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Women's perception on medicinal plants in traditional *Tamu*, West Coast, Sabah, Malaysia

JURRY FOO^{1,4}, A. LATIFF², MUSTAFA OMAR³ and AHMAD ALDRIE AMIR¹

Abstract: The objective of this paper is to describe the perception among women on the medicinal plants they sold in the *tamu* (local market) in West Coast, Sabah. The study was conducted in 14 selected *tamu*. Related information has been collected through questionnaires and interviews with 84 women involved as respondents. Data were analyzed using descriptive statistical analysis in IBM SPSS software 21. Finding showed that the majority of the items showed a high score, except for two items listed below mean score of 3.68, which are at a moderate level. The average mean score is 4.06, which means the perception of women on the sale of medicinal plants is positive and at a high level.

Key words: Perception, women, medicinal plants, *tamu*

INTRODUCTION

The objective of this paper is to describe the perception of women on medicinal plants they sold in the *tamu* (local market) in West Coast of Sabah. Recognising their roles and responsibilities to contribute to a better understanding, especially in the role of women in the development of knowledge, resource management, harvesting, production, where it will promote a more equitable distribution of resources (Siles no date). The role of women in the market of medicinal plants or herbs should be identified through the study of women's participation in the market of medicinal plants.

Women are an important element in generating economic growth and are asset in the development of the country in 21st century (Colonius and Dg. Norizah, 2014; Fatimah et al. 2002). Women have become the main producers of plant-based medicinal products through home microenterprises as it has been an integral part of the schedule and routine through out their lives (Siles, no date). Documentation relating to the knowledge of women in medicine based on plants is very limited despite their involvement in the management of resources. Studies on the chain of resource flows in the market plant shows that in fact the market is dominated by women (Sowerwine, 1999; Muhammad Hamayun et al., 2005).

Sowerwine (1999) in Vietnam showed that women have an important role in the survival of medicinal plants. The field is dominated by women from ethnic minorities. They are herbalists who worked with the men who are responsible as a 'medicine men'. While Omobuwajo et al. (2008) found that in Nigeria, selling medicinal plants is a profession to women. Marshall (2012) also found that 80 to 90 percent of traders in the market for medicinal plants in southern Africa are women, in which most of them are fulltime street market traders.

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From a geographical standpoint, human activities can be referred to as the human way of organizing space. Geographers believe that the organization of space depends on how the human organize space, and not by chance, but is influenced by the perception of space and objective of organizing (Chan et al. 1993). Organization of space by humans is generally standard in terms of location and structure as it is predictable relations based on the fundamental principles of human behaviour and not the relationship between man (Abdul Samad 1989). This means the perception is the source to predict the effects or consequences of an activity undertaken in a particular area. In this context, the perception of the women seller is important, as this will affect the response of medicinal plants sold.

GENERAL PERCEPTION ON MEDICINAL PLANTS

Typically, a medicinal plant or herb is a plant that has medicinal health value in achieving social well-beings and welfare. But from the standpoint of utilitarian resources, medicinal plants also have economic and ecological value. This is because the good life and quality of living conditions should meet the desired social, economic ability and sustainability of ecosystems (Nik Fuad and Noraïen 2007). Medicinal plants reflect the culture of the society, plays a role as an important source of the world economy as well as environmental conservation. Furthermore, natural and socio-cultural factors, including human behaviour can affect the use of plants (Fatan, 2003). Meaning, medicinal plants does not only serve as a natural drug, but also of great importance to economic and ecological aspects. All of the plants and other sources depend on human response (Katiman and Asmah, 2006). Human response will determine the action on plant sources. The general view of this medicinal plant is shown in Figure 1.

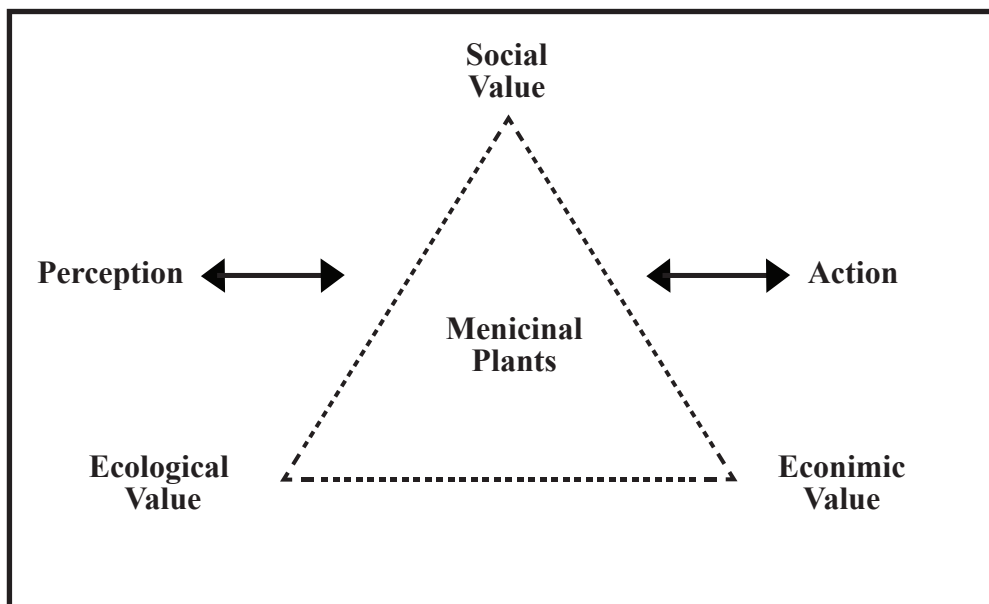


Figure 1. General view on medicinal plants

Social Value

As a medium of medicine and health, medicinal plants have a special place in human life. It is not only inherited, but also learned from one party to another, whether across boundaries of culture, faith or through social processes such as marriage and social interaction. In addition, the value of medicinal plants is also learned through their own experiences. Malay traditional medicine such as inherited tradition, involving knowledge, practices and use of natural materials, spiritual and empirical aspects (Lens et al., 1998). Meanwhile the Ministry of Health (2007), describes the traditional medicine as practices, approaches, knowledge and beliefs on health involving plants, animals and medicines are based on minerals, including therapeutic spirituality, manual techniques and exercises, applied specifically or in combination to treat, diagnose and prevent disease and to maintain health.

Economic Value

Medicinal plants are not only important for health and medical purposes, but it is important as the economic aspects, in particular as a source of income, employment and business opportunities. Economic characteristics of natural resources can influence its exploration and utilization (Katiman and Asmah 2006). Andersen et al. (2001) conducted a study on the value of forest products, including medicinal plants, where he found the notion of community in Kuyongan of medicinal plants rather than economic interests medicinal value. This shows that there is a tendency to emphasize the economic value of medicinal plants than other aspects.

Ecological Value

Ecological value is often overlooked as an interest in medicinal plant. But basically, in response to the interests of medicinal plants be associating with wealth and diversity of sources, habitat and also the need to manage these resources better and wiser. In this case, the ability of ecosystems to continue to use the functions necessary must be conserved through the use of sustainable (Nik Fuad and Noraïen, 2007).

RESEARCH METHOD

The study was conducted in 14 selected *Tamu* in the West Coast of Sabah. These *Tamu* include the one in Inanam, Jalan Gaya, Kiulu, Kota Belud, Koperasi Pembangunan Desa (KPD), Menggatal, Papar, Pekanabalu, Penampang, Putatan, Ranau, Tamparuli, Makale and Tuaran. *Tamu* is the name given to the local market which sells a variety of goods, especially products harvest, hunting, crafts and a variety of traditional products. Anonymous is important to the community in Sabah (Jurry et al. 2014). In terms of culture and society, *tamu* is a gathering place (Chong and Low, 2008). According to Abdul Samad (1989), the main role of a *Tamu* is a market exchange that involves a friendship treaty between the parties involved (especially the people of Dusun and Bajau at the initial stage of *Tamu* establishment), in which historians refer *Tamu* as a formal way of bartering at the confluence zone area neutrality far from settlement communities. As a space, *Tamu* is the center of human activity, especially for economic activity, namely the exchange of goods and trading. The activities will affect the layout space that ultimately will determine the state of the space (Chan et al. 1993).

Informations were collected through field observations, questionnaires and interviews. A total of 84 respondents was selected based on purposive sampling, participated in this study. The questionnaire used contains 12 items perceptions (Table 1) from 3 constructs (economic , social and ecological) using a Likert scale of 1 to 5 , namely 5 = strongly agree , 4 = agree , 3 = unsure , 2 = disagree and 1 = strongly disagree. Data were analyzed using descriptive statistical analysis in IBM SPSS 21 software to get the mean score for each item

perceptions and identify trends in the perception of women towards the preservation of medicinal plants sold.

RESULTS AND DISCUSSION

Based on the demographic analysis, it was found that the women sellers of medicinal plants in the West Coast are dominated by ethnic Kadazandusun with the frequency of 77.4%. This is indeed the ethnic group that inhabit earliest the West Coast (Dayu 2008). Early settlements

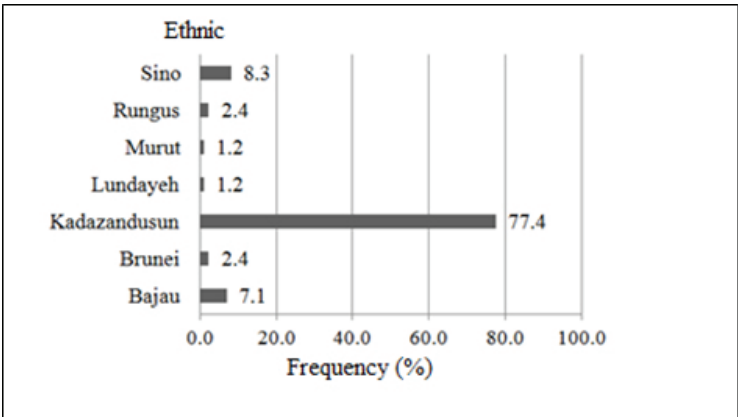


Figure 2. Ethnic distribution

Sino-descent sellers are the second largest ethnic group at 8.3%, followed by Bajau (7.1%), Brunei Malays (2.4%), Rungus (2.4%) and 2.4% Murut and Lundayeh. The Sino community lives among families with mixed culture. The Sino as an ethnic has been long-established in Sabah and accepted as indigenous communities since the reign of the Sultanate of Brunei, Sultanate of Sulu and also during the British rule in Sabah (Dayu 2008; Rosnah 1997). In terms of population distribution, Sinos usually live in urban areas and carry out business activities (Jurry, 2012). The Bajau is known as the guardian of the sea (Richard, 2004) because this ethnic is famous for their settlements on the coast (Felix, 2002; Michael, 2004).

The Brunei, Murut and Lundayeh also have a wide distribution in the interior areas. This distribution has to do with the history of early settlements in Sabah. Brunei Malays is distributed from the areas such as Sipitang, Weston, Menumbok, Kuala Penyu, Kota Klias, Membakut, Bongawan, Kimanis, Benoni Papar, Tuaran, Kudat and Labuan (Asmiaty and Saidatul 2002). Lundayeh ethnic and Murut also have a large population distribution in the rural areas. Rungus ethnic community also has a distribution area that covers the West Coast, Kudat, Kudat east coast, the Bay of Marudu, Pitas, Kudat and the surrounding islands (Department of Information, 2008).

DISTRIBUTION AREA OF WOMEN VENDORS IN TAMU

The distributions area of women sellers involvement in Tamu resembles their role in the demand of the medicinal plants. The results showed that women's participation is highest in Tamu Penampang (17.9%). This was followed by Tenghilan (11.9%), Tamparuli (9.5%) and Tuaran (8.3%). While in Ranau, there is only 1.2 % women involved.

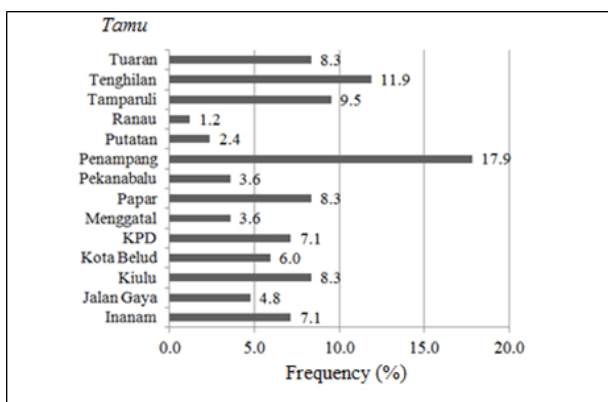


Figure 3. Distribution of women sellers

WOMEN'S PERCEPTIONS TOWARDS MEDICINAL PLANTS IN TAMU WEST COAST OF SABAH

The results showed that the overall mean for the study of perception scored 4.06. It means women vending response to medicinal plants sold was positive and reached high levels (Table 1). Analysis of the perception showed high score, except for two items listed below with mean score of 3.68, which is at a moderate level. These items are A3a natural medicinal plants that will be exhausted if harvested without limit [3.67] and A3b medicinal plants that have to be replanted after harvesting [3.62]. Both of these items are the construct of ecology. This shows that the perception of women's tendency in regard to the preservation of medicinal plants at the level of the ecological importance is medium compared to other items. Respondents thought that the anxiety of running out of resources and the needs to replant the harvested resources have a modest interest.

Perception on Social Values

Social aspects include items A1a, A1b, A1c and A1d. The most positive perceptions and the top ranking compared to other items is item A1c, which is safe to use medicinal plants (4:52). Naturally medicinal plants have been practiced since the time of the ancestors and believed to be effective and safe. According to Ibrahim Jantan (2006), medicinal plant is considered by society to be natural and safe to be use.

Table 1. Women perception towards mendicinal plants

Perception				
Sub item	Mean	Level of score	Standard deviation	Construct
A1c Medicinal plants are safe to use.	4.52	High	.630	s
A1a Practice is a traditional medicinal plant.	4.43	High	.826	s
A1d Practice increasingly popular medicinal plants.	4.40	High	.823	s
A1b Practice of medicinal plants should be taught to everyone.	4.31	High	.905	s
A2a Medicinal plants are a source of income.	4.23	High	.998	e
A2c Medicinal plants are able to buy the product.	4.21	High	.865	e
A2b Human is willing to buy medicinal plants for health.	3.98	High	1.151	e
A2d Selling medicinal plant is a business.	3.83	High	1.096	e
A3d Need to know where medicinal plants are harvested.	3.79	High	1.233	eg
A3c Reduced Medicinal plants will become extinct when the habitat is maintained.	3.69	High	1.497	eg
A3a natural medicinal plants will be exhausted if harvested without limit.	3.67	Medium	1.417	eg
A3b Medicinal plants should be replanted after harvesting.	3.62	Medium	1.496	eg
Avarage of mean= Number of Respondent = 84	4.06	High		

Notes:

[I] s = social; e = economy; eg = ecology

[Ii] Score (Min): 1 to 2:33 (low); 2.34 to 3.67 (medium); 3.68 to 5.00 (High)

Inheritance of traditional knowledge about medicinal plants has stagnated since 1970s, as modern medicine deals with cheap price and easy to obtain (Julius Kulips 2005). Even so, the study found that the majority of respondents in the study areas still think that the practice of using medicinal plants is a tradition. This is demonstrated through the second highest score of the item A1a perception that the practice is a traditional medicinal plant (4.43).

Perception seller's items A1d practice, the increasing of popularity of medicinal plants (4.40) showed that medicinal plants are still relevant in people's lives nowadays. The existence of various ethnic groups of buyers has made the use of medicinal plants as a lifestyle. Interest is individual internal factors related to the desire to act. Interest can also be associated with the use of human resources (Katiman and Asmah 2006). The existence of interests will form the dedication and vigorous effort (Nik Fuad and Noraïen 2007). This augurs well for the preservation of medicinal plants.

The fourth item is A1b, ie the practice of medicinal plants should be taught to all people (4.31). These results show the potential to develop the science and practice of medicinal plants sustainably. A high score for this item shows that knowledge about medicinal plants is important. It also reflects the willingness of respondents to disseminate information on the source. Based on the perspective of space, which is dominated by education and information can be a stimulus to respond positively (Ramzah and Amriah,

2008). The transmission of knowledge is usually accepted verbally, especially for indigenous people, namely cross-border generation and became part of the cultural tradition and civilization (Felix, 2002; Samy et al., 2014).

Perception on Economic Value

Items that represent aspects of the economy are the items A2a, A2b, A2c and A2d. The most positive perception from respondents is A2a item, namely medicinal plant is a source of income [4.23]. There is no doubt that medicinal plants function as a product on the market that contributed to the revenue. It is in conjunction with statement by Chan et al. (1993) that decisions and human behaviour is often done for economic purposes, in which income is one factor to the increase in demand for the quality of the natural surroundings (Raman, 1998).

Respondents also thought that medicinal plants sold in Tamu are to be affordable, that is, as the item A2c, medicinal plants are affordable [4.21]. The concept of 'affordability' is subjective depending on individuals, but it depends on one's purchasing ability and power. Studies indicate that poverty and financial confinement are the reasons of one of dependency on medicinal plants (Kanta et al., 1998; Jamaluddin Jarjis, 2006). This means, the affordable price of medicinal plants gives opportunity and hope for certain party to achieve the optimum state of health. Moreover medicinal plants are cheaper compared to modern medicines, and easily found to care for minor illnesses (Schippman, 2006; Anderson et al., 2001; Fatan, 2003). A positive response is indicated for item A2b that is the willingness to buy medicinal plants for their health. The willingness is depends on the perspective towards the medicinal plants and their socio-economic position. High demands for medicinal plant cause users able to buy them at a high price (Jurry et al. 2014). A2d items are selling medicinal plants is a business [3.83]. This item also received a positive response from medicinal plant women sellers. As for items A2a, respondents have a positive view of medicinal plants based on commerce. It is because the surrounding nature always offers opportunities (Katiman and Asmah 2006).

Perception on Ecology Value

Perceptions of saleswomen against ecological value indicated by item A3a, A3b, A3c and A3d. Two out of these items received a high positive response; meanwhile the other two items received modest positive response. (Figure 4). Highest positive response was given for A3d item that is necessary to know where the medicinal plants are harvested [3.79]. Meaning, from an ecological viewpoint, the respondents think that preserving the source of medicinal plants is important. It is a positive thing because consciousness about the interests to preserve is a characteristic to sustainable behavior. In addition, the surrounding natural inventories supply complete knowledge about something regional in various aspects (Jamaluddin 2010).

Item A3c, medicinal plants would go extinct if its habitat is not maintained [3.69] participated received a positive response between the high and moderate level. This means respondents are aware of the interest in protecting its habitat from evasive threats. Knowledge of species threats can assist in the process of preservation. (Katiman and Asmah, 2007). Respondents also know that the medicinal plants will be lost if they are harvested without limit [A3a = 3.67]. However their views on this aspect are only at the stage of moderate. Meaning, it was not a very important aspect for them, compared to other natural sources. Knowledge and awareness on this matter facilitate the implementation of the methods to preserve the resources, especially in controlling the usage. Item A3b, namely medicinal plants need to be planted after the original harvest [3.62] also received a positive response, but only reached the level of moderate. This consciousness is due to the knowledge of the importance in preserving natural resources around in ensuring its existence. The perspective encourages people to replant in order to meet the demand.

General Perspective of Women Seller towards Medicinal Plants Sold

Common respondent's perspectives towards medicinal plants demonstrated through their trend of perception. It is, through the distinction of mean score for economic, social and ecological. Study results find that the respondents in the study had a higher positive response to the social value (4.4) compared to the economic value (4.1) and ecology (3.7) (refer Figure 4). However, the scores for all three of these aspects are high and positive.

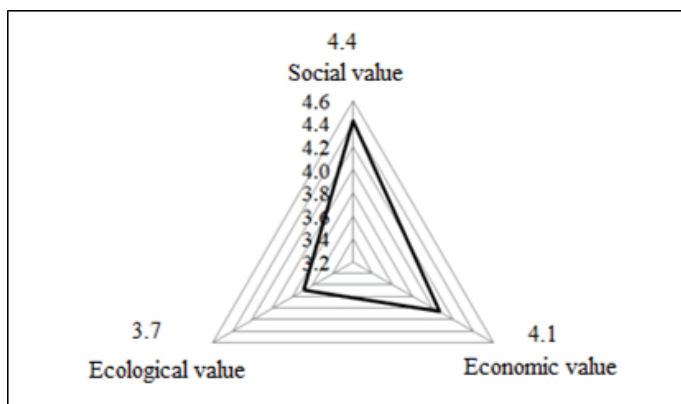


Figure 4. Sellers aptitude on perception

CONCLUSION

Perception of sellers of medicinal plants among women shows a positive trend towards social value of these plants compared to the economic value and economic value. From a utilitarian point of view, the results showed that the source of the good life and the quality is up to the standard of living of the desired social, economic ability and sustainability of ecosystems. This positive trend can be seen with through the high scores for all aspects of social, economic and ecological items. Medicinal plant was deemed to have reflected the culture of the people who thought that medicinal plants are safe to use, is a traditional practice, the public interest and should be taught to everyone. Medicinal plants are also considered to play a role as an important source of the local economy because it is a source of income, they are able to buy and creating business activities. In terms of the potential of environmental conservation, women's sellers have the knowledge and awareness of the risk of loss due to the use of species that are not limited, unsustainable and are willing to do conservation. All of the plants and other sources depend on the response of human resource management as a determinant of plants. Information from this study shows that the sellers of medicinal plants among women living in the West Coast has a positive relationship with the source.

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