

A QUALITATIVE STUDY EXPLORING THE SOCIO-ECONOMIC DYNAMICS AND LEGAL DEBATES ON KRATOM (MITRAGYNA SPECIOSA KORTH.) IN MALAYSIA

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Abstract- Kratom or known as *Mitragyna speciosa* Korth, is a tropical medical plant from Southeast Asia, and it is used as a supplement in several countries. Kratom are mostly found in Thailand, Indonesia, Malaysia, Myanmar, Vietnam, Cambodia, Papua New Guinea, Laos, and the Philippines. However, there are many countries that have outlawed Kratom products. Processing Kratom leaves and Kratom products are illegal in Malaysia. However, some political parties are calling for the legalization of Kratom products recently. The objective of this study is to investigate the socio-economic issues related to Kratom in Malaysia. Semi-structured interviews with experts from government agencies, NGOs, industry, and local farmers are conducted in order to achieve the research objectives. Findings show that there are both positive and negative impacts of Kratom products, such as Kratom being used as an immediate treatment for stomach aches and diarrhea, providing energy for labor, and recovering energy for women after giving birth by locals in Northern Malaysia. However, Kratom is also said to cause addiction and threaten the users' health if excessively used. In addition, Kratom is expected to generate income for the farmers and government, regardless of the misuse cases by teenagers and black market activities in Malaysia.

Index Terms- addiction, black market, Kratom, *Mitragyna speciosa* Korth, misuse

I. INTRODUCTION

Kratom (*Mitragyna speciosa*. Korth), a tropical medicinal plant from Southeast Asia that belongs to the Rubiaceae or coffee family. Kratom has historically been used for a number of different purposes [1,2,3]. Kratom has been used for intestinal infections, diarrhoea, and cough in folk medicine, as well as for its purported analgesic and euphoric benefits [4]. Kratom has been utilized by locals in Malaysia and Thailand to help them work long hours under the heat [5]. Kratom, which can be smoked or taken orally, is now widely accessible throughout the United States and Europe, both online and in street shops. People have started using "Kratom cocktails"—a concoction of boiled Kratom leaves, coke, syrup, coffee, or codeine, served with ice—in Thailand [6]. Large-scale cultivation of Kratom can be found

in Thailand, Malaysia, and Indonesia [7]. In Southeast Asia, Kratom has been used for a medicinal benefit and as a recreational drink. In fact, in some villages in Thailand, Kratom is also used in small religious rituals. Women in rural areas often use Kratom leaves as home remedies for conditions such as fever, cough, hypertension, diabetes, discomfort, and anxiety [8]. The use of Kratom has been discussed in several journal articles [9,10,11], however there is still a debate on the pros and cons of the Kratom related to the usage, effect, and legal status in the world, including Malaysia. In Malaysia, Kratom is always associated with the discussion on the misuse among the teenagers, the issue of black market, and smuggling the Kratom leaves to other countries. Kratom is known as psychoactive drug which is placed under the Poisons Act 1952 in Malaysia. Although Kratom is classified under this act, the cultivation of Kratom is neither prohibited nor illegal [12]. Under Section 30(3) of the Poisons Act 1952, people who process and sell Kratom can lead to a maximum prison sentence of four years or a fine not exceeding RM10,000 or both. However, this issue does not show any sign of decrease, in fact the cases are increasing especially during COVID-19 pandemic.

According to Stanciu et al. [9], the use of Kratom in a small dose is not harmful to the user. However, excessive intake can cause various symptoms and it is difficult to detoxify. Stanciu et al. [9] also claimed that Kratom users will increase the quantity even though they may do not have intended to do so in the beginning. When the quantity of Kratom is reduced, severe symptoms such as nausea, vomiting, diarrhea, sweating, and abdominal cramps will occur.

In addition, cases of illegally exporting Kratom are also increasing in Malaysia. This case increases when the price of Kratom increases [13]. This is because processing and selling Kratom is illegal in terms of the law. Therefore, a detailed study of the socioeconomic issues related to Kratom cultivation should be carried out to study the views of the farmers, representatives from government bodies, representatives from non-government bodies, and industry in order to assist the government and the public to understand the Kratom issue in depth.

II. METHODS

To answer the research question of this paper—"To what extent do the representatives from government bodies, non-government bodies, farmers, and industry accept Kratom cultivation in Malaysia, taking into account the variables of social and economic expectations?", a qualitative method is used to gather the data. According to Schostak [14], the purpose of the interview is to gather 'in-depth' information on a specific topic or subject. Therefore, a semi-structured interview with predetermined questions developed based on the project objectives were used for data collection. Participants are contacted via a phone call or text message to be given a brief explanation on the purpose of the interview and to ensure they have basic comprehension of English before proceeding with the interview. All participants are invited to volunteer to take part in the interview. Feedback from respondents related to the objective will be collected by using a voice recording tool.

A total of 11 interviewees including 5 respondents from the different government agencies, 4 respondents from the different non-government agencies, and 2 local framers are interviewed to explore of multiple perspectives the socio-economic issue related to Kratom in Malaysia.

An interview guide was designed to serve as an interview agenda, encompassing subjects that are to be discussed during the interview. The interview is conducted by the researchers and the questions are as follows:

1. Based on your experience, what do you think about Kratom
Probe: Issue arise (a) social aspect, (b) environmental aspect
2. Do you think Kratom can generates income to the individual, state, and country?
3. Please talk briefly about your experience with the Kratom cultivation in Malaysia.
4. What kind of challenges of the Kratom plantation in Malaysia?
5. What do you think about the possibility of legalizing Kratom?

6. What do you think about the future of the Kratom if we legalized or do not legalize it?
7. Do you have any other comments about the Kratom cultivation in Malaysia?

The interview was audio-recorded so that the researcher can fully devote their attention to the interviewee. The audio-recorded was transcribed using Google Text-to-Speech and then translate into English as most of the interviewees are using Malay language which is a natural language in Malaysia during the interview. The data is then analyzed using the software Atlas.ti 22. Eleven interviews were conducted, as, after eight interviews, a saturation level was reached. The results were similar, where additional interviews might cause data redundancy.

Table 1 Interviewee profile

Respondent number	Agency	Position
1	Government Agency 1	Deputy Director
2	Government Agency 2	Head of Department
3	Government Agency 3	Staff with more than 20 years experience
4	Government Agency 4	Staff with more than 5 years experience
5	Government Agency 5	Deputy Director
6	Non-government agency 1	Academician
7	Non-government agency 2	Secretary of the Organization
8	Non-government agency 3	Chairman of the District
9	Non-government agency 4	Assistant Manager (industry)
10	Farmer 1	Farmer with more than 15 years experience
11	Farmer 2	Farmer with 7 years experience

III. RESULTS AND DISCUSSION

Now it is the time to articulate the research work with ideas gathered in above steps by adopting any of below suitable approaches:

A. Bits and Pieces together

In this approach combine all your researched information in form of a journal or research paper. In this researcher can take the reference of already accomplished work as a starting building block of its paper.

Jump Start

This approach works the best in guidance of fellow researchers. In this the authors continuously receives or asks inputs from their fellows. It enriches the information pool of your paper with expert comments or up gradations. And the researcher feels confident about their work and takes a jump to start the paper writing.

B. Use of Simulation software

There are numbers of software available which can mimic the process involved in your research work and can produce the

possible result. One of such type of software is Matlab. You can readily find Mfiles related to your research work on internet or in some cases these can require few modifications. Once these Based on the research objective and question of the study, the themes were divided into two, including social and economics.

A. Social Aspects

Kratom has health benefits

There are many statements related to the health benefits such as Kratom can provide immediate treatment, provide energy to users who do heavy work, etc. Based on the analysis, there are 20 statements appears from eleven interviews that is related to Kratom has health benefits to human. Some of the statements are reported as follows:

"Kratom leaf is use as an immediate treatment for stomach aches and diarrhea in some of the urban area in Malaysia."
(respondent 6)

"Can restore a woman's inner energy after giving birth. Take a leaf and boil it. The water is drunk, and it can give instant energy to the drinker." (respondent 6)

"From a social point of view, Kratom is an original plant that is said to have benefits in terms of traditional medicine. The community uses it for medical purposes to treat diseases, such as worm medicine for children by applying Kratom leaf water on the stomach or taking a bath. For adults, it is said to cure high blood pressure, and diabetes. In addition, the use of Kratom leaf water is said to be able to cure the internal diseases without mixing with other things. It is also understood from people who take herbal water that it is said to bring energy and be able to survive for those who do hard work" (respondent 7)

"It's beneficial to the health. Because it gives energy." (respondent 10)

"From a health point of view, people with high blood pressure can drink." (respondent 10)

"Kratom can provide energy, especially to those who work as a labor" (respondent 11)

In summary, Kratom leaf is expected to be beneficial to the health, especially in terms of restoring energy. This can be supported by referring to Coe et al. [15] that Kratom can relieve pain, anxiety, depression, increase energy or focus to the user. There are some respondents who also believe that Kratom leaf boiled with water and drunk without adding any extra element can be an immediate treatment to stomach and diarrhea.

Health affected or threatened

Although Kratom is believed to bring benefits in terms of traditional treatment, there are also side effects that can threaten the health of users if it is taken excessively or mixed with other substances. Respondent 1 revealed that "*Kratom is not good for health, and it has negative effects if practiced regularly.*" This statement is consistent with the research conducted by Abdullah et al. [16] that the health and physical well-being of Kratom users is affected and endangered if the user takes excessive doses over a long period of time. The result shows that a cup of Kratom water contains 24.06-28.93 milligram of mitragynine. Most of the Kratom users who have health problems are those taking more than 4 cups per day for more than 6 years. In addition, according to respondent 8, who is a chairperson for a non-government agency and at the same time a medical doctor who is an expert on drug rehabilitation also said that "*It has effects on the liver, kidneys, and brain and also has social effects, such as making it easy to get angry*" during the interview session. Furthermore, respondent 8 also revealed that "*No appetite, constipation, bruises on the face, and heart problems are the common issues if people take excess Kratom*". This statement can be supported by LaBryer et al. [17] that ingestion of kratom can result in medical consequences including loss of appetite, constipation, psychosis, cholestasis, and seizures. As compared with the statements from

previous section, we can conclude that although Kratom is believed that it can benefit the user in the context of resolving energy and immediate treatment to stomach and diarrhea, but overdose will bring detrimental effects to the Kratom users.

Addiction

The use of Kratom is said to cause symptoms of addiction. Consuming Kratom water in large quantities, whether mixed with certain ingredients or not, continuously will cause hallucinations and addiction. In general, addiction is defined as a repeated and continuous behavior towards something and a strong desire to do it, which has a negative effect on the person who experiences it, such as loss of self-esteem. Addiction also includes the condition experienced by a person who abuses a substance and then produces negative implications such as physical harm, psychic conditions, or requires psychological dependence. The following statements are from the respondents claiming that the Kratom product can cause addiction for the users.

"Kratom products can cause addiction" (respondent 1)

"It will be addictive if added with cough medicine." (respondent 2)

"Kratom users normally have symptoms of addiction." (respondent 3)

"The negative effect of the Kratom chemical 'mitragynine' is that it can cause addiction. The effect is long-term in nature. For young people, it will make them lose focus." (respondent 4)

"can't be taken excessively because it causes addiction" (respondent 6)

"Kratom has substances that cause addiction." (respondent 7)

"the person will have insomnia or lack of inhibition if they stop taking it." (respondent 8)

"very dangerous, Kratom can cause addiction" (respondent 11)

The findings revealed that 8 of 11 respondents agreed that Kratom can cause addiction. This is aligned with the results obtained from Settle and Chong [18] because Kratom possesses significant side effects and addictive properties.

Misuse

Kratom products are usually used by people of all ages for different purposes. Young people are often associated with the abuse of Kratom products. This is because most of them are using it for recreational purposes. Kratom water is mixed with inappropriate ingredients such as cough medicine and soft drinks, etc., to make the taste stronger. This is supported by respondent 3 that "*when this Kratom herb is mixed with contaminated substances such as mosquito repellent, cough medicine, alcohol,*

and various other substances to get a dreamy taste. The more contaminated material is added, the more kick it is." Respondent 5 and 6 also claimed that "Kratom users normally mix the Kratom leaf water with other things, such as cough medicine. Cough medicine has antihistamines, and one of the effects of antihistamines is drowsiness (mild sedation)" and "Cakoroi is the name given by the locals to the mixture of the Kratom water with mosquito repellent, cough medicine, or coke in order to increase the level of imagination and stimulation". Therefore, we can have concluded that the users always misuse the Kratom product by adding other substances such as mosquito repellent, cough medicine, alcohol, and various other substances. In addition, respondent 2 also evaluated that "It will cause addiction if added with cough medicine". Misuse of the Kratom product will cause addicted to Kratom. This statement is supported by respondent 8 and 9 that

"If the government legalizes it as a supplement to medicine, it will be easy to abuse like cough medicine."
(respondent 8)

"if you look at those who are always addicted to Kratom, it is excessive use."
(respondent 9)

Hence, the mixture of Kratom leaf water with other substances can cause bad effects on the body such as drowsiness. Overdose of Kratom usage is expected cause psychotic symptoms to the user, such as hallucinations, delusion, and confusion.

B. Economic Aspects

Generate Income

Participants believe that Kratom leaves, and products can create income for the locals. Respondents 1, 3 and 11 believe that Kratom product can generate income to the individual or country.

"Kratom is recognized as a medicine or supplement in other countries." "Therefore, there is a demand for it."
(respondent 1)

"Kratom easy to grow. It can be one of the opportunities for the economy."
(respondent 3)

"The demand for Kratom is not only from Malaysia. Other neighboring countries also have very high demand."
(respondent 11)

However, Kratom product is illegal in Malaysia, therefore, this claim is still not confirming in the current stage. Further investigation is required in order to examine the reliability of this claim.

Easy to plant and short harvest time

The short harvest period allows farmers to get an immediate income. Therefore, the harvest period is often linked to economic aspects. The fertile soil and Malaysia's location close to the equator are the main factors for Kratom cultivation, especially in the Northern part of Malaysia. This statement is supported by the

respondent, and the respondent's description has been collected and recorded as follows:

"Mostly on the north side. Kratom grows along riversides and thickets of forests."
(respondent 2)

"This Kratom leaf is also easy to live with. It doesn't require meticulous care and does not incur high costs for the care process, so that's where the big profit is."
(respondent 6)

"The Kratom tree can grow in a year."
(respondent 10)

"Kratom is a plant that is easy to live and grow."
(respondent 11)

The respondent 10 and respondent 11 are farmer. They also stated that Kratom are easy to grow in Malaysia. This is due to the reason that the climate and land type in Malaysia has provided a convenience environment and place for Kratom to grow.

'Black Market' and smuggling is rampant

There are many cases of smuggling Kratom leaves or trees abroad, and selling Kratom products, including Kratom water on the black market. Although this behavior is illegal, many people still do it for money. According to the participants, Kratom can generate income for the farmers as long as there is demand for it. Respondent 9 also added that the selling price of Kratom water in the northern Malaysia is around 1 US dollar to 2.3 US dollar for 200 milliliters. She is further added it that the seller can earn up to 200 to 430 dollars daily. Furthermore, respondent 3 also said that there are several criminal cases related to selling Kratom products in Malaysia.

In addition, there are also respondents who think that legalizing the processing and sale of Kratom can reduce cases of black market and smuggling:

"The government can collect taxes to avoid the "black market"
(respondent 9)

Illegal activities such as the illegal smuggling of Kratom leaves at the Malaysia-Thailand border have an impact on various parties. According to Schaper [19], although black market activity has decreased, cases in some specific areas still do not show a change in terms of numbers. This includes the sale of Kratom which not only occurs in the northern states but also in the states of Selangor and Kuala Lumpur.

IV. CONCLUSION

This study aims to examine the perceptions of stakeholders towards the acceptance of Kratom cultivation in Malaysia. Two domains: social and economic issues were investigated in this study. The findings of the study show that both farmers and society have negative expectations of Kratom in a social context. Both parties agree that the health of Kratom users will be affected, such as a lack of appetite, bad breath, and addiction. This statement was also supported by experts from government

agencies, representatives from industry, and farmers. According to the respondents, the health of Kratom users will be threatened because excessive use of Kratom will cause addiction. In addition, there has been no treatment or conservation center that can treat Kratom users in Malaysia. In terms of the economic aspect, all stakeholders agreed to legalize the cultivation of Kratom and Kratom products, which are expected to generate income for the country and individuals. Besides that, legalizing Kratom is expected to create job opportunities, multiply the existing types of commercial crops and generate sustainable profits compared to destructive plantation industries. After studying the issues related to Kratom, most of the scientific studies are related to social issues and there are some studies that discuss the chemicals in Kratom leaves or trees. This study has two limitations. The first limitation was that there are many Malaysians who do not have a deep understanding of Kratom, especially in the south of Malaysia. This is because Kratom is normally found in the north of Malaysia. Furthermore, Kratom product is illegal in Malaysia; therefore, it is one of the limitations during the data collection where the researchers have to identify the candidate who has knowledge of Kratom. The second limitation of the present study is that it is at an early stage of the discussion on the legalization of Kratom in Malaysia. This issue is arising due to requests from some politicians and the public; therefore, holistic research about the acceptance of legalizing the Kratom product and an experiment or lab research on Kratom's effect on humans are suggestions for future research. There are some recommendations to policymakers and relevant stakeholders for further action. It is suggested to further investigate the Trans-Theoretical Model (TTM), which is an integrative and biopsychosocial model, to conceptualize the behavior change process (to help individuals' willingness to act on new behaviors). Furthermore, further research or analysis on the acceptance of Kratom in society using a quantitative study is also suggested to academics and policymakers.

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