

The lost meaning in local inbred rice: A case study in Kampung Bunga Raya, Banting, Batang Lupar, Sarawak, Malaysia

(Kekaburan makna terhadap beras *inbred* tempatan: Kajian kes di Kampung Bunga Raya, Banting, Batang Lupar, Sarawak, Malaysia)

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Abstract

Local rice varieties such as Bubuk, Mamut and Bali not only serve as a staple food but has a unique preference among the Ibans in Sarawak. This study explores Sarawak's traditional rice varieties in Kampung Bunga Raya, Banting, Batang Lupar, Sarawak, Malaysia and its impact on production patterns, social organisation, consumption and technology adoption. Through observation, interview and in-depth discussion, the findings show that by maintaining conventional cultivation practices, the community believes that the authenticity and taste of local rice can be preserved. Furthermore, findings demonstrated that apart from the technical characteristics, cultural aspects such as the range of shared values, social ties and norms influence the farmers' mode of production and consumption of the local rice varieties. This belief has resulted in a pattern of self-sufficiency production and a low level of modern technology acceptance among the community in the observed area. In addition, further studies regarding the role of *bejalai* practice would be worthwhile to fully understand the impact of the custom, particularly on mode of production and adoption of modern mechanisation in future.

Introduction

Traditional agricultural practices and low use of technology are often associated with farmers' inability to comprehend the efficient use of farm inputs and therefore contribute to low agricultural yields (Foster et al. 2011). This observation was apparent, particularly the incompatible aspect between the needs and norms (Amir et al. 2012). Rice production's quality and low productivity have a significant relationship with the level of technology used and modern farm practices recommended by the Department of Agriculture (Harun et al. 2015; Ab Halim et al. 2015). The increase

in rice production in Malaysia is closely related to efficiency, productivity and technological advances (Najim et al. 2007; Hassan et al. 2019).

According to the thoughts of technological sociologists MacKenzie and Wajcman (1999), technology was conceptualised into three levels of understanding. Firstly, technology as a physical object or artefact, such as cultivation tools. Secondly, technology as a practice or process, such as the paddy cultivation processes; Thirdly, technology as knowledge to make or do things, such as

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knowledge in identifying pests and diseases, or/and its treatment (Syahrie 2012).

Hassan et al. (2019) generally identified several current practices in rice cultivation among farmers in the Integrated Agricultural Development Area (IADA) of Batang Lupar. The study found that the majority of farmers practice of pest and disease management and harvesting. While other practices such as plot preparation, planting and transplantation, water resources, fertilising and weeding are at the lowest level. Traditional knowledge and information from their ancestors appear to be the best practice for decades. The author concluded the majority of respondents have limited idea on practicing modern technology in rice cultivation. The farmers believe that their labour efficiency and crop output are more than sufficient for their subsistence and survival.

Total rice production in Kampung Bunga Raya, IADA Batang Lupar appears to be at average of 2.06 t/ha in 2020. The amount of paddy production/ha in the IADA Batang Lupar granary area is not comparable to the main granaries in other states. However, the net income of farmers still shows a buoyant level in addition to the relatively low cost of production/ha. Specifically, rice cultivation in Batang Lupar shows different average selling prices due to the value of the traditional varieties. This scenario explains that traditional cultivation techniques are still a central practice and have the potential to generate a lucrative income. However, most farmers at the longhouses are still not exposed to semi-mechanical rice practices/technology.

Table 1. Average paddy yield in two different granary area (East Malaysia)

Area	Average yield (t)
IADA Batang Lupar	1.47
Kampung Bunga Raya, Banting	2.06
IADA Kota Belud	2.97

Therefore, several cultural dimensions must be carefully considered if modern technology is to be explicitly introduced in this area.

The low production raises the question of what factors makes up the total yield in the observed area? Is it due to agricultural practices, level of technological applications, mode of production, ageing, or migration? Can all these factors be assumed to be closely related to the culture of the Iban community in Kampung Bunga Raya, Banting?

Cultivation may be defined as the production and reproduction of living matter to satisfy social needs (Box 1981). Among the elements found in this definition is the emphasis on the social nature of a production process including practices, technological use and the selection of crop varieties through local wisdom. Research shows that farmers value the process and particular crop varieties based on their knowledge and perceptions (Brush and Meng 1998). Since the cultural meaning of the process is often a pre-requisite in rural society, that behaviour may possibly be analysed in the social context. Early observation found that every family in Kampung Bunga Raya, Banting, Sri Aman of Sarawak, histrionically values the social and cultural significance of the local rice production and consumption. This crop not only serves to meet the physical needs of the community but traditionally, the production of local rice varieties (i.e., Bubuk, Mamut, Bario, Balik keladi and Celom) is an essential component of the social system (Sait et al. 2018).

This paper is an extension of a main study, the economic and sociological evaluation of inbred paddy growers in IADA Batang Lupar, Sarawak and IADA Kota Belud, Sabah, which took place from 2016 to 2020. The main study aimed to evaluate the factors influencing the yield gap between the two field areas. Meanwhile, this paper aims to observe the cultural aspects in the community and its relationship with social

organisation, production, consumption and technological adoption in Kampung Bunga Raya, Banting, Sarawak, which is part of the area in the Integrated Agriculture Development Area (IADA) of Batang Lupar.

Literature review

Studies over the past six decades have provided important information on social organisations and agriculture among the Iban community initiated by many leading anthropologist and sociologist. Among the earliest was Freeman (1955), who discussed the Iban community and family structure, settlement pattern, the land tenure system, agricultural practices and the migratory movements of the people. His other observation includes religion, indigenous knowledge, diet, tools, trade, travel and social values. Freeman has also analysed the economics of shifting cultivation and the relationship between agricultural technique and land resources. Freeman (1970) further extended his analysis of Iban's agricultural methods in types of crops and the social system of the indigenous group in Sarawak. His observation also covers land tenure, production economics, land use and social organisation. As the most prominent feature of the study, he tried to connect ritual, culture, values and norms with the agriculture cycle, mainly in paddy cultivation. Freeman describes Iban agriculture as a complex subject. In agricultural matters, there is a consensus concerning the beliefs. However, no communal ownership, production, consumption, or competition motivates Iban families in paddy cultivation.

Hoki (1977) was the first to discuss the prospects of mechanisation and technology in Iban's cultural farming practices in Sarawak. Based on field observations and interviews with farmers and extension workers, he identified the factors and conditions making up the present forms of the practices, types of tools and equipment used. He discovered several significant advantages of using

traditional equipment such as harvesting knives (*ketap*) compared to sickles during the study period. The finding is in line with the beliefs and patterns of local rice production and consumption in Kampung Bunga Raya, Banting, which still appears to have not undergone significant changes with the introduction of the harvesting machine today. The author suggested that mechanisation of post-harvest operations will become a prerequisite for handling large quantities of rice and maintaining high-quality rice for market production.

It has been noted that due to economic and political disparities, significant differences in agricultural practices are found among the Iban. They live in geographically adjacent areas but in different countries, Malaysia and Indonesia. Kendawang et al. (2005) demonstrated that, as the Iban people in these two countries are of the same ethnicity, their traditional ways of rice cultivation have been similar but differ considerably in terms of farming area, rice yield and application of fertilisers and agrochemicals. He further identified that different political systems between the two regions significantly affect the divergence of agricultural methods between the two groups of Iban. For example, while the Sarawak Government more frequently (sometimes excessively) provide agricultural subsidies or economic and technical assistance, the Indonesian Government is reluctant to increase subsidies or assistance. The author concludes that cultural uniformity, economic integrity and political or institutional divides are, in a very complicated or detailed manner, trapped in how they affect subsistence, including agricultural practices.

A recent study has explored the indigenous knowledge of various cultural, religious, medicinal and culinary uses of the natural resources of Iban in Banting as in Sait et al. (2018). The indigenous knowledge gap between the old and younger generation of Iban in Banting has also been identified. Most young people are no longer practising the traditional way of life because they

are more comfortable with today's modern way of life. Thus, indigenous knowledge regarding the utilisation of natural resources seems to be weakening. The findings will be further discussed in the last section of this paper.

Hassan et al. (2019) conducted recent cross-sectional studies to examine an association between agricultural practices and work performance among paddy farmers in IADA Batang Lupar, Sarawak, Malaysia. Findings show that majority had an experience between 40 – 50 years with a production yield of only 2.0 – 2.9 t/ha. The result on independent factors such as plot preparation, planting or transplanting, water source, fertiliser and weeding indicates a low level. At the same time, pest and disease management and harvesting are recorded high. The relationship between independent and dependent factors revealed that two independent variables, pest and disease management and harvesting, revealed a significant relationship with work performance.

Theory and perspective

Social organisation

The phrase social organisation and the components that make up the term have quite different meanings when used in sociological writings: some authors associate social structure and social organisation (Lenski et al. 1982). The term is commonly used with various meanings due to these changes. However, reviewing the factors that make up a social organisation will identify certain common elements.

Status, position and norm are three of the most prevalent. Chinoy (1961), for instance, describes social organisation as the complex array of roles and statuses which define the behaviour of individuals and their interactions with one another (Bonjean 1962). Since rights and duties can only be expressed through the channel of humans, it is difficult for us to preserve a separation in our understanding between statuses and the people who hold them and perform

the rights and obligations that create them. A role, on the other hand, is seen as the dynamic aspect of a status. The individual is socially assigned to a status and occupies it with relation to other statuses. When he puts the rights and duties which constitute the status into effect, he is performing a role (Linton 1936).

Roles and statuses are wholly intertwined, as demonstrated by Linton (1936) and neither exists without the other. It is apparent from the argument above that the ideas of role and status are intrinsically linked to human. According to the rights and duties specified by that position, a person possesses that status and fulfils that duty. Every person has a status with a specific function.

When one studies the systematic interaction between individuals with similar or differing statuses, the notion of norms develop. Norms refer to the "rules or standards that govern interactions that refers to the expected behaviour (Mott 1965). Norms vary from informal customs to highly formalised ones, such as laws and regulations. Through norms, social interactions are regulated and coordinated.

These features of social organisation may be applied to understand agricultural activities such as local rice production. It would centre on the numerous statuses, roles and norms that govern the behaviour of those involved in these processes.

Symbolic interactionism

Symbolic interactionism is a theoretical framework that addresses how society is constructed and maintained through repeated individual interactions (Carter et al. 2016). It includes the construct of self and the assumption that people and groups are influenced by cultural and social processes (Cockerham 1978). According to traditional symbolic interactionism, society is constantly constructed through the definitions and meanings of the participants in social settings (Blumer 1969 in Stets et al. 2003). Symbolic interactionism is most

frequently linked to American sociologist and philosopher George Herbert Mead. His central thesis was that humans live in a symbolic environment constructed by society, which underlies one's thinking and sense of self. It is an ancestor of a person's mind and self (Klein et al. 1996; LaRossa et al. 2009). Symbolic interactionism is fundamentally about acquiring and generating meaning constructed by actors based on commonly understood signs and symbols in culture.

Symbolic Interactionism theory adds a micro-level perspective to the study of sociology and advances the understanding of sociological processes and may either stand alone or add a link between micro and macro levels of theory (Manis et al. 1967). This means one can use Symbolic Interactionism theory as a single theory and framework for studying a social phenomenon, or it can be used in conjunction with other larger theories to help explain a social phenomenon (Kyle 2018). It shares one of the basic element in macro social organisation theory which individuals often identify with their roles according to societal meanings and provides explanation on how roles and interactions are constructed or made (Klein et al. 1996).

Symbolic interactionism states that individuals derive meaning from memories and retain that knowledge. In a collocated family context, memories often remind family members of shared usage of symbols, participating in family rituals and forming role-taking mechanisms (Panicker et al. 2020).

According to this perspective, the Sarawak's local rice would be a symbol and identity for the Iban ethnicity in Sarawak based on previous studies associated with its means (Soda 2001; Kendawang et al. 2005; Sait et al. 2018; Puji Hastuti et al. 2018; Hassan et al. 2019). Local rice is perceived as a symbol of pride, connectedness and wealth to a specific identity of success. Such a person will succeed in the ways most important to the Iban in general, by

success in farming and *bejalai*, achieving material prosperity and living an entire life span in contentment, health and comfort (Jensen 1974). The symbol itself remains inbred; however, its' meaning carries a sacred symbol that people in the group assigned to it. Consequently, the context of such a symbol can be explored through this theoretical framework to illustrate patterns of self-identity connected to the object and the self that are unique in a social setting (Reynolds 2003).

Methodology

This essay adopted the ethnographic case-study approach recommended in Creswell et al. (2000) to capture the complex and in-depth understanding of symbolic interaction in the organisation of production and consumption of local rice among the Iban settlers in Kampung Bunga Raya, Banting, Sarawak. Ethnographic studies are frequently viewed from the perspective of symbolic interactionism theory in order to understand societies. Rather than concentrating on the generic, ethnographers investigate how individuals interact with one another in specific contexts (Frey et al. 2000).

The ethnography approach, embedded in anthropological and sociological traditions, is used to discover more about social environments' complex interaction and structural composition (O'Reilly 2009). This inquiry aims to define, comprehend, forecast and/or provide examples of the rules governing an individual, group, or organisation's behaviour (Woodside 2010). Such ethnographic studies concentrate on describing how individuals communicate in a particular setting. In order to determine the cultural norms (rules) that guide people's behaviour and the meanings individuals attribute to one another's activities, ethnography specifically entails investigating the structured interactions and prominent symbols of specific cultural groupings (Frey et al. 2000). Additionally, it is said that ethnography focuses on specific

rather than generic interactions and is most closely tied to the symbolic interactionism method of understanding communication. By observing a collective's interactions and significant symbols, this research aims to uncover cultural values.

In order to analyse phenomena that comprise numerous factors that the researcher lacks control over, case study research (CSR) will be used, which aims to characterise various information using multiple methods. CSR is a specialised form of qualitative research inquiry approach. Case studies look at a single person or a small number of people in a specific environment to understand complicated social phenomena. In order to answer how- or why-related issues, these studies use research that is frequently acquired through the integration of data sources, theories, and qualitative techniques like interviews and observations (Barnes 2017).

Methods

Setting

The research was carried out between 21 – 23 September 2020 among residents of the coastal riverine community at Kampung Bunga Raya, Banting and Sri Aman districts of Sarawak. Banting is located in the Sri Aman Division's subdistrict of Lingga, along the Batang Lupar's river. Since there is no road connection to Banting, the place can only be reached from Lingga's small town by boat in 40 minutes. The village is one of the 11 with longhouses in Banting. Kampung Bunga Raya in Banting will be swamped by water during certain times of the day. Various freshwater fish and natural aquatic species can be found along the Batang Lupar, such as local fish species like *baong*, *tapah* and prawns. They are making that area suitable for fishing activity alongside local rice cultivation as the main livelihood. Youths have migrated out of Banting over the years for several purposes, i.e., work, education and marriage, leaving the majority elderly population in the longhouse.

Design and data collection

To explore the meaning of Sarawak's traditional rice varieties, a qualitative research design was chosen. The emphasis of this study was on the interpretive process in social construction through the symbolic interactionism view, as suggested in Blumer (1969). Blumer's inquiries were made through qualitative methods such as life histories, autobiographies and case studies, including interviews and participant observation (Panicker et al. 2020). This study was part of a larger cross-sectional study aimed at exploring economic and sociological factors affecting the rice yield in Malaysia. The aim of the present study was to document and interpret as fully as possible the totality of the phenomenon under study from the informants' perspective. To achieve this objective, participants were asked several questions to gather information about the meaning of the local inbred rice and current practices among the settlers. In this research, we adopt both concepts of social organisation and symbolic interactionism to guide our analysis and discussion. Data were attained via semi-structured interviews which were to explore and describe the meaning of traditional inbred rice namely Bubuk, Mamut, Bario, Balik keladi and Celom, as well as their meaning underlying the farming practices on that particular varieties.

Sample

The study involved eight informants. In the context of this study, the informants have been selected due to the involvement in planting the traditional rice varieties. The participants in this study were natives who were born and settled in Kampung Bunga Raya, Banting, Batang Lupar, Sarawak. The respondents were also recommended and identified by the Integrated Agriculture Development Area (IADA) Batang Lupar, Sarawak extension agents for their experience in traditional varietal rice cultivation activities for more than 10 years. The decreasing population

in Kampung Bunga Raya due to migration activities to the urban area has left a large part of the population among the aging community. Thus, the selection of these eight informants was justified by taking into account the factor that all informants are residents of origin who are very well versed in the cultural matters of the local community, undergo the same economic activities for each *bilek*¹, adopt uniform rice planting practices and understand the purpose for which these agricultural practices are performed. Due to ethical concerns and to avoid potential exploitation from researchers, the author has obtained the consent of all informants to use their names, ages, and occupational backgrounds in the publication of this paper. Therefore, the informants were aware of the exposure of their identity.

Analysis

Content analysis approach was used as a systematic and objective research method for examining the contents of interviewed information (Waltz et al. 2005). Farmers' responses have been transcribed, reviewed and analysed to portray farmers' viewpoints regarding the value and meaning of the traditional rice varieties. The informants' native language was the Ibanese dialect, a common, non-written language form among the settlers in the village. Conducting discussions in the interviewer's native language and managing multiple translations may negatively affect the data quality (MacLean et al. 2004). Therefore, to reduce dissimilarities between the Ibanese language and written English, the interview was conducted with the help of the IADA extension officer, Simon Dimbap, an expert in both the Ibanese and Malay languages. Then, the transcript was translated into English by a bilingual professional.

Finally, the authors carefully examined the transcription to ensure congruence between the Ibanese and the English translation and to ensure the participants' original meaning. This study tracks LaRossa et al. (2009) account to comprehend the concepts of symbolic interaction. The authors depicts seven assumptions that reflect two central themes of the perspective.

The first theme investigates the significance of meanings in governing human behaviour. The behaviour toward the object depends on the meaning that emerges from the interaction process, according to Blumer's three premises (Blumer 1969), which are the basis for this section. The interaction entails determining, evaluating and adapting to other individuals, their environment and the situation. One can create definitions of their reality through this approach within a community.

The emergence of self-concept is covered in the second theme. One's social and active selves shape one's conduct. Self-concepts have a significant role in behaviour motivation and are created through social interaction. Symbolic Interactionism's core is that one's values, beliefs, emotions and positive self-assumptions form behaviour.

There are two different schools of thought in this study. The Iowa School and the Chicago School. Other studies using mixed techniques, which combine the two approaches (Reynolds et al. 1975). Blumer (1966) focused on the dynamic nature of the self and society and the negotiated nature of the social structure. The self is an arrangement of consistent attitudes generated from social roles (Hickman et al. 1956). The symbolic interactionism principles such as roles, identity, shared meanings, and interactions will be iteratively used in the following rounds of analysis.

¹This term may be applied to any of the indigenous peoples of Borneo that live in long-houses, which is concerned exclusively with the Iban as proposed by Freeman (1955). To avoid confusion with the common term of household, *Bilek* is a term used by the Iban themselves, to refer to the family group which owns and occupies one apartment of a long-house

Results and discussion

Socio-demographic profile

The selected informants were in the age range from 39 – 63 years, as shown in *Table 2*. In addition, the highest level of education for the selected respondents was at the upper secondary level of one person, while four respondents only obtained education at the primary level and the remaining three respondents achieved a lower secondary education.

The land area designated for paddy production in the village is generally below two ha, and the cultivated area of the traditional paddy varieties for all respondents involved varies from 0.5 – 1.2 ha, which could only be categorised as small-scale farmers. The work commitment type indicates that all respondents were dedicated, full-time paddy farmers. In addition, seven respondents were also reported to have a side job as fishermen as off-farm activity.

Table 2 shows the average of rice yield in 2020. It clearly shows that three informants recorded the highest yields of 3.0 t/ha. Followed by one informant of 2.5 t/ha, two recorded 1.2 – 1.9 t/ha, and the remaining yielded the lowest than 1.0 t/ha. This general information show no relationship between size of the cultivated area and rice yield. This is in line with a significant prior empirical literature using Indian data from the 1970s and 1980s that had found a negative relationship between output/ha and cultivated area when mechanisation was virtually absent for both more intensive use of labour on smaller farms (Foster and Rosenzweig, 2011). There are advantages to several of the conventional agricultural practices used by smallholder farmers. Some authors have even argued that large-scale farmers who employ contemporary technology are less efficient than smallholder farmers in exploiting the limited resources available for output.

Table 2. Informant's profile in Kampung Bunga Raya, Banting, Sri Aman, Sarawak 2020 (actual and projected yield/ha)

Name	Age	Education	Main occupation	Other occupation	Land area (ha)	Cultivated area (ha)	Yield (t/ha)
Informant 1	62	Primary	Paddy farmer	Fisherman	2.02	1.21	2.48
Informant 2	51	Lower secondary	Paddy farmer	Fisherman	1.25	1.25	1.28
Informant 3	52	Lower secondary	Paddy farmer	-	1.62	1.21	0.91
Informant 4	41	Lower secondary	Paddy farmer	Fisherman	2.02	1.21	0.99
Informant 5	39	Primary	Paddy farmer	Fisherman	0.81	0.81	1.85
Informant 6	47	Primary	Paddy farmer	Fisherman	0.50	0.50	3.00
Informant 7	63	Primary	Paddy farmer	Fisherman	0.50	0.50	3.00
Informant 8	53	Lower secondary	Paddy farmer	Fisherman	0.50	0.50	3.00

The majority of traditional agriculture generates far more food per accessible plant nutrient than contemporary agriculture (Mkandawire et al. 1993; Seboka 1996; Innis 1997; Muzari et al. 2012).

The organisation of local rice production and consumption

The local rice production in Kampung Bunga Raya, Banting, uses at least two to three local rice varieties (Mamut, Bali or Bubuk)/season/year. The selection of varieties traditionally considers the environmental changes and lower input costs. Most planting areas are close to the longhouse and riverside to facilitate irrigation and operation. Planting areas are also observed not to use machinery for ploughing or harvesting processes. Therefore, the cultivation process is carried out traditionally with minimal chemicals used.

Generally, every Iban *bilek*-family has the oldest man in the household responsible for paddy farming and other work (i.e. fishing). There is no formal retirement until disability causes them to hand over the duty to his son/son-in-law. It is still a norm that the oldest son/son-in-law is expected to return to the village when he approaches 40 years old to take responsibility, commonly after completing his *Bejalai*¹ journey (Freeman 1970). It is observed that subsistence production and consumption in the longhouse is organised at the domestic level - a general characteristic of economic organisation which the Iban in Banting share with other Iban communities across Sarawak as reported in Freeman (1970) and Kendawang et al. (2005).

The Iban has a highly communal form of social organisation. The longhouse symbolises the *part-whole* relationship between household and community. The *bilek* for each family represents and symbolises its existence as a discrete corporate group. Finally, a public space on the *ruai* symbolises the group and its membership in the surrounding larger riverine society. Following the study of social organisation, the cultural ideas, norms and values pertaining to the land and the community's way of life are examined.

However, this combination of individual freedom and group identity is still a core concern.

Land tenure as a symbolic representation "*This land is inherited, this seed is inherited, this way of planting is also inherited. We hold the trust (informant 4)*"

Land is an essential feature in the complex socio-economic patterns of the agricultural smallholder which typically centres around the object and also affect the economic behaviour. The term "land tenure" essentially refers to a person's legal entitlements to use, develop, dispose of, and even exploit certain areas of the earth's surface (Smith et al. 1970). The main form of acquiring land among the farmers in the area is through inheritance. Freeman (1970) maintains that the community is not a corporate group in relation to property. In particular he emphasises that rights to land are held exclusively by individual households. Individual cultivation rights are subject to the authority of the headman and, traditionally, are contingent upon continued community membership. Hence it is helpful to view the longhouse territory as a corporate possession in order to place individual household rights in their proper context.

Most of the Iban's cultivated land areas are located near the longhouse since the spread of agricultural chemicals and fertilisers supplied by the Agriculture Department in 1950s (Soda 2001). Furthermore, since most men often engage in off-farm work, carrying out heavy tasks such as carrying rice and limitations to the road network access, therefore, families tend to select land near the longhouse. In general, the land is inherited by the *bilek*-family and those who remain members of this local group possess the rights to hold the inheritable land. The Informant continues this thought by saying:

²literally 'to walk', also means to go on a journey, and it is used, by the Iban, to describe the critical institution of a journey undertaken for material profit and social prestige (Freeman 1970)

“The inherited land means so much to me. We were deeply attached to our farming land, forest, and inherited territory; It reminds me of who we are, represents our sustenance, home and family (informant 4)

By inheriting a piece of land, there was no fear for the informant in providing food and sustenance because the family was presumed as perfect and complete with land ownership. Land is wealth to the Iban and upon its land holdings depend the prosperity and indeed, the very subsistence of a *bilek*-family (Freeman 1970). The Iban values his land as his *flesh and blood*. The intense feeling about land is not only related to the needs and ambitions of individual households, the more fundamental value is the link with land as their home or community territory (Sandin et al. 1980).

The Iban community in this village has a natural attachment and firmly established to the land. Thus, to properly comprehend the function of the land among men in this location, it is crucial to grasp a wide range of social interactions between men and their use of the land. The inheritance system significantly impacts the extent of a farmer's holding, such as land (Halib 1979). In the case of the Iban farmers in this village, inherited land is a symbolic representation linking local rice production and maintaining their social and cultural order. Succeeding a piece of land for rice cultivation is symbolic of pride and responsibility to most men in the village. It marks that the holder has been given trust and an important societal role.

Local wisdom, practice and artifacts
I started farming when I was 10 years old. My Parents prepared myself as a rice farmer and started to learn how to grow rice from my father. It is all a childhood memory. And I think the rice tastes better by doing it traditionally (Informant 8)

The social organisation of local rice production is unique among subsistence farmers in Banting. To maintain the

prosperity and the existence of a family, the Iban depends much on skill and knowledge in farming. The part of knowledge has been socialised through local wisdom which formed a convention, social and emotional values among the community.

For the informant 8, he derives the meaning of local rice from his memories and retain that emotion and knowledge throughout his life. He described the occurrence of significant events during his childhood and how it relates with the local rice as a symbol of happiness. In a context of collocated family, memories often remind family members of shared usage of symbols, participating in family rituals, and forming role-taking mechanisms (Panicker et al. 2020). Therefore, through experiences as a local rice farmer and early participation in rice farming, strengthened his understanding of the local rice.

A body of knowledge known as the local wisdom system comprises customs, beliefs, practices and worldviews formed and maintained in a particular local community. A piece of information is believed to be a method of adapting to the local environment and culture (Jorgensen 1999). Local wisdom is commonly practiced to adapt to nature and inherited from generation to another verbally, formally or informally (Enock 2013). Knowledge is transmitted through their social network, including the selection of rice varieties. The decision to cultivate a traditional variety is determined by the household's perception of its ability to fulfil the household's needs relative to alternative options (Brush et al. 1998). This is apparent as described by informant 6 regarding his perception towards the local rice by saying,

“It's this rice that we're full of and live for generations. Even though there are other rice, we still want to eat local rice. There's a reason why our ancestors planted this rice” (Informant 6).

The local wisdom of the Iban community in Kampung Bunga Raya, Banting, regarding the selection of paddy seeds and the method of planting, is in line with social interaction. It is a form of knowledge that has social order, knowledge, procedures and ethics in the community. This interaction process is seen as an enabler to organising and creating a community that continues to function and grow from generation to generation.

“I grow local rice according to current practices using a few traditional tools like ketap (harvesting knife) and I feel satisfied. I think modern machines are only suitable for common white rice, but any incentives from the government are most welcome” (Informant 5).

Like any other Iban in the longhouse who believed in paddy spirit (*semengat padi*), the informant regards the local rice as something sacred; thus, it must be taken care of gently with a proper cut. It is believed that a rough cut would cause the loss of paddy spirit, hence resulting in a bowl of low-quality rice. A detailed analysis of the harvesting operation by Hoki (1977) suggests that there are several significant advantages to using the *ketap* (harvesting knife). Among them are, high possibility for selective harvesting, lower energy requirement, lower shattering loss and easy to handle and transport by women (further discussion of women participation in rice farming will be provided in the next section).

The traditional farming practices of a community follows several traditional norms, including rituals and techniques. This technique is rehearsed to improve soil fertility and conservation, pest control and preserve the authenticity of the local produce which then develops a wide range of local knowledge, specifically in agricultural areas (Haverkort et al. 1991;

Cleveland 1998). This argument is in line with infamous Sir James Frazer in his *The Golden Bough* 1890:

“The whole ritual... founded on the simple conception of rice which is as associated with the same phenomenon of reproduction, growth, decay and death of its principles in humans. They imply that in plant fibers, as in the body of a human being, there is a particular, essential element, which so far is independent that for a time not to be wholly separated” (Sir James Frazer in The Golden Bough, 1890)

The primary source of knowledge to cultivate local rice came from family inheritance and the elderly in the longhouse. At the same time, the integrated Agriculture and Development Area (IADA) agency significantly supports this group’s necessity for subsistence activities through fertiliser and pesticide subsidies. For example, the introduction of herbicides has been welcomed unconditionally by farmers. Two factors may contribute to this. One factor is that farmers have neither draft animals nor mechanical ploughing or harrowing methods, which are also effective in controlling weeds. Another factor is that the favorable climate allows vigorous growth of various types of weed, for which effective control is indispensable in paddy cultivation (Hoki 1977). However, their reliance on government incentives for rice never changes the social and cultural order that forms the identity of the Iban farmers of Banting. The government incentives have enabled these small groups to continue their subsistence needs to date. The close relationship between belief, subsistence farming and social organisation has permanently preserved its reality and cultural order.

Both traditional and contemporary communities benefit from the formational work done by social institutions like the IADA Batang Lupar extension agents. They contribute to maintaining the rules, norms

and behavior that enable society to function correctly through their interactions with these institutions and the people around them. In other words, they cooperate to keep society in order. This society is the culmination of interconnected and dependent parts that develop jointly to uphold social order.

The division of labour

This study focused only on those who were regularly engaged in rice cultivation during the observation period. However, for some reason, it was challenging to decide the number of family member who regularly engaged in the activities. It is mainly due to the Iban custom of *bejalai*, men are periodically on journeys out of the village. Therefore, from observation, at least one of the family’s male members is often absent for a significant part of the agricultural year.

The social organisation of local rice production is less diversified than the production system in other granary areas in Malaysia’s peninsular, with almost no division of labour in the cultivation process. It can be observed that reproduction activities are centred exclusively on the farm with a household division of labour as shown in *Table 3*. However, for present purposes, some have been excluded particularly the elderls who are physically deprived of strength

Table 3. The number of household labour

Informant	Total area (ha)	Number of labour (family)
Informant 1	1.21	1
Informant 2	1.25	2
Informant 3	1.21	2
Informant 4	1.21	3
Informant 5	0.81	1
Informant 6	0.50	3
Informant 7	0.50	2
Informant 8	0.50	2
Average	0.90	2

(temporary or permanently) to join in the routine of paddy farming.

The average number of labourers/*bilek*-family in the longhouse is two, consisting of teenage boys who are still in school between the ages of 15 and 17. The involvement of family labour is known to be common only at the initial or harvesting stage. While in their 20s, the male labourers in each of these *bilek*-family will usually start the tradition of *bejalai* and will only continue the paddy work in the village by the age of 30s to 40s.

In addition, it is found that specific productive material for local rice production is mediated through interlocking family households, including women. For example, the aged women play a significant role by devoting their days to weaving *raga* (seed baskets), *selabit* (carrying baskets) and *lanji* and *sintong* (harvesting baskets) for use in transporting, harvesting, planting, winnowing and storing paddy. While the girls played an essential part in sowing, weeding and reaping for her *bilek*-family.

The consumption

“Basically, we don’t sell rice for money. We do fishing and other jobs instead. The more rice you store, the better” (Informant 3).

Unlike cash crops such as palm oil, rubber and pepper, paddy farming is often referred to as “a way of life” where a high proportion of the produce is used for home consumption to sustain livelihood. In other word, the local rice produce is a non-market-oriented crop. This attitude can partly be explained by their long association with the rice culture in the community which prevalent among the Iban farmers in Banting. As it emphasised in Uchibori (1984); It is of the greatest importance for the nature of Iban social organisation, that all Iban, regardless of social standing, are expected to work in the rice fields to meet the consumption needs of their *bilek*-families.

Through the years, this non-market-oriented attitude has been instilled into the

socio-economic value system. The local rice constitute a social function in the longhouse of Kampung Bunga Raya where practically only a little is sold for cash. As a result, a specific categorisation may be used to describe the local rice in terms of its production features. This study proposed a categorisation based on social needs. This is reflected in two of the informant's statement:

If it is not eaten, then later our ancestors will sulk and get angry. The paddy yield will be damaged. Therefore, our generation will suffer from hunger (Informant 1).

The consumption of local rice as the primary food source among Iban farmers in Banting appears to be a way to convey ideas, concepts and cultural meanings about social relations in the community. It may also be interpreted as a symbolic expression of certain social and ritual relationships which particularly involve their ancestry (*nenek moyang*). Other examples of the symbolic significance of local rice consumption namely, the joint consumption by the household in the longhouse on the *Gawai* festival ceremonies, followed by the drinking of *tuak* (liquor) which is typically a principal domestic ritual activity; along with other considerations, it establishes the cultural meanings of various social relationships.

Maintaining cultural identity and family procreation

"I always hope my generation to remember their hereditary origin, culture and their identity through the rice we eat. My grandchildren do not prefer this type of rice. They will only eat common white rice" (Informant 7).

The maintenance of the Iban cultural identity through local rice in Kampung Bunga Raya, Banting, rests on retaining the *cultural ideology* in two central systems: belief and self-sufficiency agriculture.

These two interdependent systems form critical elements in constructing social and cultural order (Rajah 2008). Belief and farming, maintain and create what is known as a cultural ideology. The ideology will produce a cultural identity and subsequently construct an ethnic identity. Sociologists and historians have long recognised that ethnic culture and identity have been constructed rather than inherited (Maines 2000). In the case of the informant 7, who greatly expressed hope for his generation through rice and identity, it is argued that this cultural ideology is conflicting with the phenomena of family of procreation.

The evidence presented in this section suggests that the *bejalai* custom and family of procreation can play important roles in addressing this issue. The marriage of two individuals from different ethnicity will commonly influence (bidirectional) some new values, customs, heritage and ancestry to their children (Gerhardt 2016). Role expectations within and outside the household have evolved, and similarly, the underlying principles of the family of procreation have taken on new forms. During migration, for example, cultural and ethnic values may change from generation to generation and become more evident in a family of procreation.

There is beyond doubt of an economic motivation behind the Iban circular migration after completing his *bejalai*. In a situation where the traditional farming system was no longer able to meet domestic requirements for food and cash, non-agricultural industries provided an important alternative, enabling the Iban to flexibly respond to changing economic conditions. Eventually, this phenomena counteract the informant to pass on his value to his generation in such environment, consequently the cultural values will never be completely expressed and preserved (Gerhardt 2016). Married women's migration from rural regions is also directly tied to the significant change in the male circulatory movement. In addition,

it may significantly influence changes in rural society, as married women play a significant role in managing the subsistence economy or the succession of generations (Soda 2001).

One of the informants pointed out how traditional rice was grown and eaten by most of the Iban community in the longhouse as a symbol of unification with their ancestors.

“As long as this local rice is grown, sensibly cared for, harvested and eaten, this culture will connect us with the ancestors. Therefore, our generation will always be guarded from misfortune” (Informant 2)

Analysis of meaning cannot be simplified to a single interpretative process. Additionally, it does not exist independently in a consistent, unchanging social environment. In contrast, it is developed by the verbal interaction of people in a world of signs and symbols. All social collectives show a complex interaction of power relations that gives birth to this process of meaning formation. For example, a dominant social group might use ideology to advance its interests by structuring the process of meaning representation (Mumby 1989).

Iban farmers in Bunga Raya longhouse conform to maintain these beliefs and customs. This hierarchy emerged due to the group's shared norms, values, daily interactions, and those associated with rituals and important events. In other words, there is a collective consciousness in the community. In functionalist views, a common set of ideas, values, attitudes, and knowledge of a group constitutes its “collective conscience”. In addition, one informant explains how the household unit construct the meaning of being rice farmer based on commonly understood social role and norms.

“During my bejalai journey, I was fully aware that sooner or later I will take responsibility on this rice farm. As I am the oldest son in family, it is very important for me to keep the identities or I will regret forever” (informant 3)

As an Iban, informant 3 could hold many different selves as there are different positions that he holds in the community and thus different groups who respond to himself. This is where his identity enters into the overall self. The overall self is organised into multiple parts (identities), each tied to social organisation aspects (Stets et al. 2003b). One has an identity for each person's different positions or role relationships in society (Stryker 1980). Thus, he may portray himself as a father, the oldest son, son-in-law and a paddy farmer (expected by the family) or any other possibilities corresponding to the multiple roles he may play. His identities contain meanings as a member of society and as a head of his *bilek*-family. These meanings are the main content in keeping the identities.

Conclusion

The Iban rice culture combines both internal and external influences to create a distinct and vibrant cultural unity. This combination explains the behaviour of production and consumption of local rice in the society, thus turn to be the major findings in this paper. The philosophy of the Iban community in Banting toward local rice concerns the social and emotional values that define it. The community in the longhouse manages its social organisation based on the family unit. This primate order witnessed the involvement of these units starting from social, political and economic activities. The social value of this group can be observed in close relation to the elements of the ecological environment. Therefore, the social values from subsistence farming construct a system of belief in the local rice spirit. Emotional values, in turn, are closely related to the sentiments constituted in

the psychological space. It involves the presence of natural and cultural symbols. The natural symbol, such as land and local rice seed, involves a primary archive in the psychological development of the Iban community. In comparison, cultural symbols express the 'principles of purity' used in conventions and beliefs.

Local rice production is the centre of life for the Iban community in Banting, Sarawak, notwithstanding the importance of fishing as the other source of sustenance. To maintain their culture and social order, the Iban depend on the rice produced by their family units. Local rice consumption is symbolic of a complete connection with their ancestry, and taking responsibility for its production and processing symbolises a fully responsible adult. This behaviour and attitude is the basis of social order - the production and consumption of local rice structures in Iban society in Banting. However, will the introduction of modern mechanisation replace the role and status of Iban male adult in this rural community? Will it bring significant changes in social organisation and local rice production in the longhouse? If it does, what role are they going to play in its adoption in the future? The second major finding in this paper identifies the impact of migration on maintaining status, role and identity of the local community. The *bejalai* custom and family of procreation would probably alter the social value and meaning of the local rice in the future. Following this phenomena and the absence of incentive to adopt modern mechanisation at the present time will consequently bring great impact not only to its social value but also to the economic and environmental value of the local rice. Therefore, this social changes requires further studies to fully understand the impact of custom particularly on mode of production and adoption of modern mechanisation in future.

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Abstrak

Varieti beras tempatan seperti Bubuk, Mamut dan Bali bukan sahaja berfungsi sebagai makanan asas/ruji tetapi mempunyai ciri-ciri unik di kalangan orang Iban di Sarawak. Kajian ini dijalankan bagi mengenal pasti varieti beras tradisional di Kampung Bunga Raya, Banting, Batang Lupar, Sarawak, Malaysia serta impaknya terhadap corak pengeluaran, organisasi sosial, penggunaan dan penerimaan teknologi. Melalui pemerhatian, temuramah dan perbincangan secara mendalam, hasil kajian mendapati bahawa komuniti tersebut percaya hanya dengan amalan penanaman secara konvensional, ketulenan dan rasa beras tempatan mampu dikekalkan. Selain ciri-ciri teknikal, aspek budaya seperti perkongsian nilai, ikatan sosial dan norma kehidupan mempengaruhi mod pengeluaran dan penggunaan varieti beras tempatan. Kepercayaan ini menjelaskan pembentukan corak pengeluaran sara diri dan penerimaan teknologi moden yang rendah dalam kalangan komuniti yang diperhatikan. Kajian lanjut berkenaan peranan adat bejalai juga dilihat berguna bagi memahami impak adat tradisi turun-temurun oleh komuniti ini terhadap mod pengeluaran dan penggunaan teknologi mekanisasi moden pada masa akan datang.

