



# From anthropocentrism to ecocentrism: The role of local wisdom and religious tradition in transforming environmental ethics

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## ABSTRACT

**Background:** Bali is one of the islands in Indonesian archipelago that has the most beautiful tourist destinations and always gets visits from local and non-local tourists. The growth of Bali's tourist destinations makes Bali must expand tourist areas such as hotels, restaurants, and areas that can increase the visits of local and non-local residents. As a result, Bali has occurred massive cover change to land use and some vegetation degradation that causes environmental damage. There is still an ethic of anthropocentrism in managing Bali's environment. The ethics of ecocentrism have been applied in most Balinese communities but most also still adhere to the ethics of anthropocentrism, the need for ecocentrism ethics to be developed throughout of the community to manage the natural environment properly. **Methods:** This research uses a qualitative method, conducted by analyzing the problems that exist in Bali. Data collection uses literature study-based method that is related to environmental management from the point of view of ecocentrism in Bali. The analysis is carried out by providing description related to the perception of Balinese people in environmental management and culture values that can be used as guidelines in environmental management. **Findings:** Balinese people, especially Hindus, have practiced ecocentrism paradigm quite well towards the environment. Balinese Hindus apply *Tri Hita Karana* in managing and conserving the natural environment, especially water and forests. Preservation of the natural environment is one of the important things in Hinduism because it is one of their ritual parts. **Conclusion:** In managing the natural environment, especially water and forests, it cannot be separated from the local wisdom of Balinese Hindus culture, including *tumpek wariga*, *tumpek uye* and *wana kertih*. Therefore, it can be concluded that Balinese people have implemented ecocentrism ethics. **Novelty/Originality of this Article:** This study provides a cultural perspective on environmental ethics by emphasizing the integration of Balinese Hindu local wisdom, such as *Tri Hita Karana*, *tumpek wariga*, *tumpek uye*, and *wana kertih*, in practicing ecocentrism for sustainable environmental management.

**KEYWORDS:** Bali; ecocentrism; environmental management.

## 1. Introduction

Humans as an inseparable part of nature, where in their stage of life is dominated by various phenomenon and natural laws. Human and environmental interaction are always interrelated with each other because they occupy the same space and develop to produce specific forms of life so that human behavior greatly affects the natural environment around them. Human with good behavior towards the environment will cause the wheels of life to continue to spin in a good and sustainable direction, but if human behavior causes various

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environmental damage, it will cause the quality of the environment or nature to decline until the earth is in the danger zone. In Indonesia itself, human behavior today causes various environmental problems. Environmental problems are multidimensional and involve many groups. Environmental problems start from humans often ignoring the environment, especially forests, by always exploiting them wildly for personal gain (Sukarna, 2021). Environmental problems can reduce the quality of the environment so that it influences the quality of human life in the future. Some of the environmental problems in Indonesia that often occur are forest fires. Based on a report from the National Disaster Management Agency (*Badan Nasional Penanggulangan Bencana* or BNPB), it was stated that in 2023 forest fires occurred in 5 provinces, including Aceh (68 incidents), Bangka Belitung Islands (48 incidents), Central and South Kalimantan (43 incidents) and Central Java (41 incidents) (BNPB, 2023). The continuous occurrence of forest fires can make oxygen in the atmosphere depleted and replaced by various pollution caused by forest fire smoke. The depletion of forests in Indonesia provides a greater opportunity for environmental damage, not only depleting oxygen but also causing other disasters such as landslides, erosion, and so on. In addition to these cases, Indonesian Minister of Transportation, Budi Karya Sumadi, stated that the use of motor vehicles in Indonesia supports 60% of the total pollution in Indonesia (Ramadhina & Najicha, 2022). Another environmental problem that often occurs in Indonesia is water pollution. Water pollution has become a global issue, one of which is the occurrence of water pollution in rivers, this occurs because many wastes contain to many chemical compounds that exceed the threshold determined by the quality standards. Water quality assessment considers parameters consisting of maximum, minimum, and annual average values of the physical, chemical, and biological parameters such as DO, pH, BOD, temperature, total P, and turbidity. Water pollution threatens food production, increases environmental damage and affects human health. Indonesian Human Rights Watch states that degraded water can cause skin diseases and respiratory diseases caused by various chemical compounds in polluted water, and limb defects can occur when tanning occurs. Some of these incidents shows how badly the environment is being damaged by human activities.

According to A. Sonny Keraf, various environmental problems that have occurred in Indonesia today are caused by the misunderstanding of anthropocentrism paradigm as a perspective that sees humans as the center of everything. On the other hand, it causes negative things because the universe or environment is considered not to have various intrinsic values other than economic values that are used for human interests so that this anthropocentrism is considered as a perspective that gives birth to excessive exploitative behavior to satisfy human economic interests (Munir, 2023). Environmental damage is not a technical problem, but it is a form of human moral crisis and human pride in terms of wanting to obtain enormous profits at the expense of the natural environment. Humans are faced with the rights and choices to preserve or destroy their own environment, but as reasonable living beings, humans must accept every consequence that results from preserving or destroying the natural environment. The moral crisis that exists in humans, makes them seem to turn a blind eye to how important the natural environment is for the survival of life on earth and humans become less intelligent and ethical. The presence of ethics or perspective is the most important things towards managing the environment. Based on Act Number 32 of 2009 concerning Environmental Protection and Management, Article 1 paragraph 1 states that the environment is a unit of space with all objects, forces, conditions and living things, including humans and their behavior that can affect nature itself, the continuity of life and the welfare of humans and other living things. Based on the provisions of the Act, the environment should not be positioned as an object for economic interests alone, but its position is equal to human beings so that it can regulate human behavior towards the surrounding environment (Dahana & Martana, 2020). After the ethics of anthropocentrism, there is a new paradigm called biocentrism, biocentrism itself has a perspective that living things and other life supporting systems have valuable or worthy values in themselves. Biocentrism has values that consists of (1) The natural environment

has valuable values and (2) we must respect the natural environment, whether humans think and debate it is valuable or not, because the natural environment is part of the moral community. In response to that, ecocentrism comes as a broader perspective that biocentrism and states that all living things have values and are valuable. This perspective or paradigm applies to all components of the environment. Ecocentrism emphasizes that the natural environment is essential for the survival of all living things on Earth. Ecocentrism, also known as Deep Ecology, acts in two domains: philosophical and practical. Philosophically, ecocentrism is used as a human guideline that organizes life to be harmonious or in harmony with nature as a household in a broad sense. In the practical realm, ecocentrism is practiced in domestic life in the sense that it becomes a human lifestyle. The ethics of ecocentrism has largely been applied in various elements of certain villages, cities and provinces. Ecocentrism is rooted as a part of the local wisdom of a particular region. One of the Indonesian regions that has applied the ethics of ecocentrism is Bali Province.

Bali is an Indonesian island located east of Java Island. As a tourism destination, Bali is very attractive to foreign and domestic tourist because of the uniqueness and beautiful destinations. Bali has 135,528.23 hectares of forest in nine regencies/cities. If the forest is not maintained and controlled properly, it will continue to decrease in terms of quality and quantity. In 2018, the total of international tourist that visits Bali reached 3.5 million and domestic tourist reached 7.3 million (UNWTO, 2018). The increase in foreign tourists visiting Bali makes Indonesian government to give a regulatory for an additional 84 countries that get visa exemptions. Previously the policy was given to 47 countries only. Because of the new policy, there are 174 countries that granted visa exemptions from Indonesian government (Travel Indonesia, 2018). One of the factors that making Bali a favorite tourist destination for local and non-local residents is the natural beauty that exists, various kinds of natural beauty that can be enjoyed are the natural beauty of the sea, mountains, rice fields, islands and waterfalls.

The progress of tourism in Bali affects many factors that require Bali to expand tourist areas such as hotels, restaurants, cafes and tourist areas that can increase tourist visits. As a result of expansion of the tourist area, the environment in Bali has changed the land use and vegetation functions. The change in function has a significant impact on environmental quality in the tourist area. According to Wijana et al., 2006, the water quality in Lake Buyan is polluted. Problems regarding of garbage and waste management are a warning of a "garbage emergency" that must make great attention. Waste production in Bali reaches 4,281 tons per day. This waste can cause 11% the of waste to flow and polluted the sea (Muhajir, 2019). Based on Tirto.id news portal, in 2021 that the garbage comes from the Bali Strait which is carried by the wind during the rainy season, Melati and Isabel as co-founders of Bye-Bye Plastic Bag stated that Bali produces around 680 m3 of garbage every day and only 5% can be recycled (Anggasta & Widiastuti, 2022). The various problems that exist in Bali's environment will affect tourism. In 2020 Bali became a tourist destination that is not suitable for tourists to visit (Setiawan, 2019). Another environmental damage is the polluted water of *Tukad Ayung* (or river). *Tukad Ayung* has functions as a source of clean water, for bathing, washing and toilet, irrigation of rice fields, drinking water supply (PDAM and AMDK). The upstream part of *Tukad Ayung* is utilized by the community for gardening, seasonal agricultural land, forest areas, the middle part also still has rice fields equipped with nature tourism, tourist services, hotels and others related to tourist destinations. As a result of the large number of non-local residents visiting, it produces solid waste and liquid waste that is difficult to process so that it is flowed into the *Tukad Ayung*. As a result, it becomes polluted and disturbs the surrounding community (Binti Yuhanni et al., 2022). Forest degradation can occur and gets bigger if the community and the government do not work together in carrying out management and utilization of it. Data from the Bali Provincial Forestry Service in 2010 showed that forests were still well preserved amounted to 56.06%, forests with scrub or bush vegetation amounted to 25.55% and the remaining forests were critical or very vulnerable to depleted by 18.29% (Rideng et al., 2022). The causes of forest

destruction in Bali are influenced by various factors including forest fire, illegal logging and the need of land use. Forest fires in 2022 had damaged 544.19 hectares, illegal logging reached 83.17 m<sup>3</sup>/year, and logging reached 5,245.77 hectares (Wijana, 2014). Forest sustainability must be maintained by implementing good management principles without changing its function. To improve Bali's tourism, it must improve its environmental conditions.

The environment in Bali already illustrates the relationship between Balinese knowledge and environmental management. In general, Balinese people, especially Hindus, view the natural environment as ecocentrism. However, the ethics of ecocentrism have not been applied by non-local residents when visiting Bali Province. Cultural aspects, especially local wisdoms have weakened. Local wisdom is rarely used to manage the environment and it is only used to attract tourists. The existence of ecocentrism as a view is inseparable because when people see the universe and humans as one unit. The ethics of ecocentrism is closely related to the local wisdom of the Balinese Hindu community. In Hinduism, managing the environment is part of their religious rituals, so that if there is environmental damage, it will cause the gods to be angry. This very close relationship requires Balinese people to live in harmony with the universe. The perspective of environmental ethics has changed to anthropocentrism ethics. This change causes humans to have a sense of power over everything and try to get the maximum benefit from the natural environment without thinking about the impact of this behavior. Humans have a sense to overexploit natural resources, hence damage to the natural environment is inevitable. The need for ecocentrism ethics in managing and preserving the environment in Bali Province is important. Therefore, this research aims to examine more deeply about ecocentrism in environmental management, especially in Bali Province so that it is expected to help improve and support the maintenance of the environment in a sustainable manner.

## 2. Methods

This research uses a qualitative approach. This approach is by analyzing how ecocentrism views the environment in Bali. The form of data in this research is descriptive data about the subject to be studied. In this study, researchers collected data through secondary data. Data collection using the literature study method or literature study, the literature study used for this research is related to environmental management from the point of view of ecocentrism in Bali. This paper used secondary data from Publish or Perish Software, including Google Scholar and Science Direct. The retrieved articles were published during the period from 2010 to 2024. The literature was retrieved by using the keywords "Ecocentrism Bali" and "Environmental in Bali". Selection of article was conducted using the PRISMA protocol (<https://prisma-statement.org>). Analysis was carried out by providing descriptions related to the perceptions of Balinese people in environmental management, and values that can be used as guidelines in environmental management. The secondary data in this research comes from various previous journals and several laws and regulations in Indonesia as well as other documents that support this research.

The first selection was the context of the literature that fits on the purpose of this review. For instance, literature about "Ecocentrism Bali" and "Environmental in Bali" were included, because those topics including all available important literature for this paper. The second selection was conducted by deep reading the content and arranging it into the table. The second selection criteria were based on ecocentrism in Bali. 100 papers were filtered, and 30 papers were reviewed and used in the present study.

The location under discussion in this research is Bali Province. The topographic map of Bali Province can be seen in Figure 1. Bali Province is 85% mountainous and hilly areas. Bali has the attraction of various natural attractions that showcase the beauty of nature and culture and customs that have high values. Bali has 9 regions that have their own charm,

including Jembrana, Tabanan, Buleleng, Gianyar, Klungkung, Karangasem, Bangli, Badung and Denpasar City which makes many tourists often visit Bali Province.

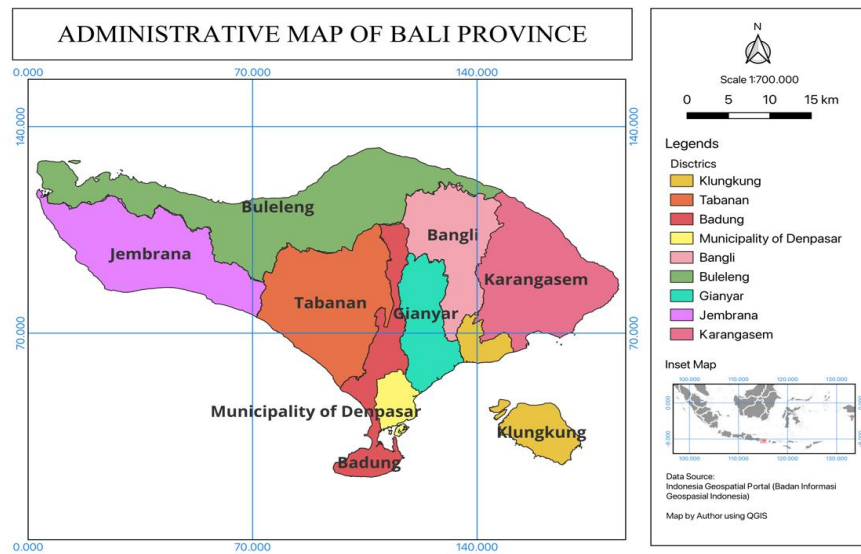


Fig. 1. Administrative map of Bali Province

Tourism in Bali Province is growing so fast that the demand for space for tourism and the provision of complementary infrastructure is always increasing. The reclamation of Benoa Bay, sand mining on the west coast of Kuta, the expansion of I Gusti Ngurah Rai International Airport, and the expansion of the Benoa Port area as part of the National Strategic Project (*Proyek Strategi Nasional*, or PSN) add to the noise of environmental issues in Bali. Various projects for tourism in Bali Province will continue to develop, causing damage to the environment in Bali Province.

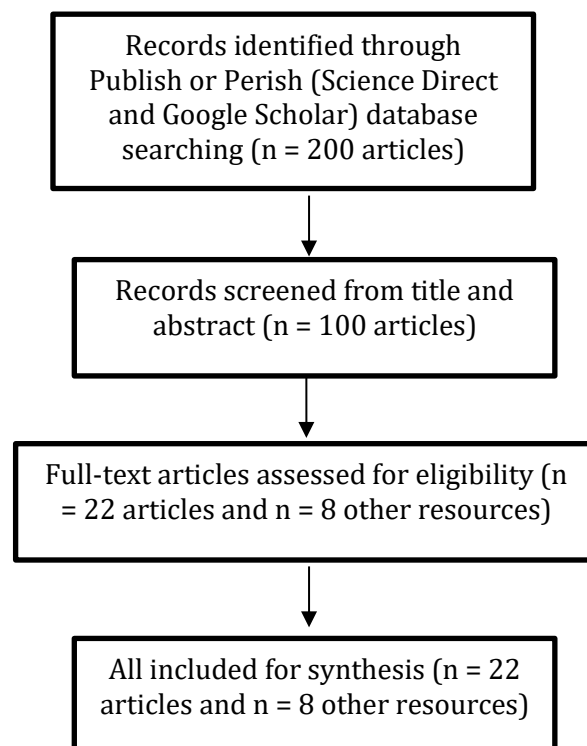


Fig. 2. Flow chart of the review process

### 3. Results and Discussion

#### 3.1 Results

Publish or Perish is designed to help academics (individuals) to present the impact of research even if it has few citations. It can also be used to decide which journals to submit to, to conduct literature reviews, and to conduct bibliometric research. The resulting metrics include total number of articles and number of citations; average citations per article, citations per author, and citations per year; h-index and related parameters g-index; three individual h-index variations; average annual increase in individual h-index; age-weighted citation rate; analysis of the number of authors per article.

In this study, 200 articles were obtained from Google Scholar and Science Direct. The article search used the keywords ecocentrism in Bali and environmental in Bali. The article search process was then filtered based on a maximum time span of 14 years (2010-2024) so that 200 suitable articles were obtained. Articles are filtered again by looking at the whole so that 29 articles are obtained that match the topic of the article include Balinese people towards the environment, water, and on the forest. The article and other resources are presented in the table as follows:

Table 3. The articles

No	Authors & Year	Research Title	Journal Name	Research Results
1	Anggasta & Widiastuti (2022)	Environmental Conservation Ethics Carried Out by Environmentalist Communities in Bali	Journal of Architecture	It can be concluded that it is important for humans to always care about their environment. The need for ethics towards the environment both theoretically and self-awareness maintain and preserve the surrounding environment.
2	Binti Yuhanni et al. (2022)	<i>Tukad Ayung</i> Pollution: Impacts and Responses in Bali 2010-2021	Environmental Pollution Journal	The impacts caused by <i>Tukad Ayung</i> pollution are classified into several aspects, namely on human health, community social life, and river ecosystems. Then the solution to handling pollution in <i>Tukad Ayung</i> Bali has included several parties from the government, the company PT. Investama AQUA, JANMA Foundation, DLH Bali, and the local community of <i>Tukad Ayung</i> watershed.
3	Dahana & Martana (2020)	Actualization of Environmental Ethics and Local Wisdom Values in Environmental Protection and Management	Journal of The Assembly : Media of Constitutional Aspirations	The actualized environmental ethic is the Deef Ecology Ethic, which places humans as part of nature. In order to enforce environmental law more effectively, it is necessary to actualize local wisdom values. The actualization of local wisdom values.
4	Dewi et al. (2018)	The Function of Customary Law in Strengthening the Role	Journal of Legal Communication	The implementation of the <i>penganten medelohan</i> tradition is very important according to <i>sekaa</i>

		of <i>Sekaa Taruna</i> in Kuta Traditional Village for the Protection of the Medelokan Penganten Tradition		<i>teruna</i> , but there are obstacles faced such as the lack of understanding of youth related to the penganten medelokan tradition both in terms of meaning and implementation. To protect the tradition of <i>medelokan penganten</i> , it is necessary to strengthen the <i>sekaa teruna</i> organization, especially by strengthening the formation of customary regulations such as <i>perarem</i> formed by <i>parumandi</i> in Kuta Traditional Village.
5	Dianti & Mahyuni (2018)	Corporate Social Responsibility (CSR) Practices at Intercontinental Bali Resort Hotel: An Exploration Based on The <i>Tri Hita Karana</i> Philosophy Approach	Scientific Journal of Accounting & Business	<p>It can be summarized as follows :</p> <ol style="list-style-type: none"> <li>1. The informants in this study viewed CSR as a moral responsibility of the company towards the surrounding community.</li> <li>2. CSR practices implemented by the company are motivated by the company's internal drive to share.</li> <li>3. InterContinental Bali Resort Hotel's CSR practices refer to the <i>Tri Hita Karana</i> philosophy.</li> <li>4. CSR practices do not go through a budgeting process but are treated as an incidental cost.</li> <li>5. CSR practices are not maximally publicized to the community.</li> </ol>
6	Dikta (2020)	<i>Tri Hita Karana</i> Oriented Learning as an Effort to Strengthen the Quality of Basic Education in the 21 <sup>st</sup> Century	PENDASI: Indonesian Journal of Basic Education	<p>The Tri-Center of Education recognizes the existence of educational centers that affect the growth process development of a child. Therefore, the formation of the national character of children elementary school age through the Tri Center Education is something that inseparable, because in character building.</p>
7	Gorda & Wardani (2020)	Reflection of Local Wisdom Value of Balinese Hindu Community in Environmental Management	ETTISAL: Journal of Communication	<p>Local wisdom possessed by by the Balinese people can provide a lot of learning about how to treat nature, both in terms of management and preservation. By</p>

			therefore, active participation is needed of all stake holders to communicate and and internalize the values of local wisdom not only to the Balinese people but also to tourists who visit Bali
8	Hanifah (2023)	The Local Wisdom of the Community in Agroforestry Management in Batu Nindan Village Kapuas Regency	Journal of Sylva Scientae local wisdom in managing agroforestry land on ideological superstructure component exists carried out by the Batu Nindan Village community namely traditional rituals when clearing land. Name of the ritual is " <i>Ala Ayuning or Dewase Ayu</i> ".
9	Yase & Irawan (2023)	Actualization of <i>Tat Twam Asi</i> Teachings in Religious Life	Journal of Legal Science Applying the teachings of <i>tat twam asi</i> will foster the development of tolerance towards others. Tolerance as a reflection of the concept of religious moderation. concept of religious moderation. Religious moderation as a guideline to create harmony and harmony in the frame of differences.
10	Lanya et al. (2017)	<i>Subak</i> Land Information System Based on Remote Sensing and Geographic Information System in Denpasar City	Geoplanning: Journal of Geomatics and Planning Data base of <i>Subak</i> paddy fields cover land resources ( <i>subak</i> area, <i>munduk</i> , plant type, water source, land suitability, soil type, soil drainase, soil texture, fertability, fertilizer status , human resource ( <i>pekaseh</i> name, farmer total, farmer status, member total, land owner) and agricultural activities (crop index, fertilizer types, fertilizer dos, production, irrigation type, crop type, seed source, pest and marketing), it can be integrated with a map of <i>Subak</i> , and can be called up easily and quickly to acquire a data base of agriculture in each name of <i>Subak</i> computer based GIS software.
11	Munir (2023)	Paradigm Patterns of Environmenta Ethics: Anthropocentrism, Biocentrism and Ecocentrism	Yaqzhan Journal The anthropocentrism paradigm emphasizes humans and ignores other creatures. The biocentrism paradigm is critical and extends moral values to biotic creatures. The ecocentrism paradigm includes non-biotic creatures as moral values.



12	Nastiti et al. (2022)	Sustainable Water Resources Management in Southern Bali	AMERTA: Journal of Archaeological Research and Development	The MDS analysis shows that water resources management in southern Bali is weak in every dimension of sustainability. weak in every dimension of sustainability. Policy strategies are needed policy strategies are needed to influence the relevant dimensions. There are ten attributes that influence and need to be addressed.
13	Prihatini (2020)	Water in Life: Utilization, Management and Preservation	Widya Aksara: Journal of Hinduism	By interpreting water from a Hindu perspective, water as a means of purification or cleansing will always be needed. cleansing will always be needed, thus water sources must always be cared for and kept sacred. thus water sources must always be cared for and kept sacred. Cultural actions carried out according to these two points of view is at least a traditional effort to preserve, utilize and manage water. manage water.
14	Rahman & Jalaluddin (2022)	Forest Resources Management Based on Local Wisdom in Balinese Communities	Journal of Forest and Society	Forest management in Bali is divided into customary forests and government forests. Adat and government need to work together to manage forests and address forestry issues. A good forest management system and the establishment of a culture of protecting forests are needed. Involving the community and applying local wisdom is also important in preserving forest functions.
15	Ramadhina & Najicha (2022)	Electric Vehicle Regulation in Indonesia as an Effort to Reduce Gas Emission	To-Ra Law Journal: Law to Regulate and Protect Society	The government has launched and has supported the manufacture of electric vehicles in Indonesia as an effort to reduce emissions and air pollution and support the production of the nation's children. In addition, support from the government is also in the form of rules and regulations regarding the existence of electric vehicles so that the community will be protected. regarding the existence of electric vehicles so that the community will be protected by law.
16	Rideng et al. (2022)	Legal Construction in Local Wisdom Forest Management in	Scientific Journal of Pancasila and	Forest management in Buleleng Regency involves village communities with good governance

	Buleleng District, Bali Province	Citizenship Education	principles. In this case, the government must pay attention to aspects of transparency, accountability, community participation, responsiveness, and effectiveness of forest management programs. This is based on Law No. 41/1999 which accommodates local wisdom for community welfare and forest sustainability.
17 Setiawan (2019)	Bali Included as "No List 2020". A Shocking News at the end of 2019	Bali Tourism Journal	Bali is listed as a "No List 2020" destination by Fodor's due to poor waste management, lack of clean water, and disrespectful attitude of foreign tourists. However, the local government is making improvements. Rather than reacting negatively, consider it as constructive feedback for Bali tourism. Positive feedback and problem-solving solutions from the media would be appreciated for societal control, rather than just criticism.
18 Sukarna (2021)	Human and Environment Interaction in the Persepctive of Anthropocentrism, Anthropogeography and Ecosentrism	Journal UPR	With the increase in human numbers and the development of science and technology, the relationship between humans and the environment is increasingly complex. Social and natural resource inequalities have also emerged as a as a result of the detached view of humans from the socio-biogeophysical system. socio-biogeophysical system. Therefore, it is important to create a balanced relationship between between human needs and natural resources by integrating the goals and interests of other species. integrating the goals and interests of other species. This principle is the basis of ecocentrism adopted by some societies.
19 Swandi (2017)	Balinese Local Wisdom for Nature Conservation: A Discourse Study of Cartoons in The Magazine "Bog-Bog"	Journal of Balinese Study	Bog-Bog cartoonists give meaning to forest management that respects traditional Balinese values. Trees are respected as living beings that feel suffering and the cartoon images highlight ecological messages with an appealing visual aesthetic.

20	Tri et al. (2022)	Theo-ecological Meaning and Implementation of <i>Tumpek Wariga</i> Ceremony in Nature Conservation Efforts (Study in Cahyou Randu Village, Pagar Dewa Sub-District, West Tulang Bawang District)	Journal of Religious Education	Environmental conservation is carried out through <i>Tumpek Wariga</i> in Cahyou Randu Village as an effort to express human morals in gratitude to <i>Hyang Widhi</i> . Environmental ethics is an ethical awareness in dealing with nature through humanism and religious approaches.
21	Wijana (2014)	Analysis of Plant Species Composition and Diversity in Bali Aga Tigawasa Village Forest, Buleleng-Bali	Journal of Science and Technology	There are 24 plant species in the Bali Aga Tigawasa Village forest, with Kopi and Majegau having the highest density. The forest is characterized by distinct lower and upper strata, with a medium diversity index.
22	Wisnawa et al (2020)	The Implementation of <i>Tri Hita Karana</i> Values on Tourist Attraction in Pura Desa and Puseh of Batuan Traditional Village.	Cultural Tourism: Scientific Journal of Religious and Cultural Tourism	The implementation of <i>Tri Hita Karana</i> values in the Village Temple and Puseh of Batuan Pakraman Village is done through <i>palemahan</i> , pawongan, and parahayangan. In the field of <i>palemahan</i> , one of the communities is cleaning the temple environment. The implementation of the <i>Tri Hita Karana</i> concept in the pawongan field is carried out through ceremonies, sangkep, ngayah, and gotong royong. Announcements in front of the temple help convey information to tourists, with rules for dressing neatly and politely and maintaining environmental cleanliness.

### 3.2 Discussion

#### 3.2.1 Balinese people towards the environment

Based on 30 literatures that have been reviewed regarding the behavior of most Balinese people towards the environment are protecting and managing the environment based on local knowledge that is guided by Hindu religious teachings. The view that has been applied by the Balinese people leads to ecocentrism. This view of the environment makes Balinese Hindus carry out activities to respect nature, along with its flora and fauna. Balinese Hindus view nature as God's creation, just like humans. Protecting the natural environment is a form of worship. Based on other resources likely book and the author is Atmaja (2010) mentioned that the relationship between humans and the environment must depict balance and harmony. Treating the environment should be the same as treating humans. The relationship between humans and the environment holistically in the viewpoint of Balinese culture is depicted in the following chart in Figure 3.

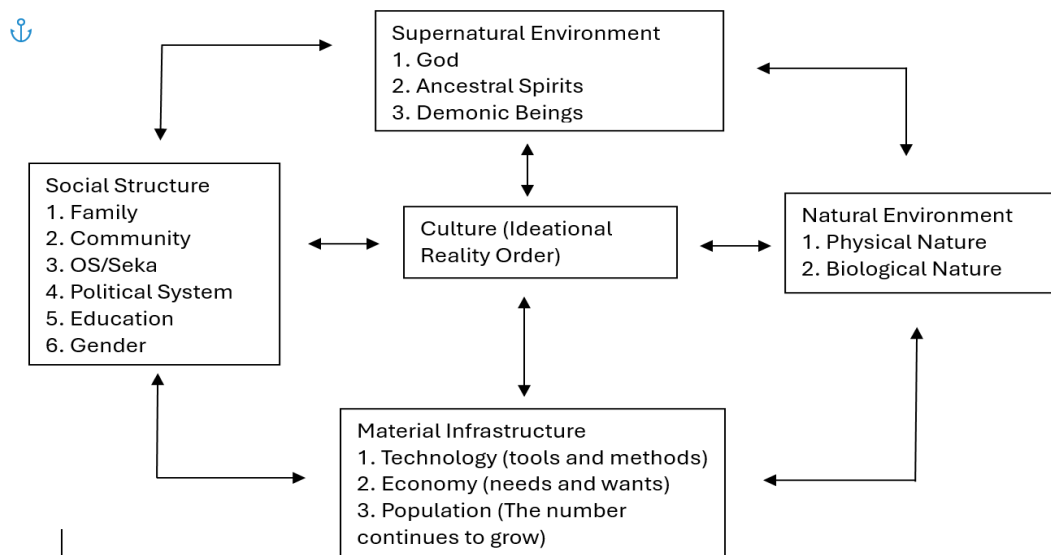


Fig. 3. Holographic Image of Balinese Cultural Perspective (Modified)  
(Atmadja, 2010)

Based on this chart, Atmadja (2010) states that Balinese people have two perspectives on the environment. First, the environment is *sekala* in the form of a biophysical natural environment. Second, the non-scale environment in the form of the supernatural environment (ancestral spirits, gods, demonic beings). The scale and abstract environments are interconnected and intersect. If the relationship between the two environments intersects, it makes Balinese people not ignore every action taken. Because humans can cause chaos in the natural environment (*sekala*) which can create disharmony with the natural environment (*niskala*).

Consequently, humans must be aware of their presence in nature (*sekala*) and so they must or can be said to be obliged to preserve and avoid disharmony with nature (*sekala*). The ethics of ecocentrism can be seen in Balinese ritual practices which contain that humans are aware that when destroying nature will cause the anger of God or ancestors so that it will have an impact on natural disharmony. Gorda & Wardani (2020) mentioned that some rituals Hinduism were performed by Balinese people become an important element to maintain natural harmony of environment. Various Balinese rituals that have instilled ecocentrism are *Tumpek Wariga*, *Tumpek uye*, *Wana kertih*, *Danu kertih*, *Jagat kertih*, *Samudra kertih*, *Nyepi*, *Nangluk*. The rituals are said to be rituals ordered by the gods to maintain and preserve the environment in Bali.



Fig. 4. *Bog Bog* cartoon as an ecological wisdom of Balinese Hindu community  
(Bog-Bog, 10<sup>th</sup> Edition, Volume 10)

Swandi (2017) mentions that in addition to rituals, there are other strategies to protect the environment based on ecological wisdom thoroughly cartoons. The cartoons named Bog-bog and was Balinese cultural values. Bog-bog was illustrating some general Balinese society, and it was showed that *palemahan* in an inseparable bond. This means that the entity of Balinese society cannot exist without its *palemahan*. Bog-bog showing some signs or appearance from that cartoons which consists of one frame with a single tree illustration in *poleng* cloth with a color shrine. The color of the image is complete, the sanserif-style bog-bog typography is quite dynamic. The picture shows a flourishing tree with branches filled with green leaves. The trunk of the tree is wrapped in *poleng* cloth (the meaning of *poleng* cloth or *saput poleng* is a black and white square patterned cloth that has become part of the religious life of Hindus in Bali. *Saput* means blanket and *poleng* means striped. So, a striped blanket with a black and white checkered pattern is typical of Bali. The tree has *pelelingih* and *canang*. In the background of the picture are wooden stumps and an axe left over from forest clearing activities.

### 3.2.2 Balinese people on water

Suardana Suardana (2010) reported that in 2000, Bali has water crisis, the water deficit increased to 7.5 billion cubic meters per year. Based on DW's data reported that in 2019, amount of 60% of Bali's watersheds have experienced drought, so there must have a rapid response in awareness, conservation and policy coordination. Based on Prihatini's (2020) research, it can be said that water is an important part of Balinese daily life, especially in agriculture and religion (some rituals use water for it). Agricultural sectoral is main livelihood in Bali, in agricultural sector, water being the main necessity in irrigating rice fields. Hinduism recognized water for their rituals as *yeh*, *toya* and *tirta*. Three names that have different function on their rituals, such as *yeh* used for daily needs, *toya* and *tirta* used for religious ceremonies after being purified. So, water has so many roles in human and environmental interactions.

Balinese people have managed water from the past to the present. The way people manage water can be observed through three elements, namely the first element in terms of religion or belief, Balinese people believe that all of God's creations in the world must be treated fairly and harmoniously. The second element is the creation of social relations with the concept of "*tat twam asi*" which means "I am you" and vice versa, this indicates that the realization of equality is realized through the organization of the traditional village system and customary law. The third element is harmonization or harmony efforts realized in behavior towards the environment and means of environmental management by considering the principles of harmony and sustainability (Yase & Irawan, 2023). Water management in Bali can be seen from the local wisdom of the local community, including the use of ditches (*jelinjingan*) used for drainage, irrigation arrangements for rice fields in accordance with customary organizations (*subak*) and management of rice field water by making infiltration ponds (*bulakan*). Usually at the location of the water source, a sacred building is erected or sacred which is used to maintain the sanctity of the river as well as plants and the surrounding environment (Nastiti et al., 2022).

On water management, Lanya et al. (2017) mentioned that Balinese people have not been optimal in maintaining existing water sources. This is due to land conversion to become housing, offices, and other users that encourage the loss of *subak*. The high rate of land conversion around Bali has resulted in the loss of about 800 hectares of paddy fields per year. The increase in land use change has led to a decrease in the quality and quantity of water around Bali. The surrounding community initially only utilized water for agriculture, now water is also used for other purposes such as household needs and tourism. Decreased water quality causes irrigation water to become dangerous for agriculture due to the disposal of household and industrial waste directly into the river.

Strategies in water management prioritize environmental, economic, social, cultural, and institutional legal aspects. In the aspect of institutional law that has a relationship with

the economy, environment, and local government of Bali can cooperate by requiring all companies in Bali to hold a Corporate Social Responsibility (CSR) program that can help in efforts to manage Bali's nature and culture (Dianti & Mahyuni, 2018). The government, entrepreneurs, and the community work together with the same goal of preserving Bali's nature and culture. The results of this cooperation can increase domestic and international tourist visits to Bali.

The *subak* system practiced by Balinese people has the aim of maintaining the components of nature, community environment, religion, and culture. The traditional concept must be maintained, so as not to be vulnerable in the face of global currents and urbanization that increasingly shape Balinese traditions as economic assets. The application carried out in the *subak* system is *parahyangan* which has a harmonious relationship between humans and God, *pawongan* is a harmonious relationship between humans and their neighbors, and *palemahan* is a harmonious relationship between humans and nature and the surrounding environment. The *Tri Hita Karana* principle must still be carried out together to improve and maintain the values, religion, behavior, social roles of natural resources and existing Balinese culture (Dikta, 2020). To maintain the quality and quantity of water in Bali, farmers who are members of *subak* must work together in cleaning local irrigation channels. The process of cleaning irrigation channels ensures that there is no garbage blocking the flow of water and ensures that no hazardous materials are directly discharged into irrigation channels without prior management. Community participation in protecting the environment is also in the daily life of Balinese people where there is a ban on littering, urinating, and defecating in river bodies. According to Sudayarti & Adnyana (2018), there is a Balinese belief that waterways from household disposal and rivers must be maintained properly. If there is a blockage in the channel, there will be a major disaster that will affect the Balinese people, such as flooding. Preserving *tirta* water is not only done by the Hindu community in the upstream area but the Hindu community in the downstream area must also protect the source of water, namely sea water. Sea water for the Hindu community is holy water that can clean all dirty things so that it will be holy again. The water that flows from the mountains to the sea is a unity known by the Hindu community with the concept of *nyegara gunung* (Sea-Mountain).

*Nyegara gunung* is proof that the Hindu community in Bali is strongly committed to protecting water from upstream to downstream. The role of *seka truna truni* is very important to keep the traditions that have been passed down from ancestors to be preserved until the future. *Seka truna truni* (STT) is an organization of young people to maintain Balinese culture. The organization is expected to be a forum for developing the creativity of teenagers around the Balinese area and become a place to preserve the culture and traditions of the Balinese people. Because of the beauty of the culture and tradition of customs in Bali that invites tourists to visit Bali (Dewi et al., 2018).

The local government of Bali is developing sustainable tourism that can help improve the sustainability of conservation and water availability in Bali. This tourism prioritizes environmental, social and economic aspects into strategies to ensure the safety, capability, harmony and well-being of the Balinese people now and in the future. The relationship with water conservation is to prevent a worsening water crisis in Bali. The implementation of sustainable tourism development must continue to be supported by all tourism sectors involved so that the ecosystem in Bali can be maintained, not replaced by infrastructure and other tourism support facilities that do not think about the impact on the environment. So, it is expected that the development of tourism in Bali is increasingly friendly to the environment will maintain the ecosystem and reduce the impact of environmental damage and social impacts on the original culture of the Balinese people.

### 3.3 Balinese people on the forest

Wisnawa et al (2020) mentioned Forests in Bali are important as the lungs of the world, a source of oxygen, and the preservation of humans and animals. People also need forest

wood for building materials and cages. In Balinese Hinduism, they preserve nature based on the concept of *Tri Hita Karana*, which connects humans with nature and worships it. Balinese people have concepts and customary traditions in preserving nature, especially forests. The ritual of preserving nature is marked by a Balinese religious ritual called *Tumpek Wariga*, in which Balinese people respect and preserve nature in the form of plants that have provided life for humans and animals. In the royal era, there were already several Hindu literary texts that contained sanctions for people who cut down trees carelessly (Tri et al., 2022). It is concluded that humans live in part of nature, and it is nature that provides life for humans. Balinese Hindus often sacralize forest areas. Some Balinese Hindus believe that there are values that cannot be measured or can be said to be magical values behind the phenomena that exist in forest areas.

Based on Hanifah (2023) research was mentioned that in Bali, forest areas serve as a harmonizer and balancer of daily human needs. Forests have an important role in regulating hydrology, climate, and protecting biodiversity. Adaptation based on local wisdom is needed to maintain ecological balance. Local wisdom, especially in Balinese Hindu society, can help manage the environment well. Forest destruction in Bali is caused by fire, illegal logging, and improper management. Abused forest utilization will get sanctions, such as being sought by supernatural beings, paying fines with special coins, or bald curses. Environmental protection efforts must be made by all parties to preserve the forest.

According to Act No. 41 of 1999, the purpose of forest management is to maximize the prosperity of an equitable and sustainable society by optimizing various forest functions including conservation functions, production functions and protection functions to reach benefits from three aspects, namely environmental, social and economic, which are harmonious and sustainable. Nature management, one of which is forests, is closely related to local wisdom, one of which is Bali Province which is famous for its tourist destinations. Many non-local people or tourists often visit Bali every year for the purpose of traveling. Therefore, Balinese people have a stake in utilizing and optimizing the potential of forests both from tourist destinations, plantation land, agriculture along with their local wisdom.

Balinese people, especially Hindus, have an important role in maintaining forest sustainability in an integrated manner. There are several strong principles that underlie the importance of the role of Balinese Hindus in forest management, namely as follows. Balinese Hindus are more strongly motivated as recipients of valuable incentives to protect and manage forests than outsiders. Balinese Hindus have accurate information and knowledge on how to preserve, protect and manage their forest resources. Balinese Hindu society has customary laws or sanctions to enforce. Balinese Hindu communities have customary institutions to regulate harmonious interactions between themselves and the forest ecosystem. Most Balinese Hindus already have organizations and connections to build a sense of solidarity among the communities and to organize political support.

The activities of Balinese Hindu communities towards forest resources are important to build harmony with nature according to customary law. Balinese people have different views and are thick with ancestral values in protecting forests. *Awig-awig krama desa* acts as a guideline in implementing *Tri Hita Karana* (an adaptive relationship in overcoming environmental damage). Cooperation between the government, the community and the business world are essential in community forest management. The development of a system based on Balinese Hindu customary society is needed in community development and forest management. One concept is to utilize local wisdom like below:

In addition to *awig-awig*, local wisdom-based forest management includes *dresta* or traditions in Balinese villages, religious ceremonies and myths. *Dresta* or traditions that have been carried out by indigenous ancestors characterized by their happiness until now become the heritage of Balinese Hindu society. Like a positive view they consider the forest is *mretiw* which means the forest is as a sacred place to organize various religious ceremonies. Other traditions refer to forest preservation, in the utilization of forest resources, local communities must follow local customary rules that have been agreed upon. There are several religious ceremonies related to the forest including *Shabha ngubeng*,

*Sabha Sabuh Baas, Sabha Nyeta, and Sabha Malguna.* Some of the religious ceremonies that have been mentioned have different locations to carry out their religious rituals. There is a myth that the community really believes in the awesomeness of these forests. The forest is in *Congkang* village, known as *Pameman* forest with an area of 42 ha, another forest in the north of the village, known as *Batunya* forest with an area of 10 ha and another forest known as *Sangiang* forest with an area of 30 ha. The three forests have different awesomeness. *Sangiang* forest is known to be the most haunted. In one of the forests “*Lingga Yoni*” which can only be seen by certain people such as indigo children and “*Lingga Yoni*” is present on certain days only. “*Lingga Yoni*” is considered the embodiment of Lord Shiva, if there are people both local and non-local entering the forest area without notice until there is a bad intention then the community will get a disaster. In addition, there is another myth somewhere that if there are local people who are sick without knowing the cause until they have examined the doctor, then the person appeals to the “*Ida who melinggih*” in the forest, through the local “*pinter*”. *Nunas tirta* from the forest makes the person healthy. Something that is difficult to prove scientifically.

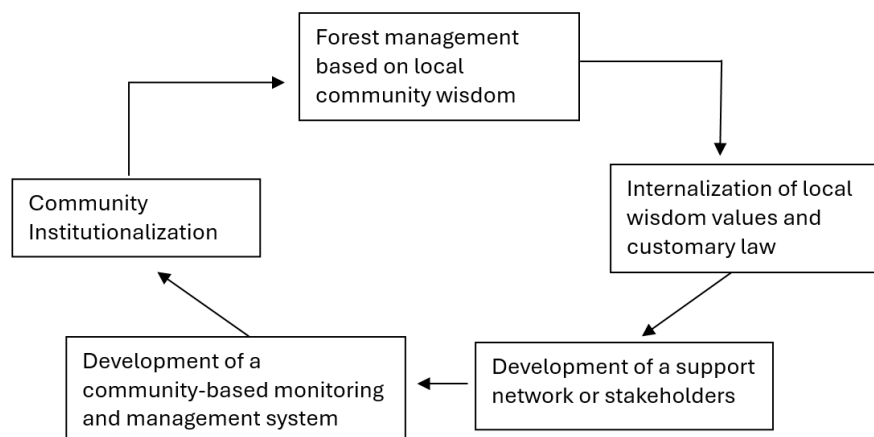


Fig. 5. Forest Management Based on Balinese Local Wisdom  
Rahman & Jalaluddin, (2022).

Forest management efforts that can be carried out by Balinese people will contribute to social, economic and hydrological aspects. Current conditions show the existence of local wisdom that leads to economic aspects. To maintain the values in natural resource management that have been owned by the Balinese people, there are strategies that can be carried out including Strategies in managing forest resources around Bali require the role of government and stakeholders for better management. The government and relevant stakeholders facilitate community access to utilize forest land to support bamboo development and welfare improvement. The government and relevant stakeholders increase community guidance in managing forest resources with the concept of sustainability, togetherness, harmony, biodiversity, compliance with customary law in the development of local wisdom to produce an environmentally sound sustainable development, utilization in economic aspects, ecological aspects that do not damage natural resources and cultural aspects by maintaining and respecting human values. Based on Chapter VI Article 25 of the Minister of Forestry Regulation Number P.89/Menhut-II/2014, it explains that the utilization of protected forests includes business activities and services. Forest utilization in the field of business such as various cultivation of medicinal plants, ornamental plants, mushrooms, bees, animal feed, wildlife breeding, and animal rehabilitation. Forest utilization in the field of services such as water flow, nature tourism, biodiversity protection, environmental rescue and protection, carbon sequestration or storage, and collection of Non-Timber Forest Products (NTFPs) such as rattan, sap, honey, fruit, mushrooms, and swallow nests. Forest utilization policies in business and service activities provide opportunities for the community to meet their needs.



## 4. Conclusions

Based on the literature study that has been conducted in the writing of this paper, it can be concluded that the Province of Bali which consists of Jembrana, Tabanan, Buleleng, Gianyar, Klungkung, Karangasem, Bangli, Badung and Denpasar City already has a community that has an ecocentric paradigm towards the environment, water and forests based on their religious teachings and local wisdom.

The Balinese Approach to Environmental Stewardship Is Deeply Rooted in Local Wisdom and Religious Beliefs. Balinese society demonstrates a strong commitment to environmental protection, guided by the principles of ecocentrism and the Hindu philosophy of *Tri Hita Karana*, which emphasizes harmonious relationships between humans, nature, and the divine. This worldview is evident in daily practices, rituals, and community-based management systems. For example, the *subak* irrigation system, local bans on polluting waterways, and the sacred treatment of forests all reflect a holistic understanding that environmental stewardship is both a spiritual duty and a practical necessity. Traditional knowledge, religious rituals, and customary laws (such as *awig-awig*) collectively ensure that nature is respected, preserved, and integrated into the cultural identity of the Balinese people.

However, Bali currently has modern pressures challenge traditional environmental practices, necessitating integrated and collaborative solutions. Despite strong cultural and religious foundations for environmental care, Bali faces significant challenges from urbanization, tourism, and land conversion, which have led to water crises, loss of agricultural land, and threats to forest sustainability. These pressures risk undermining traditional systems like *subak* and the customary management of forests. Addressing these challenges requires coordinated efforts involving government policies, community participation, and private sector engagement, such as the implementation of Corporate Social Responsibility (CSR) programs. Sustainable tourism development and the revitalization of youth organizations (such as *seka truna truni*) are also critical for maintaining ecological balance and cultural continuity in the face of modernization.

Balinese environmental ethics are deeply rooted in the belief that nature is sacred and must be treated with utmost respect, as any harm inflicted upon the environment is seen as causing disharmony not only in the physical world but also in the spiritual realm. This perspective is reflected in the integration of religious rituals and local wisdom into water and forest management practices, ensuring that conservation efforts are both culturally embedded and community-driven. However, the increasing pressures from land conversion, waste pollution, and the rapid growth of tourism present significant challenges to these traditional systems. To address these issues, it is recommended that Bali strengthens the incorporation of its sacred environmental values into policy and education, empowers community-based management through support for customary institutions and youth engagement, and enforces regulations that prioritize sustainable land use and responsible tourism. Additionally, fostering collaboration between.

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