i> ) <sup>End.S-Vu</sup>	Seram friarbird	Meliphagidae
3	Kakatua Maluku ( <i>Cacatua moluccensis</i> ) <sup>End.S-En</sup>	Salmon-crestedcockatoo	Psittacidae
4.	Nurimaluku ( <i>Eos bornea</i> ) <sup>End.M-Vu</sup>	Red lory	Psittacidae
5	Nuritingabiru ( <i>Eos semilarvata</i> ) <sup>End.S-Vu</sup>	Blue eared lory	Psittacidae
6	Isapmaduseram ( <i>Lichmera monticola</i> ) <sup>End.S-DD</sup>	Seram honeyeater	Meliphagidae
7	Kipasan Seram ( <i>Rhipiduradedemi</i> ) <sup>End.S-Vu</sup>	Streak-breasted fantail	Columbidae
8	Kasturitengkukungu ( <i>Loriusdomicella</i> ) <sup>End.S-Vu</sup>	Purple-naped lory	Psittacidae
9	Kepudang Seram ( <i>Oriolusforsteni</i> ) <sup>End.S-Vu</sup>	Seram oriole	Campephagidae
10	Sikatanrimba dada loreng ( <i>Rhinomyasaddita</i> ) <sup>End.S-Vu</sup>	Streak-breasted Rhinomyas	Muscicapinae
11	Pergam tarut ( <i>Ducula concinna</i> ) <sup>End.S-Vu</sup>	Elegant Imperial-Pigeon	Columbidae
12	Cekakak lazuli ( <i>Halcyon lazuli</i> ) <sup>End.S.B.A-Vu</sup>	Lazuli kingfisher	Alcedinidae
13	Raja perlingseram ( <i>Basilorniscorythaix</i> ) <sup>End.S-Vu</sup>	Long-crested myna	Sturnidae
14	Myzomela seram ( <i>Myzomela blasii</i> ) <sup>End.S.B.A-DD</sup>	Seram myzomela	Zosteropidae
15	Srigunting seram ( <i>Dicrurus densus</i> ) <sup>End.S-Vu</sup>	Wallacean drongo	Dicruridae
16	Merpati Gunung Madastalker ( <i>Gymnophapsmada</i> ) <sup>End.S.B-Vu</sup>	Long-tailed mountain pigeon	Dicruridae
17	Kepudang sungu maluku ( <i>coracina atripeps</i> ) <sup>End.M-Vu</sup>	Mollucan Cuckooshrike	Campephagidae

Source: (Data Primer (2014). Ket: End. S=Endemik Seram; B=Endemik Buru; S.A.H=Seram, Ambon, Maluku; Vu=Vulnerable.



**Fig. 1.** Composition of Endemic Bird Species in the TNM Use Zone With scarcity and threat status.

respondents followed the level of uniqueness and scarcity by using the distribution parameters. In addition, these parameters were located in the avifauna region, where the endemicity and global distribution, protection in Indonesian state legislation (PP No.7/1999), the status of threat in IUCN, and trade international CITES produce a bird attraction value, which is observed by scoring between 12.34-27.00. The results of the analysis further showed that the endemic bird species fall into a very interesting category (data presented in Table 2).

Based on the score of uniqueness and rarity, endemic bird species are protected according to PP No.7 / 1999 on Preservation of Flora and Fauna Types. There are about 7 species, namely Salmon-

crestedcockatoo (*Cacatua moluccensis*), Purple naped lory, Lazuli Kingfisher, Seram friarbird (*Philemon subcorniculatus*), Moluccan king-parrot (*Alisterus amboinensis*), Elegant Imperial-Pigeon (*Ducula concinna*), Seram honeyeater (*Lichmera monticola*), and Seram myzomela (*Myzomela blasii*). From these species, 5 were categorized as very interesting, while the remaining 2 were categorized as interesting. The protected species are based on CITES International trade, which is included in appendix I category, 1 species is *Cacatua moluccensis* / maluku parrot, while 16 other endemic birds were included in appendix II. (Latupapua, 2015). The above data showed that all endemic bird species in the MNP Masihulan Resort utilization zone have birdwatching opportunities since they are protected. The same opinion was expressed in the study conducted by Lakiu *et al.* (2016), where it was reported that birdwatching ecotourism objects are endemic, migratory, and protected bird species.

**Table 2.** Scoring Evaluation of Bird Attraction based on Uniqueness and Scarcity

No	Score Interval	Category	Number of Bird Species
1	5,00-12,33	Less Interesting	0
2	12,34-19,67	Interesting	0
3	19,68-27,00	Very Interesting	17

Source: Processed from Primary Data (2014).



### The Morphological Beauty of Endemic Birds as Objects of Ecotourism Attraction

Following the results of the recapitulation of interview data with a total of 30 tourist respondents at the study area, the assessment of the endemic attraction of birds based on the morphological beauty led to their attractiveness observed with an interesting and very interesting score of 3% and 97% respectively. About 29 (97%) respondents provided very interesting ratings to endemic species with striking color variations on the body and shapes. On the contrary, only (3%) or 1 respondent provided an attractive rating for all endemic bird species in the study location. Furthermore, the respondents' assessment data on observed bird attraction following their morphological beauty (beauty in color and shape) is shown in Table 3 below.

**Table 3.** Assessment of Bird Attraction Based on Morphological Beauty

Category	Percent %
Less Interesting	3
Interesting	0
Very Interesting	97

Source: Processed from Primary Data (2014)

Hunting Patterns and Endemic Birds Trading Activities by the Communities of the Stillulan Village Before the Development of Ecotourism (1987-2003).

The Masihulan village community is a typology of dwellers that fully depend on the forest. The life of this community began during the time of the ancestors of the Seram people. Living together around the forest with a familiar pattern of behavior in nature is very clearly seen in the daily life of the Masihulan community. Utilization of wood and animal forest products in meeting their needs becomes a daily routine. However, since 1982, with the designation of Manusela National Park (MNP) as a nature reserve, the community has received information restricting them from having access to the forest. This is particularly linked to the use of natural resources that are part of the area managed by the Manusela National Park (MNP).

Changes in the status of this area do not necessarily become a rule that should be directly conducted by the Masihulan community. Due to the unfavorable socio-economic conditions and the lack of jobs, this has a direct impact on the activities conducted

for years. Besides the utilization of wood and medicinal plants from the Manusela National Park area, the Masihulan community also hunt and trade endemic animals as part of their daily activities.

Based on interviews with four resource persons, it was reported that the community conduct hunting activities in order to meet their daily family needs. The birds that have become the target of hunting and trading since 1987-2003 are species with high market values. Some of these endemic birds include Salmon-crestedcockatoo, Moluccan king-parrot, Blue eared lory, and Elegant imperial-pigeon. These four species become idols for buyers at the time since they are the focus of hunting by the community.

Hunting activities conducted in the forest destroy the national park management area. The species of Salmon-crestedcockatoo that are captured on a weekly basis is around 20-50 individuals, and each of them is sold at Rp.25,000. For the species of the Moluccan king-parrot, about 15 birds are captured every week with a selling price of Rp.15,000 / tail. Furthermore, for Elegant Imperial-Pigeon, about 12-25 tails are captured weekly with a price of Rp.15,000. About 100-200 Blue eared lory are captured weekly and are sold at a selling price of Rp. 8.000 / tail. Usually, there are 4 groups of endemic birds hunted in the village of Masihulan. Considering the potential of bird resources in the national park area, hunting becomes a permanent job since it contributes to their source of living.

### The pattern of Community-Based Ecotourism Development in Masihulan Village (2003-present)

After months of being in the forest in an effort to hunt many species of birds, there seems to be a willingness in the Masihulan community to preserve the biodiversity that is part of life in their environment. This was conducted through a process that began in 2003, with the establishment of the Animal Rehabilitation Center (PRS). The initial step in the formation of the PRS was the induction of bird observers from Australia and the Travel Agent Manager (Mr. Ceasar Riupassa). The motivation for the establishment of this Animal Rehabilitation Facility is to support bird conservation, especially for endemic and endangered / protected species on the island of Seram. In addition, this PRS was set up to be a rehabilitation center for avian birds obtained by Balai TNM or BKSDA Central Maluku from products confiscated from the community.

Hunters and sellers of birds gradually changed their behavior of hunting since they were recruited as workers in the Animal Rehabilitation Center (PRS) of the Masihulan Village. Furthermore, this activity initiated the community-based ecotourism management which was formed by Mr. Ceasar Riupassa. The socialization process and the introduction of birdwatching tourism became the initial lessons in shaping the people's understanding and knowledge of forest resource conservation. The community-based ecotourism management model in the village of Masihulan begins with the formation of a local guide and a porter tourism group. The local guide group has the task and functions as a planner in determining the location and times of bird behavior monitoring. In contrast, the porter group is responsible for setting up observation facilities such as tree houses, tracking paths, and accommodation facilities in the forest. This birdwatching ecotourism activity began to develop since there were 3 groups of bird observers from America in 1995. Primarily, the bird observers conducted studies on *Cacatua molucensis*, and several other endemic bird species. Thereafter, the bird catching action was gradually reduced and the involvement in the management of ecotourism was increasingly enhanced.

#### **The form of community involvement in the village of Masihulan**

The concept of community-based ecotourism which is practiced in the Masihulan community can be explained by the theory of WWF (2009). According to WWF Indonesia (2009), community-based ecotourism is an effort to manage objects of attraction that focuses on active participation. This is based on the fact that the community has knowledge about nature and culture that are potential attractions for tourists (Hijriati and Mardiana, 2014). Furthermore, community-based ecotourism patterns consist of planning, monitoring, and evaluation. The participation in the management of bird watching products for the attractiveness of ecotourism can be seen from the planning phase to managing the diversity and monitoring the evaluation of activities.

#### **Planning Phase**

The implementation of the management of birdwatching in Masihulan Village is the first step in realizing collaborative management, between the

MNP hall and the community as well as NGOs through the development of ecotourism attractions. The empowerment process begins by providing opportunities in joint decision-making to determine the location of endemic/protected birds as an object of pre-eminent attraction in observing birdwatching ecotourism. Meanwhile, the involvement of the community as an important actor was recognized by the MNP Office since they knew more about endemic bird species and their populations, distribution, and behavior as well as their habitat. Therefore, the MNP hall was used as the spot for developing birdwatching observation. The house was constructed with the help of the community and the selected trees used for this construction were of the tallest species in the area. For house facilities in the village of Masihulan were built on a 50 m high *Intsia bijuga* tree.

#### **Implementation Phase**

Managing a tourist attraction in a national park area is part of a nature protection strategy. Therefore, the management to be applied needs to be in line with the objectives of managing a conservation area. Hijriati and Mardiana (2014), suggested that community-based ecotourism patterns recognize the right to manage tourism activities in their customary areas. Managers of the Masihulan Community try to arrange birdwatching spots in accordance with established rules. Furthermore, the number of visits is adapted to the limits of the area's occupational power, and visitors' activities are strived not to disturb/damage the habitat of the animals.

The effects of the management phase conducted were observed during the study. The road leading to the birdwatching spot was kept in a good condition devoid of organic waste. Furthermore, interpretation boards were laid along the road for visitors about endemic bird species. Generally, the information provided is related to the shape, name, ecological conditions (growth requirements, and habitat conditions), distribution area, and morphology of the birds. Also, the management of the Masihulan community established an observation spot for non-endemic species of animals with unique shapes and colors that are of interest to tourists. Spot bird watching in the Resort still focused on 2 locations, namely Masihulan and Illie. Both of these locations are habitats that are very suitable for birdwatching development because they are supported by the high diversity and population of species in the area.

Data related to the distribution of endemic bird species in the area of the Masihulan Utilization zone is presented in Figure 2 below.

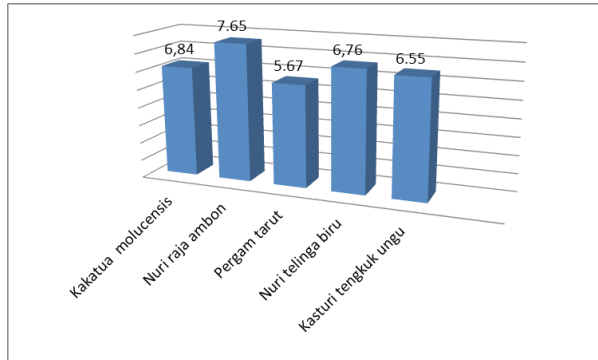


Fig. 2. Distribution of endemic species in the Masihulan Utilization Zone

The data presented in Figure 3 explains that the Moluccan king-parrot has the highest percentage of distribution at 7.65%, followed by Salmon-crestedcockatoo species at 6.84%, blue eared lory at 6.76%, purple naped lory at 6.55%, and Elegant Imperial-Pigeon at 5.67%.

The type and distribution are strongly influenced by the needs of a bird species in the tree strata. For endemic species of Salmon-crestedcockatoo, Moluccan king-parrot, and Elegant imperial-pigeon, a distribution of only one strata (strata B) is required. The selection is only for one strata because it is assumed that the requirements have been fulfilled (Norwens, 2017). In addition, the distribution of birds in the strata is influenced by the needs of feed and shelter (Nur *et al.*, 2013)

Table 4 showed that the birds with a high level of abundance are the endemic species of Moluccan king-parrot. It has the highest average encounters of 12 individuals/day, then followed by Elegant Imperial-pigeon (10 individuals/day). The Salmon-crestedcockatoo, blue eared lory and purple naped lory have (8 individuals/day) each (Persulesy, 2018).

Table 4. Encounter the Number of Endemic Bird Animals Per Day in the Masihulan Area

No	Name of Bird Species	English Name	“Encounter Average
1.	NuriRajaAmbon ( <i>Alisterus amboinensis</i> ) <sup>End.S-Vu</sup>	Moluccan king-parrot	12
2	Kakatua Maluku ( <i>Cacatua moluccensis</i> ) <sup>End.S -En</sup>	Salmon-crestedcockatoo	8
3	Nuritelingabiru ( <i>Eos semilarvata</i> ) <sup>End.S-Vu</sup>	Blue eared lory	8
4	Kasturitengkokungu ( <i>Loriusdo micella</i> ) <sup>End.S-Vu</sup>	Purple-napedlory	8
5	Pergamtartut ( <i>Ducula concinna</i> ) <sup>End.S-Vu</sup>	Elegant Imperial-Pigeon	10

Source: Primary data (2017)

### The monitoring and evaluation phase

The money phase needs to be examined comprehensively in the planning and implementation aspects. This is because it evaluates the current circumstances in order to pursue future strategies, which support the management of a more optimal variety. In this phase, the implementation of monitoring and evaluation is conducted in an integrated manner between the MNP, Polhut, and the community. Furthermore, monitoring is conducted to evaluate the phases concerned with the implementation of community-based ecotourism at the Resort Masihulan. This was achieved through the development of birdwatching attraction objects while following the plan of action agreed at the planning phase.

The results obtained from the office MNP staff, such as the head of the SPTN I Resort Masihulan showed that there have been processes of change, which lead to empowerment in managing community-based ecotourism. However, improvements should be made toward optimal and integrated management. At this point, it is also necessary to have a strategy in place to strengthen the empowerment of the Masihulan community. The empowerment process, which is more community-centered, should provide opportunities or better access to production in addition, it should strengthen the position of transactions and economic business partnerships. The empowerment program should directly involve the Masihulan community to be effective since it is based on their wishes, abilities, and needs.

### Impact of Community-Based Ecotourism in Masihulan Village

The process of involving the Masihulan community in ecotourism management has a direct positive impact on the ecological, socio-cultural, and economic conditions of the region (Prihanta *et al.*, 2017). From an ecological perspective, changes in community behavior provide opportunities for endemic bird

species to live freely and thrive in their habitat. This is supported by the study of Persulesy (2018), which explains that the abundance of bird species in a quiet location has a wealth index value (R) of 7,96515-11,212 which is above the high criteria of  $R > 4$ . It means the level of bird species abundance in the studied location is still very high.

The impact of community-based ecotourism from the socio-economic aspect is seen through the increasingly open-access of the community of Masihulan to the outside world. Therefore, it provides a change of attitude in socializing, speaking, understanding of mindset, and the emergence of self-confidence since their village has a value of attraction for tourists. In addition, there is an economic flow that is directly obtained when the community prepares various needs for tourists during birdwatching activities. The more tourists visit the area, the more businesses and jobs the community can do. This economic impact is a determining factor that influences the behavior of the community regarding the protection of endemic animals (Widyasari, 2013). Furthermore, the research results of Fildzah *et al.* (2016) reported that the development of community ecotourism creates new jobs and enables the preservation of nature and culture.

## Conclusion

The position of the Manusela National Park (MNP) within the Wallacea unit qualifies the park as an area rich in biodiversity, especially bird species. Furthermore, ecotourism management through the development of birdwatching objects places the indigenes of the Masihulan community as object managers. Activities such as birdwatching ecotourism have a positive impact on the community. This results in behavioral changes through an increased public understanding of conserving endemic bird biodiversity, improving the welfare that affects their capture and trade behavior, as well as changes in the level of ecotourism attractions. Also, community management improves the development of birdwatching objects, which affect the activities of capturing and trading endemic birds in the Manusela National Park (MNP).

## References

- Ahmad and Mukaddas, J. 2017. Analysis of the potential for ecotourism development in the Aopa Watumohai Swamp National Park, South Konawe Regency, Southeast Sulawesi Province. *Buletin Sosek*. 35 : 25-35.
- Asrianny., Saputra, H. and Achmad, A. 2018. Identification of Bird Species Diversity and Distribution for the development of birdwatching ecotourism in Bantimurung Bulusaraung National Park. *Perennial*. 14: 17-23.
- Budi, S.K.M. and Lestari, E.N.P. 2016. Masterplan acceleration and expansion of Indonesia's economic development 2011-2025. Final report of the national priority research at Udayana University. Denpasar. 2016 (not published).
- Dirawan, D.G. 2006. Strategi ecotourism development in Mampie Lampoko Wildlife Sanctuary. IPB Graduate School *Dissertation*.
- Fandeli, C. 2002. Fundamentals of Nature Tourism Management. Liberty Yogyakarta.
- Fandeli and Mukhlison 2000. Ecotourism Business is published in collaboration with the UGM Faculty of Cooperation. Pustaka Pelajar, Natural Resources Conservation Unit of the Special Region of. Yogyakarta.
- Fildzah A"nun N., Krisnani, H. and Darwis, S.R. 2016. Development of tourism villages through the concept of community based tourism. *Prosiding KS and PKM*. 2 : 301-444.
- Haryono, M. 2010. Integrated park management development model case study of ecotourism based management in Bukit Tiga Puluh National Park, Riau and Jambi Provinces. *Dissertation*. Postgraduate School, Bogor Agricultural University. IPB.
- Hayati, N. 2016. Community based tourism in the Village of Tompobulu, Bantimurung National Park. Bulusaraung. *Info Teknik*. 11 : 45-52.
- Hayati and Rahma, 2010. Physical threshold model in capacity planning for conservation-oriented tourism Areas in the Gedong Songo Temple Complex, Semarang Regency. *Geografi*. 7: 57-56.
- Hidayat, H. 2011. Ecology politics: management of the OTDA Era National Parks. Indonesian Torch Library Foundation. Jakarta.
- Hijriati, E. and Mardiana, R. 2014. The influence of community-based ecotourism on changes ecological, social and economic conditions in Batusuhunan Village, Sukabumi *Sosiologi Pedesaan*. 2 : 146-159.
- Lakui, D., M., Langi, A.M. and Pollo, N.H. 2016. Avifauna potential for birdwatching ecotourism development in the Bahoi Ecotourism Village. *Biologika*. 7:1-12:
- Latupapua, Y.Th. 2015. Study of biodiversity and local culture as an attraction of ecotourism in Manusela National Park, Central Maluku Regency. *Dissertation*. Forestry Faculty Postgraduate Program. Gadjah Mada University. Yogyakarta.
- Lucyanty, S. Boedy, H. and Munafatul, I. 2013. Assessment of the carrying capacity of tourism in the attractions



- of the Mount Palutungan National Park Gunung Ceremai National Park. West Java province. *Ekosains*. 4 : 33-46.
- Muhammad, F. 2012. Model ecotourism of mangrove forest areas based on physical carrying capacity and ecological resilience. *Dissertation*. IPB Postgraduate School, Bogor
- Nugroho, I. 2011. Ecotourism and sustainable development. Prints I. Student Library.
- Nur, F.R., Novarino, W. and Nurdin, J. 2013. The abundance and distribution patterns of hornbills in the area of PT Kencana Sawit Indonesia (KSI) South Solok, Sumatra. *Biologika*. 2: 27-33.
- Norwens, Y. 2017. The use of head Strata by birds in Wae Illie Forest in the Manusela National Park Area. *Essay*. Department of Forestry, Faculty of Agriculture. Unpatti.
- Persulesy, E.Y. 2018. Ecotourism development using the biodiversity hot-spot approach and the habitat corridor using habitats as indicators. *Thesis*. Forest Management Study Program. Post-Graduate Unpatti-Ambon.
- Prihanta, W., Syarifuddin, A. and Zainuri, M. A. 2017. Formation of economic zones through community-based ecotourism. *Dedikasi*. 14 : 73-84.
- Rahardjo, B. 2005. Community based ecotourism and natural resource management. publisher Pustaka Latin. Bogor
- Satria, D. 2009. Strategies for ecotourism development based on local economy in the context of poverty alleviation program. *Indonesian Applied Economics*. 3: 37-47.
- Simangunsong, M. 2010. Manage conflicts in the arge islands and lower lakes Wildlife Reserve Conservation Areas in Siak Regency, Riau Province. Forestry Faculty *Thesis*. Gadjah Mada University. Yogyakarta.
- Sukara, M.G., Mulyani, A.Y. and Muntasib, H.S.K. 2014. Potential for bird watching development at the Bogor Botanical Garden Conservation Center. *Botanical Gardens Bulletin*. 17: 45-54.
- Suramenggala, I. 2013. Development of management design for the conservative area using systems analysis in West Bali National Park. *Dissertation*. Forestry Science Study Program. Graduate School of Gadjah Mada University, Yogyakarta.
- Tuhumury, A. 2008. Effect of vegetation structure and composition on bird diversity in Manusela National Park. *Essay*. Faculty of Agriculture, Unpatti Ambon.
- Utami, R A. 2016. Attraction of tourist destinations and quality of service in increasing loyalty of domestic tourists in the Thousand Islands, Jakarta. *Thesis*. Padjajaran University.
- Wakyudi., Hadi, S. and Rusdiana, O. 2015. Analysis of the potential of ecotourism landscape in the buffer area of Ujung Kulon National Park, Banten Province. *Globe Scientific Magazine*. 17: 135-144.
- Welforda, M. and Barilla, A. 2013. Is Neotropical conservation sold sort: diminishing returns for birding suggest ecolodges could encourage longer stays. *Nature Conservation*. 2 : 401-405.
- Widyasari, K., Hakim, L. and Yanuwiadi, B. 2013. Study of the types of birds in Ngadas Village as a basis for planning a bird's pathway (Birdwatching). *Indonesian Tourism and Development Studies*. 3: 108-129.
- WWF Indonesian. 2009. Guidelines for community based ecotourism development. *Bulletin*. Department of Culture and Tourism and WWF Indonesia. Jakarta.
-