

# Cultural Sustainability in Architecture: Case Study of Bung Bratak Heritage Centre

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**Abstract.** Culture is an intangible aspect of humanity, often unique to its place of origin. The Bidayuh tribe, also known as Land Dayaks, is the second-largest indigenous group in Sarawak, East Malaysia. The tribe's traditional architectural feature of the baruk, accompanied by longhouses, is more of a cultural symbol today. Most traditional structures have given way to modern, individual village houses accessible by inland roads. With the worth of their rich heritage background and diverse dialect groups, efforts are made to preserve their culture for future generations. The purpose of this study is to look into the possibility of preserving tangible heritage by analyzing the built vernacular architecture of a heritage center. This study tends to explore the cultural sustainability representation by the Bidayuh traditional baruk and longhouses. A qualitative approach through a case study research is used as a research method by choosing Bung Bratak Heritage Centre as the case study. The analysis is conducted based on literature review and on-site observation of the case study and concludes the attempt to preserve the culture of the Bidayuh tribe tangibly. The findings indicate that cultural heritage can be sustained in architecture and stir a much-needed sense of appreciation for the vernacular architecture of the Bidayuh tribe.

**Keywords:** Cultural sustainability, heritage, bidayuh, baruk, Bung Bratak heritage center.

## 1 Introduction

The aspect of culture has long been tied to humanities as long as time immemorial. As aptly put by Hosagrahar [1], culture is what defines us. Target 11.4 of Sustainable Development Goals (SDGs) adopted by The United Nations Educational, Scientific and Cultural Organization (UNESCO) focuses on the importance of global cultural and natural heritage being guarded [2]. Teutonico and Matero [3] describe cultural sustainability as ensuring the ongoing representation of history in any development by being heritage-sensitive to the environment.

Bung Bratak Heritage Centre (BBHC) is located in the district of Bau and on what

is believed to be the original settlement grounds of the *Jagoi-Bratak* dialect group of the Bidayuh tribe. The *baruk*, the tribe's most iconic architectural feature, takes prominence in the overall layout of BBHC as it is located at the highest point of the site, with two rows of longhouse terraces fanning out from the central *baruk*.

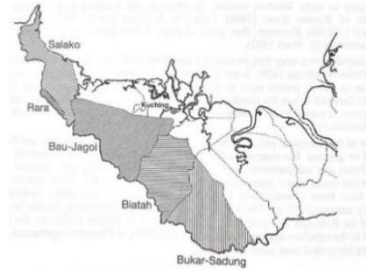
Today, the traditional *baruk* is slowly fading into obscurity due to the religious conversion of a majority of the Bidayuh tribe people from paganism to Christianity and modernity, as the area most populated by the Bidayuh tribe is within the Kuching and Samarahan Division [4]. Most modern village houses located in the Bidayuh areas are individual entities instead of the traditional, communal layout whereby the *baruk* would be located in the center of the kampung, surrounded by longhouse annexes. This paper studies the attempts made to revive the vernacular architecture of the Bidayuh tribe and preserve its cultural value, supplemented by a review of the tribe's background and their traditional village setting.

## 2 Literature Review

The Bidayuh tribe is presumed to be the earliest inhabitants of Borneo, although not much was known about their origin before they settled in Borneo [5]. The tribe's population spread across Lundu, Bau, and Kuching Districts within the Kuching Division and Serian District under the Samarahan Division. The Bidayuh of these areas speak more than 20 different dialects, all under the umbrella of the Bidayuh language, but the significant dialects identified are *Bau-Jagoi*, *Biatah*, *Bukar-Sadung*, *Salako*, and *Rara*.



**Fig. 1.** The map of Sarawak's western end shows Kuching, Bau, and Lundu districts [4].



**Fig. 2.** The map of Sarawak's western end shows the major dialect groupings recognized by the Bidayuh [4].

Previously known as Land Dayak, which is an identity that was given by the Brooke administrators of Sarawak's past, the tribe is finally made known collectively as Bidayuh or "people of the hinterland" upon the passing of the Interpretation (Amendment) Bill 2002 at the State's Legislative Assembly on 6th May 2002 [6].

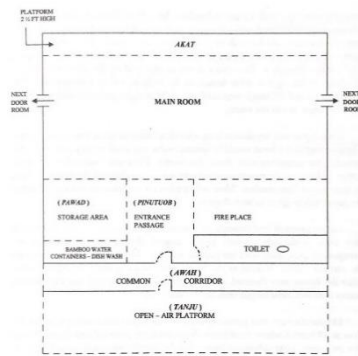
Writers from western countries, among them such as Leach [7], identify the Bidayuh as "those communities of the Division of Sarawak, whatever their dialect, which possesses, or recently possessed a 'head house' (*Balot, Panggah*) as a feature of their village organization." This reference to the 'head house' is the same reference to the *baruk*, the former being a name coined by the Western writers as the structure houses the display of skulls captured during the lawless headhunting days. The *baruk* is one example of an architectural feature of a vernacular structure being the basis of identification for a particular tribe.

The Bidayuh of the olden days dwelled in a village consisting of longhouses almost always centralized by a *baruk*. In the *Jagoi-Bratak* dialect area where the case study is located, the village is called *kupuo* [8]. A longhouse in itself is referred to as a *kupuo* as much as a complex of longhouses. A *kupuo* usually is located close to one another and is dwelled by a small number of families. The vernacular design of a *kupuo* is characterized by its construction material and method. The *kupuo* is built with the support of ironwood or *belian* poles about 7m long and 10cm in diameter, obtained from the surrounding mountainous region, and is typically built in a contoured environment [8]. The roof for the *kupuo* is made from thatched sago leaves, and the floors are made from split bamboos, spread out and tied to timber support using strings of rattan.

The floorplan of a typical Bidayuh longhouse unit consists of the *Tanju, Awah, Pinutuob, Pawad, and Akat* areas [8]. *Tanju* is an open area platform at the front of the longhouse and acts as an extension to the *awah*. It is typically used to dry paddies before husking them and to accommodate the *gawia* celebration consisting of festivals, rituals, and ceremonies to commemorate the successful end of another

year of paddy harvesting. One only enters the longhouse after stepping into the *awah* area, an end-to-end corridor that provides the entrance to each family unit or *romin*. Besides being a means of connectivity to the other *romin*, the *awah* is another area used for *gawia* celebration, as the longhouse tends to get very crowded during the festivities. During regular days, *awah* is mainly used to pound unhusked rice and store excess firewood too large to be kept inside the individual *romin*.

The size of the individual family unit or *romin* is about twelve and a half meters by six meters [8]. It houses the *pinutuob* or entrance passageway, which leads to the *pawad*, a kitchen storage area for kitchen supplies, and a bamboo storage container for water supply. The *pawad* also leads to the lavatory and fireplace for cooking. The main room of the *romin* was for daily activities such as living, dining, and sleeping. At the far end of the main room is the *akat* area, which is normally used for segregation of sleeping for girls and boys of the household. The main room floors and the *akat* are typical of smoothly planned hardwood planks.

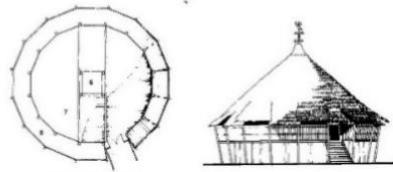


**Fig. 3.** A typical Bidayuh longhouse unit floor plan [8].

The *baruk* is a prominent structure within a traditional Bidayuh village setting. The daily life of the Bidayuh tribe revolves around a deep belief in superstitions and cosmology. As opined by Yunitha and Guntur [9], the structure of the *baruk* itself is deemed to function more of a symbolic connotation in architecture, serving as a place for sacred activities and pagan rituals rather than denoting a place for physical inhabitation. Other functions of the *baruk* range from a dwelling place for unmarried males in the village and male guests from afar to a meeting place where important discussions and decisions are made [10,11]. The *baruk* typically has a circular floorplan of flooring made from split bamboos, spread out and tied to timber support using rattan strings, similar to the longhouse. The walls are slanted timber wall plates tied together by rattan strings to follow the circular floorplan layout.

The *baruk* consists of two levels of platforms [9,11]. On the ground level is where sacred rituals are done, and it also displays an array of gongs and jars. In the middle of the floor plan is the central fireplace, which typically comes from a square or

rectangle base. The upper level is a slightly elevated platform and is mainly used for seating or resting. The roof of the *baruk* is an iconic conical shape, corresponding to the circular floor plan base. This particular roof design itself displays a sense of majesty in that the roof seems to reach out to the heavens.



**Fig. 4.** A traditional *baruk* floorplan and elevation [12].



**Fig. 5.** An authentic *baruk* in Opar, Bau [13].



**Fig. 6.** A *baruk* replica at Sarawak Cultural Village [14].

### 3 Research Method

This paper attempts to study the subject of cultural sustainability in architecture by using a qualitative approach whereby the primary research method applied is through analyzing a case study of Bung Bratak Heritage Centre. The background of the Bidayuh tribe and their traditional kampung setting is reviewed through numerous literature findings that provide further details on those subjects. The architectural layout of the case study is studied in comparison to the typical layout of a Bidayuh vernacular architecture. This is to analyze the authenticity of the representation of the Bidayuh baruk and longhouses on the hills of Bung Bratak.

## 4 Case Study

### 4.1 History of Bung Bratak Heritage Centre

In addition to being the earliest believed inhabitants of Borneo, the Bidayuh tribe migration was also believed to have occurred within the island. The Bidayuh tribe in Western Sarawak are all believed to have descended from nearby Kalimantan, Indonesia, before the formation of the Malaysian-Indonesian borders. Bung Bratak or Bratak Hill bears much historical significance to the Bidayuh tribe, especially for those of the *Jagoi-Bratak* dialect group. This sacred hill area is believed to be their ancestral home after their forefathers had migrated from Mount Sungkong, West Kalimantan, Indonesia. The reason for migration among them is to look for more land for planting paddy fields and to avoid the spreading of infectious diseases [15]. According to the oral history of Bung Bratak recorded in the heritage center [15], around 1838, Bung Bratak village settlement was raided by the Sea Dayaks, now known as the Iban tribe of Skrang. The village was razed to the ground, and the elders were not spared. Children were also kidnapped by the raiders. Amid the attack, a local paramount leader named Panglima Kulow and a few elders survived the attack as they were at the foothills of Bung Bratak, planting paddy as the village was sieged. With the help of the Rajah James Brooke's military assistance, Panglima Kulow managed to claim the kidnapped children back. The Rajah was credited with bringing peace to Sarawak, and after 1841, Bung Bratak was rebuilt and revived. From 1900 onwards, people from the tribe started to descend from Bung Bratak to downhill areas. Today, there are 33 *Jagoi-Bratak* villages in the district of Bau and Lundu, which originated from Bung Bratak. For this reason, Bung Bratak remains a sacred site to the *Jagoi-Bratak* Bidayuh tribe.

Bung Bratak Heritage Centre (BBHC) was a project initiated by Bung Bratak Heritage Association. The heritage center was built to remember the village that once stood there in honor of the highly respected Panglima Kulow. The RM8 million project of BBHC on a 20ha site was financed by the Malaysian Government's Federal Ministry of Tourism and Culture and was implemented by Sarawak Public Works Department. BBHC consists of two longhouses, one for accommodating guests up to 100 persons and another for a conference hall, function room, mini-museum, and an office [15,16].



Fig. 7. Ariel view of Bung Bratak Heritage Centre (BBHC) [15]

#### 4.2 Analysis of Bung Bratak Heritage Centre Setting

The architectural layout of BBHC is based on a radial grid. BBHC's decagon *baruk*, the most prominent structure of a typical Bidayuh village setting, is located on the highest point of the ground, flanked by longhouse terraces on both sides. This layout is close to the original depiction of the village in the olden days. As depicted by Geddes [17], the location favored for a *baruk* is atop a hill with sloping grounds. It gives the illusion of a magnificent structure, almost of heavenly design, and to be the envy of other tribes that come across it. The *baruk* in BBHC also holds a commanding position, functioning as a meeting hall on the site's highest point. It pays tangible homage to one of the primary functions of a *baruk* as a venue for a meeting where important discussions and decisions are made [10,11].



**Fig. 8.** BBHC's decagon *baruk*, which sits on the highest point of the site. [15]



**Fig. 9.** BBHC's *baruk*, which functions as a meeting hall. [15]

The longhouses terraces are built on both sides of the *baruk*, spanning the hill slope. Among the amenities within the longhouses available for rental are the conference hall and function rooms. It also houses a mini-museum to display Bidayuh cultural artifacts and an office for management of the center. In this setting, these commercialized aspects of the longhouses give more exposure to the public towards the architectural design and layout rather than identifying it with their original purpose as a traditional dwelling. However, with such a manner of engagement with the public, the heritage aspect of BBHC is still undisputed. There are seven longhouses built-in BBHC, corresponding to the seven longhouses initially built in the Bung Bratak settlement [15,16].



**Fig. 10.** BBHC's baruk in the centre, flanked by longhouse terraces on both sides [18].

BBHC's longhouse layout also closely resembles the traditional layout of a Bidayuh longhouse. Elements such as the *tanju*, *awah*, and the *romin* were constructed to give an authentic village setting of Bung Bratak. The *tanju* and *awah* typically accommodate the crowd of visitors to Bung Bratak Festival Day, held annually on 1st May, to showcase the culture of the Bidayuh via traditional dance and music performances and the '*Dayung Sangon*' beauty pageant. The usage corresponds to one of the main functions of the *tanju* and *awah* of a typical traditional Bidayuh longhouse and gives visitors a tangible experience of utilizing it.



<i>Tanju</i>	<i>Awah</i>	<i>Romin</i>
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**Fig. 11.** BBHC's longhouses with elements of *tanju*, *awah*, and *romin* present. [15].



**Fig. 12.** BBHC's '*Dayung Sangon*' beauty pageant, was watched by crowds of visitors from the *tanju* and *awah* area of the longhouses on Bung Bratak Festival Day in 2019 [19].



The *romin* area now houses a conference hall, function rooms, mini-museum, and an office within its walls. The original purpose of the *romin* in the longhouse as a residential has been replaced with more functional rooms to accommodate the commercial aspect of the center. Nevertheless, the primary usage of the *romin* in housing daily activities in BBHC still stands true to the *romin's* purpose. Visitors can experience BBHC's *romin* tangibly while having daily activities within it.



**Fig. 13.** BBHC's living mini museum in one of the longhouses' *romin*, where there is a demonstration of a traditional game of walking on long bamboo stilts [18].



**Fig. 14.** Long central walkway between the two longhouse terraces connecting the *baruk* and the longhouses to an observation platform down the foothill where one can view the whole of BBHC [15].

Typical Architectural Element of Bidayuh Vernacular Architecture	Cultural Sustainability Representation in BBHC	Original Usage in Bidayuh Vernacular Architecture	Usage in BBHC
Baruk	✓	Venue for a meeting where important discussions and decisions are made.	Venue as a meeting hall.
Longhouse Tanju	✓	Platform area to dry paddies before husking them and to accommodate the gawia celebration consisting of festivals, rituals, and ceremonies to commemorate the successful end of another year of paddy harvesting.	Platform area to accommodate the crowd of visitors to Bung Bratak Festival Day, held annually on 1st May, to showcase the culture of the Bidayuh.
Longhouse Awah	✓	An end-to-end corridor that provides the entrance to each family unit.	Platform area to accommodate the crowd of visitors to Bung Bratak Festival Day, held annually on 1st May, to showcase the culture of the Bidayuh.
Longhouse Pinutuob	Areas combined to one large room area for various commercialized functions rather than domestic functions.	An entrance passageway upon entering the romin.	Areas combined to one large room area for conference hall and function rooms. It also houses a mini-museum to display Bidayuh cultural artifacts and an office for management of the
Longhouse Pawad		A kitchen storage area for kitchen supplies, and a bamboo storage container for water	

		supply. Also leads to the lavatory area and fireplace area for cooking.	center.
Longhouse Akat		A platform area for segregation of sleeping for girls and boys of the household.	
Longhouse Romin		The main household area for daily activities such as living, dining, and sleeping.	

**Fig. 15.** Table shows the summary of cultural sustainability representation by the Bidayuh traditional *baruk* and longhouses elements in Bung Bratak Heritage Centre.

## 5 Conclusion

Bung Bratak Heritage Centre (BBHC) promotes itself as an active eco-tourism site in Bau while simultaneously preserving the cultural heritage of the Bidayuh tribe, specifically of the *Jagoi-Bratak* dialect group. The Bung Bratak Heritage Association's effort to attempt this is commendable, given that the architectural layout and design of the *baruk* and longhouses at BBHC closely resemble the vernacular architecture of the Bidayuh tribe and paid homage to the site's heritage significance. The magnificent *baruk* in BBHC does the Bidayuh tribe justice by staying true to its original form and function. The BBHC's longhouses and their elements of *tanju*, *awah*, and *romin* is also well-represented in the longhouses' layout on-site and serve their original purpose of accommodating the *gawia* celebration and various daily activities. The Bung Bratak Heritage Centre project draws the public to experience the culture and heritage representation of the Bidayuh tribe tangibly while simultaneously self-sustaining itself commercially as an eco-tourism site. The effort made by BBHC enables the preservation of the Bidayuh's cultural heritage for many future generations to come and stir a much-needed appreciation of the vernacular architecture of the Bidayuh tribe.

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