Available online at: https://journal.poltekpar-nhi.ac.id/index.php/ijscot
International Journal of Sustainable Competitiveness in Tourism
Volume 4 Number 2, 2025:150-158
DOI: 10.34013/ijscot.v4i02.1902

Blekok Bird and City Development

Mila Mardotillah[1], Adi Junjunan Mustafa[2], Anwari Masatip[3], Rini Soemarwoto[4], Lablu Barua[5]

Sekolah Tinggi Ilmu Kesehatan Dharma Husada Bandung[1], Dinas Kebudayaan dan Pariwisata Kota Bandung[2], Politeknik Pariwisata NHI Bandung[3], Universitas Padjadjaran[4], Mahachulalangkornrajavidyalaya University[5]
Email: analisapemasaran.disbudpar@gmail.com

Abstract

Blekok Sawah with the Latin name Ardeola speciosa is one type of bird from Ardeidae family. In the rice fields of Blekok Sawah, it is useful as a controller for insect pests and for seasonal change instructions by farmers. One of the extensive rice fields is in Ranca Bayawak village Bandung City. In 1975 Blekok flocks came looking for food in the rice fields until now. Besides Blekok birds, there are also birds namely egrets (*Bubulcus ibis*) with black and white beaks. Bamboo and selong trees are the resting places for the birds. On the tree, these animals live side by side to make many cages for laying eggs. The birds' habitat are maintained based on the Regional Regulation of Bandung City No. 11 of 2005 concerning forbidden to damage the place of residence and kill or trade the two species of birds because it could face a fine of Rp.5 million plus other administrative sanctions. The rapid development of the city of Bandung in the last five years has caused a lot of land conversion and slowly affected the existence of Blekok in Ranca Bayawak Village. Residents are increasingly difficult to find the noise of birds in the afternoon replaced by the hustle and bustle of city development. This research uses qualitative descriptive research method to explore how the existence of blekok birds along with the development in the last 5 years. By knowing the existence of Blekok birds in the last five years, we can assess whether the adaptation of Blekok Bird to the environmental changes that occur in their habitat.

Keywords: Blekok bird, city development, human, land conversion, pollutan

A. INTRODUCTION

The development program goes in hand with human growth and development. Development is carried out to fill human needs and achieve prosperity. Development has the meaning of a planned sociocultural change (Marzali, 2005). The implementation of development that prioritizes the economic sector creates an imbalance with the maintenance of the environment and socio-culture as mandated by sustainable development. Inequality in development policies causes damage to the environment and natural resources. Natural and environmental resources are exploited by not paying attention to social impacts, so there is an increase in environmental damage (Abdoellah, 2016).

Bandung is the capital of West Java Province with the highest urban population in West Java, which is 2,528,160 people, with 0,91 % population growth every year (Central Java Provincial Statistics Agency, 2025). The development of Bandung as the capital city of West Java Province has made Indonesia's new culture an urban culture in general (van Klinken & Berenschot, 2014: 17). Bandung has 83,75-point Human Developent Index in 2024, that mean the standard of living, education, health and economy has improved. City development is one of the supporters of urban culture that aims to improve the welfare of the city

* Mila Mardotillah
Received: September 22, 2025; Revised: October 28, 2025; Accepted: November 11, 2025

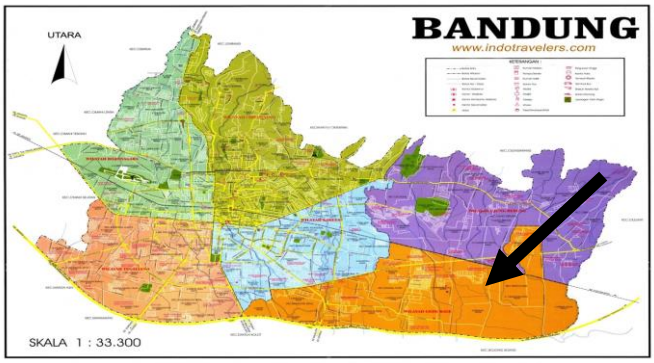


Figure.1. Map of Bandung

Bandung at figure 1 above Municipality is in region of Jawa Barat Province and constitutes Capital of Jawa Barat Province. Astronomically, it is located between 107036' east longitudes and 6 055' south latitudes. Based on its geographical position, Bandung Municipality has the following boundaries: North is bordered by Bandung Regency and Bandung Barat Regency; South is bordered by Bandung Regency; West is bordered by Cimahi Municipality; East is bordered by Bandung Regency.

Bandung is located at an altitude of 700 meters above sea level (asl). The highest point in Ledeng, Cidadap Subdistrict with a height of 892 meters above sea level and the lowest in Rancanumpang District, Gedebage District with of altitude 666 meters above sea level. The total area of Bandung Municipality is 167,31 km2. It is divided into 30 districts covering 151 subdistrics. Gedebage District is the widest district with 9,58 km2 area. Astananyar is the district with the smallest area, that is, 2,89 km2 (at figure 1 above).

B. RESEARCH METHOD

This study aims to explore information about the description of the existence of blekok birds in the East Bandung Region, especially in Kampung Rancabayawak, related to the development of Bandung Technopolis region using a qualitative descriptive approach. This research provides a comprehensive, straightforward and factual description of a phenomenon at Rancabayawak.

Qualitative research methods are techniques used to understand human behavior, experiences, and motivations through methods like in-depth interviews with Mr. Ujang Syafaat, head of Gedebage tourism village and observation the situation around Kampung Rancabayawak to approach is used to explore and understand the meaning, process and social problems as well as the investigation process to analyze social phenomena by comparing, replicating, categorizing, clarifying, presenting, and carrying out verification of data with the aim of finding the general nature of the social world being studied. (Miles and Huberman, 1992; Creswell, 2014).

C. RESULTS AND ANALYSIS

The development of Bandung City as the City of Technopolis at figure 2 below is inseparable from the various consequences of development in all fields. One of the developments is an improvement of residential and office areas which is integrated into the East Bandung Region. Urban development has an impact on the decrease in the area of Bandung's rice fields from 1,354 ha in 2011 to 702 ha or 4% of the total area. Rice productivity reaches 8.2 tons per hectare in 2024.



Figure 2. Position of Rancabayawak Village
(Source: BBKSDA)

Rice fields in Bandung city which have the largest area are in the District of Gedebage in East Bandung, which is 175 Ha also the largest for padi harverst (Central Bureau of Statistics, 2024). Kampung Rancabayawak is part of Gedebage to protect flocks of birds and place of many birds including Blekok (at figure 2 above).

A distinctive feature of rice fields is the development of various plant and animal habitats that are symbiotic with mutualism. One of the habitats of birds that live in rice fields in the East Bandung area is the blekok, which live around 2,700-3,000 individuals.



Figure.3. Kuntul Kerbau/*Bubulcus Ibis* Bird
(Source : Wisma Putra/detikcom)

The bird that has the Latin name Ardeola speciose at figure 3 above has lived about half a century in the region. In the rice fields *Blekok* bird has a benefit to control insect pests and for seasonal change clue by farmers. Around 1975 Blekok flocks came looking for food in the rice fields of Bandung City until now. There are 3 types of birds that inhabit the area. Besides birds, there are also birds that are still in one order, namely egrets (Bubulcus ibis) with black and white beaks. Bamboo and *selong* trees become a resting place for the flock of birds (at figure 3 above).

Blekok sawah foraging in the rice field slug forages for small fish, aquatic insects, and frogs by waiting for prey at the water's edge. When farmers plow their fields, the rice field slug will come to the surface because insects and small animals emerge. Their habitat is around rice fields, flooded grasslands, swamps, ponds, lakeshores, rivers, mangroves, and coastal plains.



Figure.4 *Blekok Sawah* (Ardeola speciosa)Bird
(Source : Wikipedia)

Social Behavior of this species is often seen alone or in small groups with active time most easily observed in the morning or evening (at figure 4 above).

Symbiosis with Farmers is a mutualistic relationship between the rice field slug and farmers benefits both parties. The slug eats pests, while the farmers receive assistance in controlling them.

On the tree, those animals live together to make many cages for laying eggs. Birds of water species have ecological functions that are important for nature, such as pollinators of plant species and predators of agricultural pests. Their existence can be made environmental indicator of environmental conditions because they tend to avoid noisy urban areas.

Protection toward blekok species to enhance an environmental balance is arranged in: 1). Law No. 5 of 1990 concerning Conservation of Living Natural Resources and their Ecosystems; 2). Law Number 5 of 1994 concerning Ratification of the United Nations Convention on Biological Diversity; 3). Law Number 23 of 1997 concerning Environmental Management; 4). Law Number 41 of 1999 concerning Forestry; 5). Republic of Indonesia Law Number 32 of 2004 concerning Regional Governmen; 6). Government Regulation Number 7 of 1999 concerning Preservation of Plants and Animals; 7). Government Regulation of the Republic of Indonesia Number 28 of 2011 concerning Management of *KSA* and *KPA; 8).* Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number P.8 / Menlhk / Setjen / OTL.0 / 1/2016 concerning Organizations and Work Procedures of Technical Implementation Units; 9). Regional Regulation of Bandung City No. 11 of 2005 concerning the Implementation of Order, Cleanliness and Beauty of the City of Bandung.

These regulations technically state a ban on the destruction of the area where they live and kill or trade the two species of birds because they can meet a fine of IDR 5 million and other administrative sanctions. In addition, the bird's habitat will remain an outdoor so that the habitat will survive.

The settlement area which is directly the center of the existence of the bird blekok (Ardeola speciosa) is called *Kampung Ranca Bayawak* or people know as *"Kampung Blekok"* with an area of about 2.17 hectares surrounded by rice fields in the administrative area of *RW 02, Cisaranten Kidul, Kec. Gedebage* City of Bandung. The mention of "*Kampung Blekok*" cannot be separated from the existence of the *Kuntul Kerbau* (Bubulcus ibis) and *Blekok Sawah* (Ardeola speciosa). The existence of bird nests on bamboo clumps which are located near resident, ponds, cattle cages and mosques.

The bird population attracts local tourists to visit the location directly. The attraction that is very popular with visitors is on the afternoon before sunset, when the Kuntul birds come from various directions return to nest and rest in the bamboo grove. Typical culinary offerings provided by local residents are: salted eggs, *cobek cau manggala*, *opor jantung cau*, and *pais* of gold fish are a menu that is always seek by tourists. These three types of typical foods are rarely found in big cities.

Blekok bird habitat which for decades has been preserved through local wisdom in maintaining natural balance. Local wisdom is local knowledge that is used by local communities to survive in a natural environment that blends with the belief system, norms and culture expressed in tradition, adhered for a long time (Amirudin, 2014). Harmonization of the relationship between humans and nature is closely related to local wisdom, meaning of cultural preservation means preserving the surroundings. In managing the environment, preservation of community culture is a necessity. In this process humans cannot turn to the values of traditional wisdom by placing human interaction in harmony with fellow humans being and the surrounding environment as a top priority (Hardjasoemantri, 2006).

The construction of various facilities in realizing Bandung Technopolis centered in the Gedebage District of East Bandung could have the potential for the presence of the Kuntul Kerbau (Bubulcus ibis) and Blekok Sawah / Blibis (Ardeola speciosa) habitats in the "Kampung Blekok". The individual habitat of the Kuntul kerbau based on Bicons UNPAD's observations in 2011 was around 658 - 786 individuals. According to one of the community leaders, from 2011 to 2018 there was a decrease in the number of birds, but the number of big and small kuntul tended to be stable. This is based on the observation that residents are difficult to find the noise of the birds in the afternoon and the number of birds looking for food and alighting as the trees fall to where the birds perch.

City development has consequences for bird habitat. The construction of a high fort as a separator of the area was built next to the bamboo clumps where the herd of blekok breed. Some of the bamboo clumps and the lamtoro gung trees that have been nestled for blekok are increasingly depleted. Disrupted ecosystems of the blekok impact to a reduction in the number of species from year to year. The decline is expected to increase with the implementation of development in the

southern region of Kampung Rancabayawak. The southern zone is the closest place to Kuntul and blekok bird habitat with a smaller area than other zones. The area has the highest number of bamboo trees as breed of birds and is very close to the housing wall border of 5 to 10 meters. The ideal distance to maintain Kuntul and Blekok populations is at least 100 meters from breeding to the separation wall. Too close the distance to the breed will have an impact on the decline of Kuntul and blekok populations, besides the condition of ponds and plants that not support the population will accelerate the decrease in population because the ecosystem is disturbed.

The existence of blekok birds in the Rancabayawak area is a study of the ecology of human and environmental interactions including the adaptation of the blekok bird habitat due to the city development.

Ecology was first developed by Ernest Haeckle (1866). Originally ecology was a sub-discipline of biology, in subsequent developments ecology became a separate study. Ecology means the study or research of the structure and function of nature or the study of the relationships between living organisms, physical, and biological factors that shape their environment (Adimihardja, 1993; Irwan, 2014; Soemarwoto, 2004).

The approach used in discussing human ecology is a multidisciplinary approach, namely: 1). In the system theory approach; human ecology demands that all phenomena concerning humans interpreted through interactions between humans and the environment; and environment with human; 2). Genetic variability is interpreted as a reflection of past adaptations to the previous environment during human phylogeny; 3). Nature is considered a permanent interaction; especially a continuous adaptation of organisms to the nvironment; 4). Human ecology bridges the gap between biological science and social science, which regards culture as an extension of biological adaptation; 5). Human ecology examines reciprocal interactions in terms of systemic feedback between ecosystems and cultural communities (Henneberg, 2001).

Human ecology is an approach to human behavior as a unity system that lives with nature, has interdependence and interacts reciprocally (Henneberg, 2001).

In the world, humans live not alone but interact with living things and non-living things such as air, water, soil, climate, and others (Rambo, 1984; Iskandar, 2009). Humans, culture and environment are three factors that are integrally interconnected. Humans are understood as creatures that are biosocial culture (Adimihardja, 1993).

Human ecology includes material, energy, information, ecosystems, ecosystem principles, environment and others. Material flows from one food chain to another. If living things die, it does not mean the flow of matter is stopped but dead living things become food for other living things. Therefore matter never runs out from the bodies of beings one and from the live world into a world that does not live.

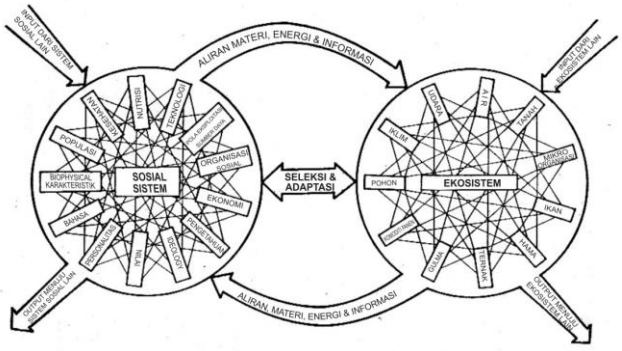


Figure 5. Social system and ecosystem interaction
(Source : Rambo, 1981)

An ecosystem at figure 5 above has order because of the flow of material and energy that is controlled by information. Receiving information means that a person gets new knowledge whose intensity depends on the size of the information received. Conversely, if the information received has been known before, the weight of the information is very small. Information can be physical or

object, nature, color, behavior, temperature, state, shape and signal(Soemarwoto, 2004; Mufid, 2010). The reciprocal interactions between social systems and ecosystems are integrated (at figure 5 above).

The central concept in human ecology is ecosystems, which is an ecological system formed by reciprocal relationships between humans and their environment. In ecosystems various elements of the environment are a unified system where various existing components are integrated or interconnected holistically. Functional relationship between components binding in regular unity is a major concern in the ecosystem approach (Adimihardja, 1993; Soemarwoto, 2004).

An ecosystem is a reciprocal relationship between living things and the physical environment (abiotic). Ecosystems are formed by living components and not living in a place thatinteracts to form a regular unit. Ecosystem regularity shows the existence of balance (homeostasis) and balance is not static but dynamic (Soemarwoto, 2004; Geertz, 2016).

In the view of the balance of nature, the philosophy of birds emphasizes the role of birds as an important part of the ecosystem and as a symbol of freedom, beauty, and life. Birds have an important role in pollination, seed dispersal, and maintaining the balance of insect populations, which has an impact on the sustainability of other plants and animals. In addition, birds are also often associated with myths and legends, where they symbolize strength, eternity, and guardians of nature. (Alfian, etc, 2022).

Human ecology and bird life are deeply intertwined, with humans impacting bird populations through habitat alteration, pollution, and direct mortality, while birds provide vital ecological services like seed dispersal, pollination, and pest control. Human activities can negatively affect birds by causing collisions with buildings, disrupting migration, and increasing mortality, but also influence them through indirect effects like altering food webs or through direct interactions such as feeding. Conversely, birds maintain ecosystems that are crucial for human well-being (Arya et all, 2004).

Birds can control pest populations is well recognized. Birds add to preserve a delicate balance in agricultural settings through feeding on insects, which pose a substantial threat to crops. In addition to providing an excellent solution to pest management in agricultural systems, birds reduce the risk of insect-borne diseases. The significant involvement of birds in pest control moves beyond invertebrate pests, as several birds also feed on rodent pests as a major portion of their diet (Monclus et all, 2020) Reduction of bird populations because of environmentally unfriendly such as building and reduction padi field from urban development, might lead to an increase in pest populations, rat, food chain disruptionan increased need for the use of chemical pesticides, endangering crop yield and ultimately affecting of environmental hazard.

Birds' sensitivity to factors such as habitat loss and climate change has helped scientists to better understand the impacts of human activities on the natural world (Moller et all, 2020 and Sekercioglu et all, 2019). According to the popular study entitled 'The Millennium Ecosystem Assessment', there are four major categories of ecosystem services, i.e. provisioning, regulating, cultural and supportive services, for the benefits of mankind (MEA, 2005) and interestingly birds contribute to all four of these services (Deng et all, 2020).

Birds face numerous challenges caused by human activities, resulting in population declines worldwide due to habitat degradation, poaching, pollution, climate change, poisoning, collision with wind turbines or buildings and pesticide usage (Dirzo et all, 2014).

Therefore, it is critical to conserve birds and preserve their crucial services through addressing these concerns and taking appropriate steps to reduce disastrous human impacts on their fragile ecosystems. To maintain bird biodiversity and assure their continuing involvement in environmental balance, comprehensive conservation initiatives are essential. These may include protecting and restoring natural habitats, implementing sustainable farming practices, continuous monitoring of birds, and increasing awareness of birds' role in the ecosystem

The role of bird life in the universe provides: 1). Ecological role that plays a role in pollinating flowers, helping to fertilize new plants, and maintaining the balance of insect populations; 2). Symbolic symbol which is a symbol of freedom and natural beauty that must be maintained; 3). Natural balance which is an important part of the food chain and has a role in maintaining the balance of the ecosystem. Its existence helps maintain biodiversity and prevents disruption to the

ecosystem; 4). Concern for human responsibility regarding the importance of preserving nature and respecting other living things. The loss of bird habitat due to irresponsible development can threaten bird populations, so their protection is important.

City development is one of threat to global bird biodiversity, primarily through habitat loss and fragmentation. However, some species have successfully adapted to urban environments by changing their behaviors and physical traits, and incorporating bird-friendly design into urban planning offers opportunities for conservation.

Birds that thrive in cities as an urban adapters can be winners, tend to share specific traits, often referred to as "urban trait syndrome". The bird has characteristics: 1). Behavioral Changes: Urban birds have been observed to alter their vocalizations to communicate effectively in noisy environments and change their foraging strategies; 2). Physical and Life History Adaptations: Compared to their rural counterparts, city birds often have smaller eyes (due to constant artificial light), shorter wings (for maneuvering tight spaces), and longer beaks for accessing different food sources. They also tend to have smaller clutches but may live longer and invest more in self-maintenance; 3). Generalist Traits: Successful urban species like pigeons and sparrows tend to have generalist diets and are less selective about nesting sites, often using buildings as substitutes for natural structures (Pena et all, 2023).

The presence of birds in cities provides valuable ecosystem services like insect control and seed dispersal and also offers mental and physical health benefits to human residents. Urban planning can mitigate negative impacts and promote biodiversity:

City development can be adapted to conserve birds through planning that creates bird-friendly habitats, such as parks, green spaces, and eco-corridors, and by mitigating threats like collisions with buildings. Implementing sustainable urban planning that avoids habitat destruction, restores degraded areas, and includes measures to reduce pollution and collisions is crucial for supporting bird populations within cities and protecting biodiversity.

Conservation integration between bird and city development such as create and restore green spaces. Buliding area can incorporate parks, green roofs including urban forests to provide essential food, shelter and nesting sites for birds. Restoring degraded lands and connecting existing green areas with eco-corridors can create more connected and resilient habitats.

Protect existing habitats such as reserving remaining natural areas, especially on the urban fringe is vital for maintaining bird diversity. This includes managing water conservation areas like wetlands and reservoirs, which are important for migratory birds.

Mitigate threats from built environments such as design bird-friendly buildings to implement bird-safe glass to prevent collisions with windows and reduce pollution such as limit light pollution and other forms of pollution that negatively impact birds.

Planning for sustainable growth such as avoid urban sprawl, to prioritize development in already degraded areas instead of expanding into natural habitats and increase density in existing areas such as shifting population density into already developed parts of a city can reduce the pressure to build into natural areas also promote biophilic cities to engage the community in projects.

Implementation to conservation birds come from the community. The social system of the Rancabayawak community supports the adaptation of ecosystem of Blekok birds. The benefit of relationships reciprocal mutualism maintains the ecological balance in Kampung Rancabayawak. The existence of the blekok bird can also be an assessment of environmental quality, one of them is the noise level. High noise is one of the factors reducing the bird population in urban areas. Noise, ecosystems, blekok habitat area is an effort that can be made in conservation of species. The existence of birds in urban areas is very important, besides because the chirping in the wild, birds can also be used as a parameter of pollution levels in the city (National Geographic Indonesia, 2018).

The government through the West Java Natural Resources Conservation Center made an agreement regarding the Scientific Study of the kuntul kerbau habitat in Gedebage District, Bandung City. The agreement was attended by the Ministry of Environment, sub-district leadership meeting (Muspika), Community Leaders, Bappeda West Java Province, Dinas Kehutanan West Java Povince, Dinas Lingkungan Hidup West Java Province, academies of ITB and Unpad, Pro Fauna and

Bird Conservation Society (BICONS) on September, 11th 2017. In a Meetings agreed of several things include: 1). Propose Kampung Rancabayawak Kecamatan Gedebage as an Essential Ecosystem Area and include the daily migration route of the kuntul kerbau into the regional spasial revision to accommodate protection; 2). Further research and studies to describe in more detail as a protective measure; 3). A forum for collaborative management of essential ecosystems needs to be established by multi stakeholders; 3). The Local Government and the sub-district leadership meeting (Muspika) supervise all development activities in order to remain committed to wildlife conservation in accordance with the Environmental Impact assessment (EIA/AMDAL) document that has been approved by the government.

Monitoring and evaluation need to be done by all sides. The community monitors the expansion of development which has a direct impact on the presence of kuntul and blekok, especially in the southern zone which is the habitat the most affected by housing development. The territorial apparatus regularly monitors both quarterly, semester or yearly to the limits for permitted areas to develop according to the Building Permit (IMB) and Environmental Impact assessment (EIA) issued by the government. The developer obeys all development rules and procedures permitted by the government. Academics and researchers can carry out conservation efforts and continuous monitoring based on the quantity of birds in the Rancabayawak and surroundings and provide recommendations for the city of Bandung government through the Environmental and Regional Department if there is a significant decrease in the number and habitat of birds.

Conservation has a benefit of bird friendly cities i.e: 1). Ecological benefits Birds play important roles in urban ecosystems and a diverse bird population indicates a healthier environment; 2). Human well-being: The presence of birds can improve human mental and physical health by reducing stress, improving mood, and encouraging outdoor activity; 3). Educational and recreational value: Urban nature, including birds, provides opportunities for education, research, tourism, and simple enjoyment.

According to tourism, Gedebage District is one of the Bandung Tourism Villages follow the principle of sustainable tourism. Future tourism development needs to foster greater economic added value, respect the environment, and empower communities surrounding Kampung Rancabayawak to be a quality sustains tourism future.

Quality tourism is a crucial foundation for the sustainability and future of the tourism sector, prioritizing quality from community services, empowering a community in Kampung Rancabayawak destinations and the tourist experience with local culinary and enjoying a birds habitat life can ensure that Gedebage district tourism grows in harmony with nature, culture, and community (Kemenpar, 2025).

This phenomenon demonstrates that the future success of tourism will be largely determined by the ability of Rancabayawak destination, environmental preservation, community service and city development players to integrate sustainability principles throughout the tourism value chain to emphasizing resource efficiency, sustainability and environmental stewardship as part of values and ethics in culture harmony.

D. CONCLUSION

Conclusion to preservation of Blekok birds such as maintaining blekok bird habitat as a guardian of natural balance in the District of Gedebage East Bandung needs to do with the integration of various elements of society. There is a growing awareness of the importance of bird conservation for maintaining ecosystem health and the services they provide to humans. Collaboration between the government**,** academic, company, developer, privat sector and the community is carried out in evaluating development. An assessment of kuntul and blekok vegetation areas needs to be carried out in order to maintain and coservation the existence of blekok birds and as an early warning in the assessment of noise pollution in the area. The development of a healthy Teknopolis City is a means of improving people's welfare and is part of sustainable development.

REFERENCES

Abdoellah, O.S (2016) *Pembangunan Berkelanjutan di Indonesia di Persimpangan Jalan*. Jakarta: Gramedia.

Adimihardja, K (1993) *Kebudayaan dan Lingkungan Studi Bibilografi*, Bandung : Ilham Jaya.

Adimihardja, K (1980) *Beberapa Catatan tentang Masyarakat Sunda di Jawa Barat.* Bandung: Unpad

Alfian RL., Iskandar J., Iskandar BS (2022) Big Bringing Birds: Various Types And Meanings Of The Bird Myth In The Resident Of Ngablak Village, Pati Regency, Central Java. Pangadereng: Jurnal Hasil Penelitian

Anthropology; data from institute of public health provide new insights into anthropology. 2010. *Science Letter,* , 181. https://search.proquest.com/docview/815303395?accountid=38628. [accessed 16/05/05]

Asep YS., Pasya, GK., Rohmat, D (2012) Nilai-nilai Tata Lingkungan Terhadap Kelestarian Lingkungan di Kampung Cikondang Kabupaten Bandung dan Implikasinya dalam pembelajaran Geografi. *GEA* 12:61-70.

AyoBandung.com (2018) Mengenal Kuntul Kecil di Kampung Blekok. Tersedia di : https://www.ayobandung.com/read/2018/11/19/40682/mengenal-kuntul-kecil-di-kampung-blekok (accessed 2019/05/23).

Arya, A.K., Bachheti, A., Sethi, V.K. *et al.* Birds and environment: a multidisciplinary approach to ecological, behavioural and conservation issues. *BMC Zool* **9**, 7 (2024). https://doi.org/10.1186/s40850-024-00199-8

Balai Besar Konservasi Sumber Daya Alam (2017) Secuil Habitat Kuntul Kerbau di tengah gencarnya Pembangunan Kota Bandung. Bandung : BKSDA

Bennett, W. J (1976) *The Ecological Transition : Cultural Anthropology and Human Adaption*. New York : Pergamon Press Inc.

Badan Pusat Statistik (2025) Luas Lahan Sawah Menurut Kecamatan dan Jenis Pengairan di Kota Bandung (hektar) 2025.

Badan Pusat Statistik Provinsi Jawa Barat (2025) *Kota Bandung dalam Angka 2025, Vol 45 2025*

Cohen, AY (1995) *Man in Adaptation, the Cultural Present*. Chicago: Aldine Publishing Company.

Cresswell, W. John (2014) *Research Design Pendekatan Kuantiatif, Kualitatif dan Mixed*. (Diterjemahkan: Achmad Fawaid). Yogyakarta: Pustaka Pelajar.

Cultural anthropology; new cultural anthropology study findings recently were reported by researchers at university of minnesota. 2009. Science Letter, , 276. https://search.proquest.com/docview/209020858?accountid=38628. (accessed 2016/07/09)

Deng GT, Yimam IA. Ecosystem roles of birds: a review on bird's conservation insight. Int J Zool Anim Biology. 2020;3(4):000236.

Dirzo R, Young HS, Galetti M, Ceballos G, Isaac NJ, Collen B. Defaunation Anthropocene Sci. 2014;345(6195):401–6.

Detiknews (2018) Menengok Kampung Blekok di Bandung. https://news.detik.com/berita-jawa-barat/d-3814872/menengok-kampung-blekok-di-bandung (accessed 2019/05/23).

Foster, G. M (1986) *Antropologi Kesehatan*. Jakarta : UI Press.

Garna, J.K (1992) *Teori-Teori Perubahan Sosial*. Bandung: PPS. Unpad.

Geertz, C (1973) *The Interpretation of Culture.* New York: Basic Book Inc.

Geertz, C (2016) *Involusi Pertanian: Proses Perubahan Ekologi di Indonesia* (Diterjemahkan: Gatot Triwara). Depok: Komunitas Bambu.

Hardjaasoemantri, K (2006) *Kearifan Tradisi Inspirasi Kelola Lingkungan*. Dalam Kearifan Lingkungan Untuk Indonesiaku. Jakarta : Kementrian Lingkungan Hidup.

Henneberg, M., et all. (2001) *"Perspective A Human Ecology"*. In journal Human Ecology Special Issue 2010. pp 3-7. Adelaide.

Irwan, D. Z (1992) *Prinsip-prinsip Ekologi dan Organisasi Ekosistem Komunitas dan Lingkungan.* Jakarta: Bumi Aksara.

Iskandar, J (2009) *Ekologi Manusia dan Pembangunan Berkelanjutan*. Bandung : PPS UNPAD.

João Carlos Pena, Otso Ovaskainen, Ian MacGregor-Fors, Camila Palhares Teixeira, Milton Cezar Ribeiro, The relationships between urbanization and bird functional traits across the streetscape, Landscape and Urban Planning, Volume 232, 2023, 104685, ISSN 0169-2046, https://doi.org/10.1016/j.landurbplan.2023.104685. (https://www.sciencedirect.com/science/article/pii/S016920462300004X)

Kementerian Lingkungan Hidup (2006) *Kearifan Lingkungan Untuk Indonesiaku*, Jakarta:Kementrian Lingkungan Hidup.

Kementerian Pariwisata (2025) Tourism Outlook Vol 1 2025, Kemenpar, Bappenas, Bank Indonesia

Kementerian Pertanian RI (2015) Statistik Lahan Pertanian Tahun 2010-2014. Jakarta : Pusat Data dan Sistem Informasi Pertanian

Lawrence, R.J (2003) *Human Ecology and its Applications. Landscape and Urban Planning.* Vol. 65. pp. 31-40.

Marzali, A (2007) *Antropologi Pembangunan Indonesia.* Jakarta: Kencana.

Miles, B. and Huberman, MA (1992) *Analisis Data Kualitatif (*Diterjemahkan *: Rohadi Rohidi).* Jakarta : UI Press.

Millenium Ecosystem Assessment (MEA). Ecosystems and Human Well- Being: synthesis. Washington: Island; 2005. p. 155.

Monclús L, Shore RF, Krone O. Lead contamination in raptors in Europe: a systematic review and meta-analysis. Sci Total Environ. 2020;748:141–437.

Møller AP et al. Rapid change in host use of the common cuckoo Cuculuscanorus linked to climate change. Proceedings of the Royal Society B: Biological Sciences, 2010; 277(1695), 1385–1390.Return to ref 3 in article

Mufid, A. S (2010) *Ekologi Manusia dalam Perspektif Sektor Kehidupan dan Ajaran Islam.* Bandung : Rosdakarya.

National Geographic Indonesia (2018) Akibat Polusi Suara, Burung Alami Stress. https://nationalgeographic.grid.id/read/13309187/akibat-polusi-suara-burung-alami-stres-kronis?page=all (accessed 2019/05/20).

Rambo, A.T. (1981) *Conseptual Approaches to Human Ecology: A. Source Book on Alternative Paradigms for The Study of Human Interactions with The Environment,* Honolulu: East-West Environment and Policy Institute.

Sekercioglu ÇH, Wenny DG, Whelan CJ, editors. Why birds matter: avian ecological function and ecosystem services. University of Chicago Press; 2019.

Sufia, N., Sumarmi and Amirudin (2016) Kearifan Lokal Dalam Melestarikan Lingkungan Hidup (Studi Kasus Masyarakat Adat Desa Kemiren Kecamatan Glagah Kabupaten Banyuwangi). Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan Volume: 1 Nomor: 4 Bulan April Tahun 2016 Halaman: 726—731

Sumarmi dan Amirudin (2014) Pengelolaan Lingkungan Berbasis Kearifan Lokal. Malang: Aditya Median Publishing. Soemarwoto, Otto. 2004. *Ekologi Lingkungan Hidup dan Pembangunan*. Jakarta: PT. Bumi Aksara.

Van Klinken, G. and Berenschot, W. (2014) *In search in Middle Indonesia :kelas menengah di kota-kota menengah.* Jakarta: Yayasan Pustaka Obor Jakarta.