



# Documentary Photography as a Tool for Environmental Education and Preservation of Paracas National Reserve

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**Abstract.** This study focuses on analyzing the perception of the role of documentary photography as a tool for preservation and environmental education in the Paracas National Reserve, from the perspective of park rangers and documentary photographers. The methodology employed has an interpretive paradigm with a qualitative approach. An ethnographic design was applied to a sample of park rangers with at least 20 years of experience and documentary photographers with at least five years of experience. Data were collected through semi-structured interviews, and thematic analysis was applied for the development of the results. The findings suggest that documentary photography can be a powerful tool to educate, evidence, identify and communicate about the biodiversity of the Paracas National Reserve, as well as to raise awareness and encourage reflection on the importance of nature and its conservation. Collaboration between photographers and park rangers can turn documentary photography into a vital ally for environmental conservation and the promotion of greater respect for nature.

**Keywords:** Documentary photography, Environmental Education, Preservation, Paracas National Reserve.

## 1 Introduction

Photography, as an instrument of art, denunciation, reflection, social transformation, or reflection of reality, can collaborate intensely in educational processes that contribute to an emotional and intellectual reconnection between societies and nature, thus sustaining the vital force of the planet Earth. [1, 2]. Nowadays, we live immersed in an era of transformation, where global awareness about climate change and its implications is constantly evolving [3]. In the Latin American context, the importance of environmental conservation is highlighted by the existence of 1,949 protected areas, covering more than 211 million hectares of terrestrial territory and 2.1% of the total marine surface area [4]. This extensive network of nature reserves represents a tangible commitment to the preservation of biodiversity and regional ecosystems [5]. In

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this context, the spread of protected areas and the growing preference for the immediacy of images and electronic devices underline the fundamental role of photography as a means of communication [6, 7].

Photography goes beyond the simple capture of images, but rather encourages a deeper observation and visual representation that transcends conventional informational documentation and becomes a tool to drive changes in attitudes and behaviors in the face of environmental challenges [6]. In the field of photography, the advertising branch is distinguished, which focuses on visually persuading to promote products and brands, taking advantage of the emotional connection that they generate with the target audience [8]. Journalistic photography is dedicated to covering contemporary news and events, offering a visual representation of current affairs [9] while documentary photography seeks to narrate reality in an objective and in-depth manner, exploring social, cultural, and historical issues [9, 10].

The latter plays a fundamental role at a global level in promoting environmental conservation [6, 11]. Through images imbued with different languages and discourses, it offers a diverse view of how we perceive and are observed in relation to our surroundings [12]. This visual medium reflects a growing interest in society to contemplate and reflect on nature, recognizing its ability to sensitize people to the importance of preserving nature and its ecosystems [11, 12].

In the specific context of nature reserves, documentary photography plays a crucial role in environmental education by capturing the beauty and diversity of these protected areas [1, 6, 11]. More than simply being a passing fad, these images play an essential role in educating about the importance of appreciating and preserving the natural environment [13]. This underscores the need for environmental education policies that encourage changes towards the conservation of these ecosystems and their biodiversity [6]. For photographers, their goal lies in disseminating messages that raise awareness of environmental challenges and the commitment that society has towards them [11, 13]. In a globalized context, where mass media have contributed to consumerism, photography is presented as a potential vehicle for environmental education and social transformation [1, 14].

At the international level, research in Colombia introduced a multimedia digital album as a pedagogical strategy to encourage students' participation in wildlife protection and conservation, which indicated a positive impact on students' participation in wildlife protection and conservation [15]. Another research [16] which was carried out in Ecuador, suggests that documentary photography can emerge as an effective tool to raise public awareness of environmental awareness, constituting an effective means of communication in the battle against pollution. A recent study [17], conducted in Cantón Cayambe, Ecuador, demonstrated how educational technologies can play a vital role in raising awareness and conservation of local biodiversity.

At the national level, there are few studies that address the intersection between documentary photography, environmental education, and the preservation of the Paracas National Reserve. However, a recent study [18] highlights the potential of docu-

mentary photography to contribute to cultural development and transmit values through photographic series. This study chose the Paracas National Reserve because it is home to a rich and varied wildlife and covers a protected area of approximately 3350 square kilometers [19]. Despite the support provided by Law No. 28611 General Environmental Law, which promotes environmental education as a comprehensive process aimed at cultivating knowledge, attitudes, values, and practices that are respectful of the natural environment [20], the reserve faces threats such as abusive fishing, mining activities within the protected area, excessive visits and recreational activities at certain beaches [21]. Therefore, this study seeks to analyze the perception of the role of documentary photography as a tool for preservation and environmental education in the Paracas National Reserve, which is the most crucial point along the Peruvian coast for numerous species of mammals and birds [22]. Therefore, we seek to answer the following question: What are the roles of documentary photography as an environmental education tool for the preservation of the Paracas National Reserve, according to the park rangers of the Paracas National Reserve and documentary photographers?

## 2 Methodology

This study adopts the interpretive paradigm, focusing on understanding human experiences, actions, and meanings in specific contexts [23]. Its qualitative approach concentrates on exploring in depth the experiences, opinions, behaviors, and contexts of participants to gain a more complete understanding of their experiences in their natural environment [23, 24]. The choice of ethnographic design facilitates social research by providing an in-depth, contextualized, and unbiased understanding of social phenomena [25].

Documentary photographers with 5 to 35 years of experience have been selected because of their ability to capture the essence and reality of places like the Paracas National Reserve, which helps to understand their diversity and the challenges they face [11]. At the same time, park rangers, with 1 to 20 years of work experience in the Paracas National Reserve, who belong to SERNANP - National Service of Natural Areas Protected by the State, have been chosen. The reserve was chosen for this study because it is recognized as one of the most important protected areas in Peru due to its ecological importance and its crucial role as a habitat for numerous species of mammals, birds, fish, and shellfish [22]. Sampling was carried out by convenience, allowing easy access to individuals with significant knowledge about the Paracas National Reserve [23].

Data collection was conducted through semi-structured interviews to allow for a flexible and in-depth exploration of participants' experiences and perspectives [25, 26]. The instrument has two parts: a) the role of documentary photography as a tool in the preservation of the Paracas National Reserve and b) the perception of documentary photography as an environmental education tool for the preservation of the Paracas National Reserve. Prior to the start of the interviews, the instrument was validated through three pilot interviews to ensure participants' understanding of the ques-

tions. All participants were provided with an information sheet that addressed aspects related to the research, confidentiality, and handling of personal data.

Between March and April 2024, a total of 21 semi-structured interviews were conducted (Table 1). Interviews were conducted in the virtual modality, through Zoom, and face-to-face. Video calls were used to interview experts residing out of town due to their field work, while face-to-face interviews were conducted with people residing in the Paracas National Reserve, during their working hours. The duration of the interviews ranged from approximately 20 minutes to 60 minutes. The data collected were initially recorded to proceed with the thematic analysis, which was divided into four phases: a) Transcription of all interviews in Word format, (b) Detailed and repeated reading to acquire a deeper understanding of the information, (c) Thematic coding and categorization to identify themes and categories, (d) Writing up of results [24, 27].

Table 1. Characteristics of the participants

Participant	Age	Sex	Profession	Years of experience	Duration
P01	29	Female	Management and tourism	4 years	00:20:14
P02	31	Male	SERNANP	4 years	00:27:51
P03	66	Male	SERNANP	12 years	00:23:19
P04	30	Female	GP Biologist	2 years	00:20:57
P05	38	Male	Tourism Specialist	5 years	00:42:19
P06	68	Male	SERNANP	15 years	00:29:34
P07	30	Female	SERNANP	6 years	01:02:03
P08	25	Male	SERNANP	1 year	00:21:26
P09	69	Male	SERNANP	More than 20 years	00:22:05
P10	24	Male	Photographer	6 years	00:35:17
P11	31	Male	Photographer	6 years	00:30:30
P12	26	Female	SERNANP	1 year	00:23:22
P13	34	Male	SERNANP	4 years	00:38:25
P14	27	Male	Photographer	8 years	00:26:06
P15	45	Male	Photographer	25 years	01:07:56
P16	59	Female	Photographer	30 years	00:31:31
P17	45	Male	Photographer	24 years old	01:11:24
P18	35	Male	Photographer	11 years	00:38:57

P19	39	Male	Photographer	14 years	00:23:07
P20	56	Male	Photographer	35 years old	00:31:33
P21	55	Male	Photographer	35 years old	00:39:41

### 3 Results and discussion

#### 3.1 Roles of documentary photography as a tool for environmental education and the preservation of the Paracas Reserve

According to the interviewees, the roles of documentary photography as a tool for environmental education and preservation of the Paracas Reserve are a) to raise awareness and sensitize people about the environment, b) to transmit messages through images, c) to educate for environmental protection, and d) to demonstrate and identify biodiversity.

##### a) Raise awareness and sensitize about the environment

According to those interviewed, documentary photography plays an essential role in the preservation of the Paracas National Reserve by raising awareness and sensitizing the population. By presenting reality in a powerful way, documentary photography raises awareness about the importance of conserving ecosystems and biodiversity. Well-photographed images, accompanied by an appropriate narrative, have the power to generate a profound impact on people, making them more aware and responsible for the protection of the environment and the species that inhabit it. Interviewees noted that images can capture both the natural beauty of the area and the negative impacts of human activity, such as pollution. This generates empathy and raises public awareness of the importance of protecting the environment. Documentary photography and conservation go hand in hand, as images can be a powerful tool to educate, inspire and motivate people to take action to protect and preserve the environment. However, some interviewees highlighted that the lack of adequate resources and dissemination strategies can limit the reach of these environmental awareness initiatives. In relation to the first finding of raising awareness, a recent study mentions that photography plays a crucial role in the understanding and representation of the world, both in the journalistic and artistic fields, and can have a profound impact on public opinion and social awareness [9]. However, another study, mentions that environmental awareness is still weak, which indicates the need to advance in this aspect and where education plays a crucial role [28]. On the other hand, regarding the second finding of raising awareness, along the lines of Fernandez et al.[6], points out that documentary photography, by offering a visually striking view of the negative effects of inadequate solid waste management in mangroves, can be an effective means to raise awareness and motivate action in the conservation of these and other vulnerable ecosystems. Also, a recent study highlights the crucial role of digital photography as a tool to raise awareness about different issues, especially in relation to the environ-

ment, where digital images have the power to sensitize, move or alert on various issues [29]. In summary, the present finding demonstrates the crucial importance of documentary photography in environmental awareness and conservation of vulnerable ecosystems, such as the Paracas reserve. By strikingly presenting reality, both the natural beauty and the negative impacts of human activity, the images generate empathy and raise public awareness. In addition, documentary photography acts as a powerful tool to educate, inspire and motivate people to take action to protect and preserve the environment. However, the need for adequate resources and dissemination strategies to broaden the reach of these environmental awareness initiatives is emphasized [19, 30].

"Photography and preservation remind me that the world is changing. By capturing an image, it stays in time and manages to preserve past ecosystems." (P14)

"I think documentary photography is the most powerful medium we can use to educate, to raise awareness, to change consciences, to create a new kind of citizen." (P15)

#### b) Conveying messages through images

According to the interviewees, they commented that conveying a message is one of the roles of documentary photography, because it has the unique power to capture the essence of a situation, story, or place in a single image. Likewise, the interviewees emphasized that documentary photography can serve to give voice to the voiceless, allowing the images to speak for themselves and create a lasting impact on the viewer. In addition, they highlighted its ability to inspire emotion and action. However, some interviewees commented that the effectiveness of documentary photography in conveying a message depends largely on the photographer's ability to capture reality authentically and honestly. This finding coincides with a study [11], the nature photographer is distinguished by his or her unique eye and ability to tell stories through his or her images, generating awareness about conservation. In addition, interviewees noted that the viewer's interpretation plays a crucial role in the reception of the message, as each person may perceive an image differently. This finding coincides with studies [29, 31] which indicate that photography plays a crucial role in the construction of social representations of the environment by providing a visual way to convey information and feelings about environmental issues in an impactful way. Moreover, according to Cirillo et al. [12] the importance of photography as a means of communication that provokes discourses in various fields, including the preservation of memories and cultural goods, as well as its relevance in the scientific and technological fields, is highlighted. In summary, this finding shows that it is important to recognize the power and influence of documentary photography as a means of communication and expression. Documentary photography not only captures reality in an authentic and honest way, but it also has the capacity to transmit powerful messages and generate a lasting impact on viewers.

"Documentary photography takes a look at different activities through an image with the purpose of conveying a particular message. Through an image, you can evidence and raise awareness about a problem." (P05)

"We as photographers can't act immediately, but we can show what's happening through publications. Also, for that photo to be transformed into actions, it has to reach the right audience." (P18)

c) Educating for environmental protection

According to the interviewees, they commented that education is one of the roles of documentary photography, because the images can be used as educational tools in interpretation centers and outreach activities, helping people understand the importance of conserving the reserve and its unique biodiversity. Interviewees also emphasized that documentary photography can inspire people to take action to protect the environment and promote greater knowledge and appreciation of nature. However, some interviewees commented that there is a need to improve access to environmental education and encourage greater community participation in conservation initiatives. This finding is consistent with a recent study [6] which indicates that environmental education should begin with activities that allow participants to interact with the ecosystem; and photography stands out as an effective tool to show the interrelationship between living beings and human impacts. Likewise, another study agrees with this finding, pointing out that documentary photography can be a powerful tool to transmit knowledge, promote critical reflection, foster social and cultural awareness; and stimulate creativity and personal expression of students [10]. Furthermore, according to Grilli et al. [14] photography facilitates the recording and analysis of biological phenomena and can improve the teaching and learning of biology through visual access to knowledge and the use of digital technologies. In summary, the present finding demonstrates that it is important to integrate documentary photography in environmental education programs, since it can serve as an effective educational tool and motivate actions to protect the environment and promote knowledge and appreciation for nature.

"The image or photographs would be a great help for education. We can take those images to the environmental education activities that we develop in the schools. Even to the same population we can show them through slides, and we expose who we are, what institutions we are, what we do and everything else." (P13)

"We started to educate citizens. Then, when the citizen is informed and on top of that sees images, he becomes aware in a much more real way, because he is seeing the images, and I really think that makes you start to care." (P16)

d) To evidence and identify biodiversity

According to the interviewees, evidencing and identifying are two of the fundamental roles of documentary photography. They mentioned that by showing evidence, local people and the general population can be informed about the activities of the park rangers in the Paracas National Reserve, as well as the diversity that characterizes it. In addition, they emphasized that by highlighting the landscapes, wildlife and conservation actions, awareness of their importance can be raised. However, some interviewees expressed concern about the disclosure of sensitive information, such as the location of vulnerable species, which could generate greater risk due to unwanted attention from photographers and tourists. They also mentioned that identifying the biodiversity present in the reserve is another crucial aspect of documentary photography. They recognized that each image could tell a story and provoke reflection in those who observe them, especially when portraying the beauty of nature and documenting endangered species. They also underscored the crucial role of photography in conservation, as it allows for keeping a record of species and behaviors, as well as providing evidence for the control of illegal activities within protected areas. Regarding the first finding, along the lines of the WWF [4], mentions that the images complement the narrative on biodiversity conservation by providing a visual representation of endangered species and the threats they face. On the other hand, with respect to the finding of identifying, along the lines of Thibaud [11] mentions a growing interest among diverse social groups in observing and reflecting on images of nature, recognizing their importance in communicating and fostering knowledge, awareness, and protection of the environment. Likewise, a recent study [32] mentions that the use of photography to monitor birds is fundamental in the development of the bird detection system through image analysis. In summary, documentary photography emerges as an invaluable tool for conservation and environmental awareness in protected areas such as the Paracas National Reserve. Its ability to highlight and identify biodiversity, as well as to tell thought-provoking visual stories, makes it a powerful means of conveying the importance of nature and the need to protect it. However, it is crucial to handle with caution the dissemination of sensitive information that may put vulnerable species at risk. Through collaboration between photographers, scientists and protected area managers, documentary photography can continue to be a vital ally in conserving the environment and promoting greater respect for nature.

"Here, for example, we do photography for the census and monitoring of species, which is the fauna that lives here in the area. So, these species can generate affection for people through a photograph, because they say that this is what is inside a protected natural area." (P02)

"Why is conservation photography useful? Fundamental, because it helps us to have a record of the species that are in TAC (Total Allowable Catch). Through that monitoring, we identify which species we are missing." (P16)



## 4 Conclusions

At the end of the analysis, it was determined that documentary photography plays multiple key roles in the preservation of the Paracas Reserve. In addition to raising awareness and sensitizing the population to the importance of conserving ecosystems and biodiversity, it acts as a powerful medium for transmitting messages, giving voice to situations, stories and places that require attention, and mobilizing the audience to action. It also plays a crucial educational role when used as a tool in environmental education programs, promoting knowledge and appreciation for nature, especially among young people. Its ability to highlight and identify the biodiversity present in the reserve, as well as the conservation actions and challenges it faces, helps to keep a record of species and behaviors, and provides evidence for the control of illegal activities within protected areas.

In terms of research limitations, several significant challenges were identified that affected data collection and information analysis. First, it was planned to conduct all interviews with park rangers from the Paracas National Reserve to obtain a complete perspective of their experience and perceptions of documentary photography in environmental preservation. However, a difficulty was encountered in executing this strategy due to the dispersed location of some park guards in remote areas of the reserve, inaccessible by conventional means of transportation. This limited the number of interviews conducted with park rangers.

For future research, we suggest exploring the perceptions and participation of other key stakeholders in the Paracas National Reserve, such as residents, tourists, and non-governmental organizations, to gain a more complete understanding of perceptions of documentary photography in environmental conservation. It is also recommended to evaluate the effectiveness of new technologies and approaches to documentary photography, and to carry out comparative analyses with other nature reserves to identify best practices in this area.

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