

Creating The Whispers Of Hala Bala Soundscape Album

Sutthiphong Ruangchante

Abstract

The Whispers of Hala Bala Album presents a combination of soundscapes from the tropical rainforests of Southeast Asia with music created by AI, focusing on the natural sound from southern Thailand, especially the Hala Bala tropical rainforests in Narathiwat Province. The project aims, first, to foster a deep sense of connection between people in the communities and urban soundscapes, as well as the natural soundscape of Southeast Asia's tropical rainforest, and second, to promote environmental awareness of this unique tropical rainforest soundscape focus on the Hala Bala Wildlife Sanctuary in southern Thailand. The album, which focuses on four important points in Narathiwat Province, consists of eight tracks: (1) Awakening the City, (2) The Heart of the Forest, (3) Interlude of the Stream, (4) Echoes of the Ancients, and tracks five through eight, combining AI-generated music compositions with authentic ambient sound elements, including hornbills, siamang gibbons, dusky langurs, rough-sided frogs, rain, flowing water, and other natural acoustics, accompanied by contemplative melodies. The result is an engaging audio experience that takes listeners right into the sounds of Southeast Asia's tropical rainforest, helping them feel calm and more aware of their environment while they explore the related exhibits. The project not only celebrates the natural beauty of the region's soundscapes but also demonstrates the transformative potential of AI to create meaningful and deeply immersive listening experiences. We design these experiences to inspire reflection, promote mindfulness, and foster a renewed appreciation of the tropical rainforest in Thailand. We achieve this by seamlessly blending traditional and contemporary elements. It is important to note that music created by AI has certain limitations, and humans continue to be the most nuanced creators of soundscapes with music composition.

Keywords: tropical rainforest soundscape, Hala Bala, the Whispers of Hala Bala Soundscape Album

PROJECT BACKGROUND AND PURPOSE

At present, climate change is having a serious impact all over the world. It is caused by both natural and human behavioral changes. One of the important factors affecting global temperature variability is the encroachment of forest areas without understanding the ecology, biodiversity, and value of forest resources that affect the balance of the ecosystem and global temperature.

Forests are natural resources that help maintain a stable global temperature because forests can absorb carbon dioxide (CO₂) from the atmosphere. In addition, many Trees can help increase humidity by releasing water vapor into the atmosphere, protecting the soil from sunlight, and maintaining the balance and diversity of nature. According to the World Resources Institute (WRI), The forests are a watershed area, a natural water storage, and a habitat for a variety of wildlife. Global Forest Watch in 2019 found the world has approximately 4.2 million hectares or 262.5 million rai of forest, accounting for 31 percent of the world's total area. However, within just 30 years, the world has lost more than 420 million hectares of forest, which accounts for approximately 10.34% of the total forest area. In 2021 alone, the world lost 12% more forests. (World Resources Institute, 2019). The Food and Agriculture Organization of the United Nations (FAO) in 2022 stated that, although the rate

of deforestation has decreased somewhat. The world still loses around 10 million hectares of forest annually, or approximately 62.5 million rai. Moreover, the impact of forest loss has severely impacted species, with over 80% of amphibians, 75% of birds, and 68% of mammals facing habitat loss. (Food and Agriculture Organization of the United Nations, 2022; Seub Nakhasathien Foundation, 2022)

Forest Situation in Thailand, in 2022, Thailand had approximately 102.14 million rai of forest area, accounting for 31.57% of the country's total land area. However, between 2023 and 2024, the highest loss of forest area in the past 10 years was found, accounting for 317,819.20 rai, resulting in the remaining forest area in 2024 being approximately 101.82 million rai, or 31.47% of the country's area. Although more than 101.63 million rai of forest remains in its original state, and an additional 190,335.90 rai has regenerated as new forest, the overall trend still shows a continued decline. (Forest Land Management Office, 2025)

The decline in forest areas in Thailand has affected the ecosystem in many ways. Not only does it cause the loss of wildlife habitats, but it also causes problems of natural imbalance. To cope with the problem of forest loss, sustainable forest resource management policies are needed. Both at the international and local levels, such as supporting reforestation, promoting community participation, and strictly controlling land use. In particular, raising awareness of the conservation of natural resources and forests in the southern region of Thailand, which is Thailand's rich tropical rainforest.

The Hala Bala Forest” is a large tropical rainforest in the southernmost part of Thailand. It covers an area of approximately 626.7 square kilometers, covering Yala and Narathiwat provinces, and connects to the Belum Forest of Malaysia. It is an important source of biodiversity, especially hornbills, which are found in 9 out of 12 species in Thailand. This biodiversity is an indicator of the richness of the forest. Hala Bala Forest is also home to rare animals such as the Siamang, which is black and larger than the common gibbon, the black-handed gibbon, the toad frog, which is the largest frog in Thailand, and many rare trees. In addition, there are also ecotourism attractions such as the Two-Country Sea of Mist Viewpoint, the animal viewing point, the giant sequoia tree, and many waterfalls such as Sri Thaksin Waterfall, Sirindhorn Waterfall, Sai Rung Waterfall, and Bale Waterfall, which help promote learning about nature and sustainable tourism (Tourism Authority of Thailand, n.d.)

The tropical rainforest Sound is a natural phenomenon that occurs only in the environment of the tropical rainforest, which consists of natural sounds, animal sounds, and various species of insect sounds. It also includes sounds of human activities such as ritual sounds, daily life sounds, local language sounds, and ethnic music, which resonate throughout the day. Justin Winkler, a sound geographer, has defined the term “silence” as a consideration of sound and ecology. In his concept, silence is a soundscape that is different from the stillness of an industrial city or factory. “... Silence is a concept that shines, separate from noise and disturbances...” (Winkler, 2006, p. 184)

The soundscape will make the listener perceive the feelings, environment, and phenomena in that area, together as tropical rainforest soundscape, meaning the soundscape in the tropical rainforest. Which is considered a part of the acoustic ecology that humans can perceive, both environmental sounds and sounds from animals, both tangible and Abstract sounds. The tropical rainforest soundscape consists of 2 words, *first*, tropical rainforest, meaning forests near the equator that receive over 100 inches of rain a year and maintain high average temperatures, and *second*, soundscape, consists of sound, meaning vibration that propagates as an acoustic wave, it can be music and noises, and *scape*, meaning, landscape, seascape, or soundscape. In summary, the tropical rainforest soundscape means “sounds that occur in a certain area and certain time in forests near the equator that receive over 100 inches of rain a year and maintain high average temperatures” Currently, there are compositions of

music that imitate and use tropical rainforest sounds as an important component in the compositions.

The person who began to study acoustic ecology seriously and is considered a pioneer of soundscape is Raymond Murray Schafer, a Canadian composer and ecologist. He studied sounds, the sound environment, and noise pollution. He is also the founder of the World Soundscape Project (WSP), along with many other notable artists and researchers such as Barry Truax and Bruce Davis. Soundscape refers to the perception and emotional experience of a place or environment, shaped by the various sounds present in that soundscape area. Soundscape is Mostly recordings of the atmosphere or events at a place, that create memories and open perception in another form because sound can also tell stories.

Applications of soundscape studies include planning for sustainable development in harmony with the environment, designing public spaces that prioritize quality of life, and developing policies for noise control across various areas. To create an environment suitable for people's lives in society and their living habits in various areas (Schafer, 1993, pp. 15-53) With such origins and importance, the author is interested in the story of tropical rainforest soundscape, especially the soundscape of the tropical rainforest in the Hala Bala Wildlife Sanctuary. (Narathiwat Provincial Administrative Organization, 2021)

The project aims, first, to foster a deep sense of connection between people in the communities and urban soundscapes, as well as the natural soundscape of Southeast Asia's tropical rainforest, and second, to promote environmental awareness of this unique tropical rainforest soundscape focus on the Hala Bala Wildlife Sanctuary in southern Thailand.

Approach

This project uses a soundscape composition and recording technic, integrating soundscape concepts and theories, music theory, the sound of physics theory, and sound engineering theory. It is a journey to find sounds that indicate the identity of the tropical rainforest, considering the theory of Time and Space. It used knowledge of geography, biology, and sound physics as basic information and used technological devices to collect high-quality data. In addition, the data was collected using a Zoom H8 field recorder, two condenser microphones, and cameras. For mixing and editing, home studio recording equipment was used, along with sound editing software, additional plug-in applications, and an AI-assisted music editing program.

The album represents a unique fusion of world music, and an in-depth exploration of the tropical rainforest soundscapes found in Southeast Asia particularly those of the local markets and the Hala-Bala Wildlife Sanctuary in Narathiwat Province, southern Thailand. This project aims to foster a deep sense of connection between the urban environment, world music, tropical rainforest soundscape, and the ideals of peace and mindfulness of Listeners. The Listening Concept is as follows:

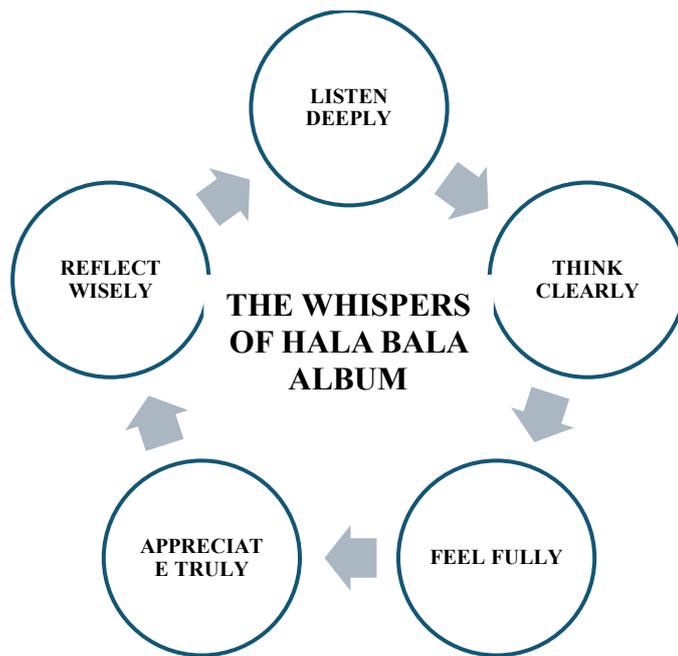


Figure 1: The Listening Concept for the Album Whispers of Hala Bala

The design process is inspired by the 10 innovations of Doblin (2020); the Human-centered design process by IDEO (2013); and the PDCA Circle by Edwards Deming (1951). The Design Process for The Whispers of Hala-Bala Album consists of five steps as follows:



Figure 2: The five steps creative process behind The Whispers of Hala Bala Album

Step 1: Inspiration, the step consists of 3 components. (1) Problems, natural changes, and human behavior of forest encroachment are big problems. (2) People, human live in the forest and surrounding areas lack knowledge and understanding about forests and ecology, and people living outside the area have difficulty accessing the area. (3) Need, the demand for space and resource consumption in the forest area has increased. Cities have expanded and encroached on the forest, reducing the forest area. In addition, global warming caused by many factors has a direct impact on the rapid decrease in the sound of the tropical rainforest. The extinction of living things in the area has greatly reduced the density of the sound of the tropical rainforest, making the sound of the tropical rainforest rare. Therefore, the need to experience the value and benefits of tropical rainforest sound has increased.

Step 2: Ideation, the step has 2 components. (1) Brainstorming, creating, or generating new things requires a team to brainstorm, share ideas, and debate to find strengths and close weaknesses in thinking based on creativity towards innovation by analyzing problems from real situations, asking questions such as what problems there are, what do people think, and what are the needs of the audience and the market? And (2) Planning, planning under the conditions of policy, time, place, and budget are important.

Step 3: Implementation consists of 6 components, (1) Fieldwork, the purpose of this fieldwork is to collect data in the actual area, survey, and experiment with sound recordings to further develop into future spatial research. The trip will be held from October 26-28, 2024, by

plane from Suvarnabhumi Airport to Narathiwat Airport. The survey and sound data collection points are Muang Narathiwat Municipal Public Park, Narathiwat Central Mosque, Buketa Border Checkpoint, The Khok Mai Rua Wildlife Breeding Station, and The Hala Bala Wildlife Sanctuary. (2) Soundscape Composition and Recording, this Album used 2 types of Composition techniques: First, finding the right place and time, installing sound recording equipment, and second, recording sound at every point and then taking the resulting sound files into the sound design process in the recording studio. (3) Data Analysis, this is the process of managing raw data to convert it into in-depth information. and useful information and analyze the information to obtain meaningful sound data that can be used to create works. (4) Plan and adjustment, when we have useful sound data, we design the album and go back to review the Ideation process again to design the works. (5) Mixing, Balancing the various sounds in each soundscape track, both music and sounds of all types of instruments, to be in the right place in terms of loudness-softness, and front-back dimensions, taking into account the mood of the song, bringing out the sounds of important instruments and those of groups of soundscape and music instruments to be prominent, to increase the pleasant sound, linking to sound in The Hala Bala Wildlife Sanctuary. And (6) Mastering: The process of taking soundscape tracks that have been mixed and then carefully adjusting the overall bass and treble tones, managing the level of tightness or transparency of the sound, and adding dimensions to the vocals, soundscape, and musical instruments to maintain the identity that the composer intended to communicate.

Steps 4 and 5: Evaluation and Publication, these steps involve the assessment of the creators, the team, and relevant experts. The publication phase initiates the process of reflection and critique through discussions, learning reflections, and online platforms. The goal is to gather audience feedback and use it to enhance future work.

By seamlessly integrating both traditional and contemporary elements, this project not only celebrates the inherent beauty of the region's soundscapes but also demonstrates the transformative potential of AI in crafting deeply meaningful, immersive auditory experiences. These experiences are designed to inspire reflection, foster mindfulness, and promote a renewed appreciation for the natural world.



Figure 3: The Whispers of Hala Bala Soundscape Album Poster



Figure 4: Awakening the City Poster



Figure 5: The Heart of the Forest Poster, Interlude of the Stream Poster, and Echoes of the Ancients Poster

The album, which focuses on four important points in Narathiwat Province, consists of eight tracks: (1) *Awakening the City*: Immerse yourself in the vibrant pulse of Narathiwat—where the lively market streets and bustling port come alive in the early morning. Experience the heartbeat of the city, (2) *The Heart of the Forest*: Step into the soul of Hala Bala as the dawn chorus of hornbills, gibbons, and exotic wildlife fills the air, greeting the first light in the heart of the rainforest, (3) *Interlude of the Stream*: A serene pause in the day as the sounds of giant mangrove trees, diverse birds, flowing streams, and gentle rain blend to create a tranquil oasis in the midday heat, and (4) *Echoes of the Ancients*: As night falls, the ancient voices of the forest awaken—cicadas, macaques, frogs, bats, and insects weave a symphony of nocturnal life in the heart of the rainforest.

Tracks five through eight combine AI-generated musical compositions with authentic ambient sounds tropical rainforest sounds—such as hornbills, siamang gibbons, dusky langurs, rough-sided frogs, rain, flowing water, and other natural acoustics—accompanied by contemplative melodies.

Results

The Whispers of Hala Bala Soundscape Album: The album intricately blends AI-generated musical compositions with authentic environmental sound elements—such as rain, birdsong, flowing water, and other natural acoustics complemented by meditative melodies. The result is an immersive auditory journey that transports listeners to the heart of the Southeast Asian rainforest encouraging a deep sense of tranquility and heightened awareness of the surrounding environment.

An engaging audio experience in the sounds of *The Hala Bala Soundscape: The Album* takes listeners right into the sounds of Southeast Asia’s tropical rainforest, helping them feel calm and more aware of their environment while they explore the related exhibits. The project

not only celebrates the natural beauty of the region's soundscapes but also demonstrates the transformative potential of AI to create meaningful and deeply immersive listening experiences. We design these experiences to inspire reflection,

The results of the publication in 3 Areas: First, this work has received attention and has been invited to participate in the academic conference of the Council of University Presidents of Thailand (CUP) 2024 (AI IN HIGHER EDUCATION), held on December 21, 2024, Auditorium Room, Learning Exchange (LX) Building, King Mongkut's University of Technology Thonburi. Second, this work has also received attention and has been invited to participate in the art exhibition and charity concert of Shinawatra University 2025, held on February 13, 2025, at the Small Auditorium, Thailand Cultural Center. This work aims to showcase the artwork of Shinawatra University's doctoral students and the performance of the YES Chorus, and the Last. In addition, this work has been used as teaching media in the SSC222 Arts and Humankind course in the first semester of 2024, which is a free elective course in the Social Sciences and Humanities program, Faculty of Liberal Arts. King Mongkut's University of Technology Thonburi's special case of the course is creative soundscape recording through art, science, and their Integration. The learning outcomes are that learners will be able to create, and present soundscape recordings based on core principles and demonstrate awareness of their environmental impact as well as an appreciation for the value of soundscapes.



Figure 6: The academic conference of the Council of University Presidents of Thailand (CUP) 2024 (AI IN HIGHER EDUCATION),



Figure 7: Shinawatra University Art Exhibition and Charity Concert 2025



Figure 8: Teaching Classroom: SSC222 Arts and Humankind semester 1/2024

Reflections on the Listening Experience of The Whispers of Hala-Bala Album by Participants in the First and Second Exhibitions: Listening to the sounds of nature recorded from The Hala Bala Wildlife Sanctuary made participants feel calm, beautifully, like they were really in the tropical rainforest. It was relaxing and suitable for listening, especially when they feel stressed or before going to bed. It can be used for therapy. I like it, am very impressed, and understand nature more. I am aware of nature. Listening through various forms of sound media—such as analog recordings and AI-processed audio creates a profound experience that evokes emotion, highlights beauty, and fosters environmental awareness. The sounds feel incredibly realistic. To the point that it can create an atmosphere that makes the listener feel like they are truly in the middle of a natural forest. However, while those sounds reflect the beauty and tranquility of nature, the listeners feel sad and aware of the fragility of the ecosystem because they know that The Hala Bala Wildlife Sanctuary is one of the forest areas that is facing threats from human activities. Nature is not only the environment around humans but is an important element of life and spirit. Therefore, the sounds of nature are not just background sounds, but the sounds of living things that are beautiful and balanced in themselves.

Reflections on the Listening Experience of The Whispers of Hala-Bala Album by Students in the SSC222 Classroom: It is a new experience for listening and imagining through the sounds of The Hala Bala Wildlife Sanctuary. This Album has artistic value and deep psychology. Furthermore, it can stimulate the feelings and imagination of the listener powerfully. The represented sounds are not just ordinary sound data, but it is a medium that takes the listener on a journey to experience the natural environment through creating imaginary images of the movement of living things, wind, water, and various elements around. What is interesting is that listening to these sounds not only provides relaxation but also creates excitement and curiosity. The listener wonders in their mind, what is the sound they hear. This question not only reflects personal curiosity but also offers the listener a chance to truly experience the act of “listening” in a new way. Especially, sounds that they may have never heard before in their daily lives. Listening to natural sounds in this way has the potential to stimulate interest and learning about the soundscape of the tropical forest, which is a dimension of the environment that is often overlooked. The sounds of birds, wild animals, flowing water, and wind are not only the sounds of things in nature but also symbols of a complex and fragile ecosystem. When these natural sounds are disturbed by human activities, such as deforestation or noise pollution from machines and vehicles, it affects the balance of the natural sound system. Being aware of this point is therefore very important. Because listening to the sounds of the tropical rainforest is not just an activity for enjoyment, but also an exercise in observation, thinking, analyzing, and interpreting critically. Ultimately, listening to the sounds of nature has the potential to create awareness of the role of forests as habitats for various species of life, and can become an inspiration for listeners to realize the value of nature, leading to serious action to protect and conserve the environment.

Reflections on the Listening Experience of The Whispers of Hala-Bala Album by the Team Working: More than just hearing, it is listening with heart. Not only just listening for enjoyment, but also a good tool for practicing mindfulness. The sounds of the tropical rainforest connect the listener to nature place. When we listen intently to the sounds that tell stories—whether it's the voices of people, the rain, a flowing stream, or the calls of creatures in the forest—these sounds help us feel calm, stay mindful of the present moment, reflect on our thoughts and emotions without rushing, and bring balance to both body and mind. In addition, listening intently creates awareness of the beauty and fragility of nature, inviting us to question how long these sounds will continue to be available for us to listen to, creating a sense of cherishing and wanting to be a part of conserving nature so that these sounds will continue to exist.

From the perspective of wanting to create this work through AI, The Whispers of Hala-Bala Album is one example of combining Artificial Intelligence (AI) technology with natural sounds to create a listening experience that connects humans with nature. Although currently, Artificial Intelligence (AI) technology can create sounds that imitate nature, the sounds that occur from nature still have something that technology cannot completely imitate, which is aliveness, which reflects the presence and movement of life in nature. Whether it is the sound of prayers in a mosque, the sound of heavy rain mixed with the sounds of frogs competing to cry, sounds of wind blowing through the leaves of the giant sequoia tree. All of these are sounds that arise spontaneously unplanned and beyond our control. More than just hearing, we feel the emotions that nature conveys through sound. Preserving nature in the real world—not merely recreating it in simulations—is a responsibility we all share.

CONCLUSION

Due to the current severe climate change caused by both nature and human activities, especially the encroachment on forest areas without understanding the ecosystem, the world has been continuously losing forest areas, affecting the balance of nature and wildlife habitats.

Despite the efforts to restore it, the trend of forest depletion, such as in Thailand, is still worrying. One of the forests that is important to the world is The Hala Bala Wildlife Sanctuary, located in the southern part of Thailand. It is a source of biodiversity, both rare animals and endemic plants. In addition to its abundance, this forest also has a tropical rainforest soundscape consisting of sounds from nature, sounds of things, and sounds of human life, which reflects the relationship between the environment and multiculturalism in a valuable way. The Whispers of Hala Bala Soundscape Album is the first project to explore the tropical rainforest soundscape of the Hala-Bala Wildlife Sanctuary. It not only supports physical conservation efforts but also fosters awareness and environmental consciousness through the power of sound. These sounds have become an important tool in creating an understanding of the environment and are a new approach to sustainable nature conservation, especially in important areas such as the Hala-Bala Wildlife Sanctuary.

Reflections on the experience of listening to The Whispers of Hala-Bala album reveal that listeners have opened themselves to new experiences that powerfully stimulate their feelings and imagination. Tropical rainforest sounds are a medium that takes listeners to experience the natural environment, making listeners question what the sound is. It makes listeners turn to experience its value and benefits and create awareness. Because listening to the sounds of the tropical rainforest is not just an activity for enjoyment, but also a practice of observation, thinking, analyzing, and interpreting critically. Using the heart to listen is not just listening for enjoyment, but also a good tool for practicing mindfulness. The sounds of the tropical rainforest can connect listeners to nature. When we listen intently to the sounds that are telling stories, the sound will lead listeners to calmness, mindfulness, unhurriedness, and balance in life.

Finally, The Whispers of Hala-Bala Album is a sound recording in the Hala-Bala Wildlife Sanctuary to be a database of how much diversity and density of sound ecology there is in each area at a given time. This work can help understand participation in the tropical rainforest, create awareness of the impact on the soundscape in different areas, as well as educate communities about conservation and sustainable use of sound. It can also inspire listeners to realize the value of nature, leading to serious action to protect and conserve the environment, to the beauty and fragility of nature, to question environmental conservation, and finally, to the use of AI in this piece. There are still things that technology cannot make this work alive, which is still a challenge for technology developers to continue developing AI in the future.

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