

Traditional and Sustainable uses of bamboos in Tambunan District, Sabah, Malaysia.

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Introduction

Bamboo is a flowering perennial evergreen grass and the biggest grass in the world. Botanically, it belongs to the grass family or Poaceae (Gramineae) and in the Sub-Family of Bambusoideae. Bamboos are some of the fastest-growing plants in the world due to a unique rhizome-dependent system. Bamboos play an important role in local economies throughout the world and are of major national and international commercial importance in the Asia-Pacific region. It is estimated that 2.5 billion people depend on or use bamboo materials valued at US\$ 7 billion per annum (Banik 1995).

Malaysian bamboo species constitute a non-timber forest product of major cultural and economic importance. Bamboo has a long history of being used for multiple purposes by the Malaysian rural people and this is also happened on the Dusun people in Tambunan District, Sabah. Among others, bamboo has served and still serves as construction material, food, material for agricultural tools, utensils and music instruments (Kulip, 1990, 1994, 2005 and 2015).

Bamboos are very important plant for rural areas throughout the world. The unsustainable harvesting and utilizing of bamboos are becoming serious problems worldwide and this need attentions. The existence of bamboos was also threatened by the loss of habitat, whereby rural people converted their bamboo plantation into other profitable commodity such as Palm Oil and Rubber.

Locality of study

This study was conducted in Tambunan District, Sabah, Malaysia (Photo 1) which is located in the north Borneo Island. Tambunan is a valley district covering an area of 1,347 km. sq. in Interior Division, Sabah, Malaysia. It is located 80 kilometers east of the state capital, Kota Kinabalu by road. At an average altitude of 750 meters, this valley, which is part of the Crocker and Trus Madi mountainous ranges, experiences a mild tropical climate all year long. The valley is covered by highland to lower montane forest vegetations and peppered with terraced paddy fields and dense forest bamboos plantation. The total population is estimated 35,000 in 88 villages (Jabatan Perangkaan Malaysia, 2010). In the early 20th century, the social structure of the Tambunan Dusun was based on

six sub-tribes, namely Tuhawon, Tagas, Tobilung, Tibabar, Gana, and Kohub (Gibon, 1986). Most of them are farmers and forest products gatherers.



Photo 1: map of Sabah showing the locality of study, Tambunan District.

Material and Methods

This survey was conducted by firstly doing the literature search then field data collections at various villages around Tambunan District. Interviews were conducted to several villagers on the local names and uses of bamboos in their area. The bamboos' scientific names were identified by the author by comparing specimens in Sandakan Herbarium (SAN) and referring taxonomical bamboo books.

Results and Discussions

There are 16 species and 2 varieties of bamboos found growing in Tambunan District at present, namely *Bambusa blumeana* (Tongkungon), *Bambusa vulgaris* (Tamalang), *Bambusa vulgaris* var. *stricta* (Tamalang Silou), *Dendrocalamus asper*, *Dinochloa scandens* (Wadan), *Dinochloa tricogona* (Wadan), *Dinochloa sublaevigata* (Wadan), *Gigantochloa levis* (Poring), *Gigantochloa balui* (Balui), *Racemobambos cockburnii* (Sumbiling Nulu), *Racemobambos* sp., *Schizostachyum brachycladum* (Wuluh), *Schizostachyum brachycladum* var. *yellow culm* (Ruhading), *Schizostachyum blumei* (Tombotuon), *Schizostachyum lima* (Sumbiling), *Schizostachyum pilosum* (Lampaki), *Schizostachyum pus* (Pus) and *Schizostachyum* sp.nov. (Pelupu). The most popular and multi-purpose use of bamboo is *Gigantochloa levis* or Poring, follow by *Schizostachyum brachycladum* or Wuhu/Wulu and *Bambusa vulgaris* or Tamahang/Tamalang.

There are three methods to make sure the sustainability of bamboo utilizations by the villagers in Tambunan:

1.0 Traditional Knowledge Systems

The Dusun people in Tambunan have a long traditions in keeping and utilizing bamboos and other natural resources in a sustainable manner to sustain their life. They follow their Customary Laws handed down by their fore-parents. There are two categories, namely: The first one is Adat Kampung (Village Custom) which is on human – human relationship and the second one is Adat Pantang (Forbidden Custom) which is on human – nature relationship (Gidam 2016). There are two methods, namely with ‘Sogit’ and without ‘Sogit’.

1. ‘Adat Kampung’ or Village Custom – with ‘Sogit’

In the ‘Adat Kampung’, if someone committed an offence, he/she will be punished by paying a ‘Sogit’ or a fine by the local authorities, these ‘Adat Kampung’ are gazetted in Sabah Native Customary Laws 1992. The concept of ‘Sogit’ is to make peace to the person he/she or environment that he/she hurt or damaged. Literally ‘Sogit’ in Dusun word means cool. This is to make sure peace and harmony is restored again.

There are two sub-categories of ‘Sogit’ or fine which are related to bamboos and other plants:

- a) The first category is with **Sogit to individual** (Punishable to the individual wrong-doer by village authority or ‘Ketua Kampung’ (Village Head)/‘Ketua Masyarakat’ (Native Chief)/‘Ketua Daerah’ (District Chief)). It is gazetted in the Native Customary Laws of Sabah 1992 (Warta Kerajaan, 1992). Anyone found guilty by the Native Courts must pay ‘Sogit’ or fine. The ‘Sogit’ usually in term of animal/salt/bowl. Failure, the person will be fine a sum of money or jail or both upon conviction. There are namely:

Part V. Burial Grounds and Death.

Section 27. Damage to grave yard. This includes plants. Example: No cuttings/fellings of bamboos or other plants inside a grave yard without permission from Head of Village.

Part VI. Gross Misbehavior, Indecency and Mischief.

Section 41. Trespass. Enter any house or land without permission. Example: No enter to any house or land (forested or agricultural areas) and taking anything without permission from the owner.

Section 50. Felling trees. Example: Felling any bamboos or trees in any areas without permission.

Section 52. Disturbance to customary signification of property marked by a ‘Tonduk’. Example: Any bamboo clumps

or property which is marked by a sharpened pointed pole or 'Tonduk' is forbidden to be disturbed.

Part VIII. Birth & Customary Abstinence.

Section 55. Prohibited act during 'Mobpuod'. Example: A husband/wife who just lost his/her spouse is forbidden to roaming around far from his/her home for a year. This is a mark of respect to the demise of his/her spouse. He/she will be forbidden to cut bamboos or any plants during the time of 'Mobpuod'.

b) The second sub-category is with **Sogit to the whole village/community**.

It is called 'Sogit Paus'. 'Paus' in Dusun is a type of mammal or Barking Deer (*Muntiacus muntjak*). Anyone found killed a 'Paus' during agricultural activities e.g. paddy/rice planting season or planting bamboos, the villagers who saw the dead 'Paus', will immediately stop working for a day. No planting activity on that day. It is believed that if anyone ignored and continue planting bamboo or paddy, it will die.

2.0 'Kotumbayaan' - without 'Sogit' or punishment by authorities.

It is embedded in the Traditional Beliefs and Practices (Kulip, 2015 and Kulip et al, 2016). They are namely: Moginupus (Love & care), Monoruang (Welcoming a new born baby), Bambarayon (Paddy's spirits), Lintugi (Millipede), Hokuu (Wood Pecker bird), Gonsuri (Rat), Misarawang Tulan (Full moon), Rusod do Talun /Nulu (Spirits of the forests/mountains) and Madsalud (Collecting herbs). Any person who ignored will be punished by 'Kinoingan' / 'Minamangun' or The Creator or God.

3.0 Government's rule

The administration and management of bamboo resources in Tambunan District were started by the Forestry Department of North Borneo (FDNB) in 1930's. During that time, the supply of matured Poring and Tamalang bamboos in this district was drastically low. This was because of the exploitation of bamboos for local use such as fire wood, building houses and fences was high during that time. There was no efforts by the locals to replant bamboos. The then Forestry Department of North Borneo, Tambunan Branch saw this and made a quick actions by imposing strict harvesting permits. One of the conditions of granting cutting bamboos was to do replanting. All Village Heads and Native Chiefs in this district were instructed to record all cuttings of bamboos and replanting new plants. Every one culm of Poring bamboo tree fell, someone had to replant 10 new plant of Poring bamboos. Village Heads were involved in recording all cuttings and replanting in each of their respective village (Annual Report on the Forestry Department for 1930, 1937 & 1939).

Conclusion

The Dusun people in Tambunan have a long tradition system of wise use of their natural resources including bamboos such as ‘Adat Kampung’ or Village Custom (gazetted in the Sabah Native Customary Laws) – with ‘Sogit’, ‘Kotumbayaan’ or Traditional Beliefs and Practices – without ‘Sogit’ and Government’s rule which led to a sustainable use of bamboo resources in Tambunan District until today. This system has been safeguarded by them to create peace, a stable way of life and also to conserve and protect the natural resources including bamboos in order to use it sustainably.

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