

# Betel Nut and Betel Leaf: Strengthening Social Relations through the Tradition of Chewing Betel in the Islamic Community in Kao Village, North Halmahera

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## Abstract

This article is the result of research that wants to reveal the relationship between the tradition of eating sirih and pinang (*menyirih*) and its relationship with the formation of social relations among the Muslim community of the village of Kao, North Halmahera. In every meeting for any activity, one of the parties always presents his guests with a spoon and a pinch. The phenomenon is not only among the elderly men and women, but also among the younger generation. The question is: is the historical background inherited in the community of the village of Kao Islam? What is the meaning and benefits behind the tradition of inheriting in the village community concerned? and is the tradition a way to strengthen social relations within the community in question? This research uses Historical Research Methods with a sociological and psychological approach as well as quantitative measurements. Based on the results of the research, it was found that, the tradition of attachment to the Muslim community of the village of Kao has long lasted and it turns out this tradition has also become a custom of the kings and gentlemen in the North Maluku colonial times, for example in the Sultans of Ternate and Tidore. The tradition inherited in the community of the village of Kao Islam, is a sacred custom and should be preserved for the harmonization of relations between citizens of the community. Habits are not just a tradition, but a reinforcer of interpersonal social relationships in society. Although the customs are not only found in the village of Kao, the relationship between them and the strengthening of social relations in the community concerned has its own development.

## Keywords

Kao Islam, Sirih Pinang, Social Relations, Strengthening, Traditions

## 1. Introduction

In North Maluku Province, there is a village called Kao in Kao District, North Halmahera Regency, where the community is very familiar with the tradition of chewing betel leaves. The people of Kao Village commonly refer to their village as “Kao Islam”, because the majority of the population is Muslim. Even residents from outside the mentioned Kao Village also refer to Kao Islam Village as the Islamic Village. Based on observations in the field, it appears that almost every community member, especially the elderly in Kao Islam Village, enjoys chewing betel leaves and does so with great pleasure. Chewing betel leaves is done by them both casually and seriously. This habit has an impact on the warmth of their daily social interactions, especially during visits between each other. Chewing betel leaves seems to greatly help facilitate various matters related to social, economic, and cultural (customs and traditions) aspects.

## 2. Literature Review

### 2.1. Preservation Opportunities of Betel Chewing Culture as a Symbol and Meaning

Dwinanto wrote about Betel Chewing Culture and Preservation Opportunities in West Sumba, Indonesia, stating that there is a phenomenon of the fading values of culture embedded in the habit of betel chewing, which is crucial in the context of social, economic, cultural, and health aspects that need to be preserved in West Sumba (Dwinanto et al., 2019: pp. 1-18). This writing is very interesting as a reference for comparison with what is happening in Kao Islam Village, Kao District, North Halmahera. Suminar in a research article about the Symbol and Meaning of Betel Chewing among the Atoni Pah Meto Tribe in North Central Timor, North Timor, East Nusa Tenggara, discusses social interactions, meanings, messages, and human actions based on specific symbols, focusing on the Betel Chewing Tradition among the Pah Meto in North Central Timor, East Nusa Tenggara. Betel chewing plays a role in fundamental cultural symbols in the social life and interactions of that region (Suminar, 2020: pp. 1-8). Suminar’s writing is an important and interesting reference when compared to what is happening in Kao Islam Village, Kao District, North Halmahera, although Suminar’s study mainly relates to the contexts of symbolic cultural meanings, it also discusses the role of fundamental cultural symbols of betel chewing in social life and interactions, including the meanings and messages of supporting human behaviors (Suminar, 2020: pp. 1-8).

### 2.2. The Benefits of Betel Chewing, Management, and Rural Community Habits in Indonesia

Kamisurey and Devi wrote about the Benefits of Betel Chewing in the Papua Community in Adipura I Village, South Jayapura District, South Jayapura City, stating that betel chewing is a way to care for teeth believed to strengthen teeth, heal minor wounds, and eliminate mouth odor. They mentioned that indigenous tribes in Papua chew betel due to beliefs passed down by their ancestors. Kamisurey and

Devi's writing focuses on the benefits of betel chewing as a way to care for dental and oral health (Kamisurey & Devi, 2017: pp. 1-13). Ade & Patilayi wrote a study on the Community's Habit of Consuming Betel Nut to Maintain Dental and Oral Health in Fulai Village in 2017, discussing the knowledge, attitudes, and actions of the people in Fulai Village regarding their habit of consuming betel nut to maintain dental and oral health. Similar to Kamisurey and Devi, Ade & Patilayi's discussion focuses more on the dental health aspects of community members who have the habit of consuming betel nut in the related village (Ade & Patilayi, 2019: pp. 1-5).

### **2.3. Significance of Betel Chewing as Communal Identity and Social Cohesion**

In the sociological theory review related to food as communal identity, Durkheim offers a different perspective on viewing the social significance of food. The Durkheimian perspective sees food as a type of totem that signifies social cohesion. Totem refers to Durkheim's idea of plants or animals believed to be sacred and capable of generating bonds and a sense of togetherness among all members of society through specific rituals (Johnson, et al., 2016: p. 38). Similarly, food sourced from plants that are still in their raw state because they are directly picked from the tree, such as betel and areca nut, also serve a not so different function. Through food, a community celebrates and delves into its cultural identity through religious rituals or simply accompanies conversations in coffee shops. Food becomes a totem that can play a role in social integration.

In addition to the Durkheimian sociological theory perspective related to food as communal identity, several relevant theories regarding research on the tradition of betel chewing in the formation and strengthening of social relationships can be presented, namely: Symbolic Interactionism theory, which emphasizes the importance of social interaction in shaping meaning and individual identity. This theory is relevant to study how the tradition of betel chewing influences social interactions between individuals and how this tradition strengthens social relationships. Social network theory, focusing on the relationships between individuals in social networks, was proposed by Mark S. Granovetter, in his book on *The Strength of Weak Ties*, American Journal of Sociology. This theory discusses traditions that influence social networks, which can strengthen existing networks or help build new relationships among individuals in a group (Granovetter, 1973: pp. 1360-1380).

Social interaction covers how individuals interact with concept of social identity both sociologists. The concept of social identity both sociologists. In general, this theory states that food traditions, including betel chewing, contribute to the formation of social identity within a community. One of Goffman's famous books is *The Presentation of Self*. This book discusses the concept of social dramaturgy, where Goffman describes social interactions as a performance. Erik Erikson, a renowned psychologist and psychoanalyst known for his psychosocial development theory. One of his relevant books on social identity is *Identity*. Erikson also

suggests that social identity is influenced not only by internal factors of individuals but also by interactions with the surrounding social and cultural environment.

In addition to theories, there are also concepts related to the tradition of betel chewing, namely: the concept of “social norms”, which states that tradition is a strong example of the social norms of a society. Through this tradition, social norms related. The concept of “social motivation”. This concept discusses the factors that drive individuals to participate in social activities such as betel chewing. This motivation is possible based on the desire to strengthen social bonds, respect traditions, or create community identity. This concept was first proposed by Abraham Maslow in his theory of “Maslow’s hierarchy of needs”. Maslow argues that failure to meet these needs can lead to social isolation and unhappiness, while fulfilling these needs can increase motivation and satisfaction in social interactions. The concept of “Perception and Attitude”. For example, the Muslim Kao community may have different perceptions of the tradition of betel chewing.

### 3. History of Betel Chewing Tradition in Rural Communities of South East Asia and Indonesia

The betel chewing tradition is a tradition in various regions of Indonesia. The betel chewing tradition involves chewing betel ingredients. Generally, there are three main ingredients that make up the betel ingredients, namely areca nut, betel leaves, and slaked lime. Slaked lime is often also referred to as “injet”. In each region, the betel chewing tradition has different meanings, but generally, this tradition carries values of goodness. It has long been interpreted that the combination of betel and areca nut symbolizes union or marriage. Areca nut represents the “hot” element and betel leaves represent the “cold” element. In addition, the betel chewing tradition has oral and dental health benefits, but in modern health studies today, it has been limited because excessive consumption can have adverse effects on health. The longevity of the betel chewing tradition in the Nusantara community can be seen in one of the reliefs at Borobudur temple (8th century) and Sojiwan temple (9th century). The relief shows the betel and spittoon (dubang) containers and carvings of people chewing beside them. Archaeologists interpret it as people chewing betel. Currently, most people are increasingly abandoning this tradition.

The emergence of the betel chewing tradition in rural communities in Indonesia has been at least 3000 years ago (example of the shape of the betel leaves and fruit can be seen in **Figure 1**, especially those planted and growing well in Kao Islam [see: Photo Collection from field research by Abd. Rahman, 30-04-2023: 5]). This tradition is honored in local cultures in Indonesia, although there are differences in beliefs accompanying this tradition in various regions of the Nusantara (Indonesia). Betel and Areca Nut are also closely associated with Nusantara and Southeast Asian cultures (1001 Indonesia, Betel Areca Nut, History and Meaning in Nusantara Culture, Jan 21, 2021: 1-10) and as an example of an areca nut tree can be seen in **Figure 2**, as it grows in Kao Islam village (see: Photo Collection

from field research). According to archaeological data, the habit of betel chewing is said to belong to Austronesian inhabitants, estimated to have occurred in the Neolithic era. A few decades ago, it was estimated that there were around 600 million people in the world who still chewed betel, although the number has been decreasing with the passage of time. This betel chewing habit is practiced by community members after smoking and drinking coffee, a practice that has been going on for a long time in Southeast Asia.



**Figure 1.** One of the betel nut trees along with its leaves growing lushly in the yard of a resident's house in Kao Islam Village (Source: Photo collection from field research by Abd. Rahman, 30-04-2023).



**Figure 2.** One of the remaining Areca nut trees in Kao Islam Village (Source: Photo collection from field research by Abd. Rahman, 30-04-2023).

During the 15th and 16th centuries, betel leaves were offered by Ki Ahmad to the Islamic Roman hero named Ahmad Muhammad, as was his custom to other figures originating from the northern coast of Java (see **Figure 3**). More broadly, the Southeast Asian region truly constitutes a distinct human life unit. The dynamics of life and its development may seem somewhat neglected, but sketches of its society can still be observed. There are impressions of differences in each society, yet the impression of unity and harmony in life in the Southeast Asian region appears more prominent. Geographically, for example, Reid, argues that there is no geographical area significantly different from other regions. There are many trade relationships between regions in that area, and despite various ethnic groups, there are also many similarities (Reid, 2014: p. 49). This is because geographical



unity and climate influence its flora and fauna. Food ingredients, for instance, are dominated by rice and fish, with very little emphasis on livestock and milk. Meanwhile, the habit of chewing betel nut is also very common in this region.



**Figure 3.** Betel is being offered to Ki Ahmad, the Islamic Roman hero Ahmad-Muhammad, as depicted on the Javanese coast (Source: manuscript and illustrations dated 1828, Lor. 8655, Leiden University).

Van Goens, the VOC ambassador from Batavia, who visited the Mataram kraton under Amangkurat I (1645-1677) several times, expressed his amazement at the excessive food consumption during the kraton feasts. Banana leaves were spread on mats, long and wide. As today, food was cooked with vegetables or leaves. Whole roasted goats, sheep, cows, and buffaloes were served. Additionally, chicken, ducks, and other birds were also presented. Various types of dried meat were piled everywhere, while there were towering food mountains reaching the shoulders of seated individuals. For Van Goens, all of this extravagance was also considered wasteful. At that time, there was no difference in eating habits between the elite and the common people. Both used their hands for eating. Only among the elite, dishes were usually served in beautiful plates and bowls. In entertaining guests daily, if today it's with tea, coffee, or Coca-Cola, in the 17th century, the main offering was betel and tobacco (Reid, 2014: p. 21).

#### 4. Result of Palm Trees in Southeast Asia

The results of palm trees color much of the taste of Southeast Asian food, as well as the lifestyle of its inhabitants. In some areas, sago becomes the main source of flour, but everywhere coconut and palm sugar produce sugar and arrack, apart from their fruits. Betel nut, which is the main companion of betel leaves, is believed to originate from this region. Betel leaves, not only serve as a common cooking spice, but also play a vital role in social interactions and religious rituals (Reid, 2014: pp. 6-8). The widespread habit of chewing betel can be linked to the presence of betel palm in the region, as betel nut, betel leaves, and chalk are mixed together in a certain way to achieve the desired taste.

During the 15th to 17th centuries, hundreds of Malay words in the fields of trade, technology, and other areas entered the Tagalog language in the Philippines (Wolff, 1976: p. 248). Meanwhile, in major trading centers in Cambodia, vocabulary from Malay such as “kompong” was introduced, and the Vietnamese people adopted “lao” (derived from the Malay word for island). Similarly, Malay words like “amok”, “gudang”, “perahu” and “keris” were found by Europeans in Pegu, and even on the Malabar Coast in India, as if these were local. At least those who engaged in trade in major ports had to use Malay as well as their own language. In these trade transactions using Malay, betel and areca nut were already commonly consumed. Although the habit of chewing betel spread widely in South India and South China in the 15th century, it seems that this habit originated from Southeast Asia. This is supported by the assumption that betel and areca nut are native plants of the Malay Archipelago. The oldest archaeological evidence of the existence of betel was found in the Spirit Cave in north-west Thailand. The findings are estimated to be remains of betel plants from around 10,000 BC.

It is established that the maritime areas were bustling with maritime traffic, so the highland inhabitants in the northern part of Southeast Asia would not play a significant role in the study, even though many of them share the same culture as the coastal Thai people. At the southern border, Reid tends to draw a line between the Maluku Islands and Irian. On the other side, the level of maritime relations and cultural similarities is not as important as the level connecting the Maluku Islands to the islands to the west and north. Vietnam is undoubtedly a troubled land but is currently important in Southeast Asia. It cannot be determined whether Southeast Asian elements outweigh the factors connecting Vietnam to China, especially to southern China. In terms of food, there are many similarities, such as chewing betel, cockfighting, playing a type of sepak takraw—the Vietnamese culture is clearly related to Southeast Asian culture as well as some of its neighboring countries in southern China (Reid, 2014: p. 32).

## **5. Food and Betel Supply in the Maritime Trade of the Nusantara in Southeast Asia**

In terms of food and supply, Reid, quoted from the *Syair Hikayat Banjar*, “but rice in abundance, fruits, betel nuts, sugar, areca nuts, no lack of those. There are no sour things, shallots, garlic, ginger, turmeric, cardamom, galangal, none of those”. This quote signifies the unlimited supply of food, especially for the Banjar region, South Kalimantan, in the Southeast Asian region, particularly the types of betel and areca nuts, alongside rice, fruits, and coconuts. Alcohol was required for animal slaughter and consumption, as well as for feasts. During funeral ceremonies, the biggest and most lively feasts, disturbances, various forms of misconduct indicate the worst condition where in one way or another, it actually revives the life of creatures from a point of death. Betel leaves and alcohol, like other narcotic substances, if used, can cause intoxication to possession, and this is closely related to ancestors. Perhaps because of this, a situation arises similar to possession through

which shamans communicate with the dead. In the Philippines, one of the names for such feasts is *paganito*, meaning the taking of hearts, *anito*, or spirits (Reid, 2014: pp. 44-46).

## 6. Eating and Betel Feasts in Southeast Asian Society

Feasts are highly distinguished from daily meals. Not only the main types of food are only twice a day and much simpler, without meat and hard liquor, even the food must be eaten as quickly and as readily as possible. Casual conversation can be done after meals, when betel leaves are brought out. Interrupting someone eating is considered impolite. Reid, considers the fifteen minutes it takes for Thai people to finish their meal as a “sacred” time, when even a master should not disturb their servant. Errington has studied the same attitude in South Sulawesi in relation to the danger of eating when the body’s protection becomes vulnerable as food is being consumed. However, in most of Southeast Asia, family units, women and men, eat together. They eat on the floor, using banana leaves or wooden plates. Hands and mouths are washed with water before and after eating, and the right hand is used for eating: “They do not use spoons to eat rice, but each person takes a mouthful from the plate, and by wetting their hands with water, so that the rice does not stick to their hands, they clench it as tightly as possible in their fist, then eat it. They all try to make that fistful of rice as big as they can eat, so sometimes they almost choke”. No one does not drink during the meal. Every mouthful of rice is always accompanied by a sip of water (Reid, 2014: pp. 47-48).

In the view of religions, especially Islam and Buddhism, they both prohibit their followers from drinking alcohol, as it is the “source of all impurities,” as stated by Ar-Raniri. However, unlike the staunch rejection of Muslims towards pork, the rejection of hard liquor is slow (Reid, 2014: p. 46). The authors also consider Malacca as a place in decline, where “its Muslims eat dog meat because there are no regulations on food. They drink palm wine in the market” provide their own response to such accusations in an interesting anecdote where Sri Rama, the drunkard, wins over a puritan scholar from the “windward” who tries to remind him. Although in strong Islamic centers like Brunei, Mindanao, and Aceh, alcohol is still provided at palace entertainment events. Regarding community festivities in Muslim society in the environment of the Sultanate of Ternate, Galvao, writes: “They never drink water, they consider drinking water impolite, while standing upright in a drunken state is considered civilized, which they call *koteto*. They do not care about Islamic teachings” (Jacobs, 1971: p. 144). However, as they drink like the Dutch, they prefer to mock each other among the drinkers. In Siam and Burma, kings and nobles usually refuse to drink in public, because “all hard drinks are prohibited by religion and law, as drinking it is considered disgraceful” (Schouten 1636: p. 127).

## 7. Ruler Prasat Thong and Drinking Culture in Southeast Asia

Although, King Prasat Thong (1630-1656) was a heavy drinker whose behavior



had led people from all walks of life to drink more alcohol. Here, the high consumption of alcohol among the general population is often associated with festivities, especially large annual celebrations, when conventional rules are set aside (Schouten, 1636: p. 146). Hard liquor served as a complement to deeply-rooted ritual events that could not disappear overnight with the introduction of new religions. However, people in Southeast Asia never drank alone, unlike the destitute urban dwellers in 18th and 19th century Europe. The closest analogy to European festivities is the joyous May Day rituals of the Middle Ages (Reid, 2014: p. 47). Daily hospitality was often shared over betel chewing. Furthermore, there were no public dining places except those introduced by the Chinese and Europeans (Reid, 2014: p. 48). "There are no eating and drinking houses in Siam. A Frenchman decided to build one there, and only a few Europeans occasionally visited. And although it was customary among the Siamese to entertain each other, it happened occasionally, with many ceremonies; and there were no open tables there". There was no distinction in the presentation between home-cooked meals and festive food, which were usually extended by consuming hard liquor after eating, dancing, accompanied by other entertainments that lasted until late at night. "The people (of Maluku) greatly enjoyed feasting on food and drinks during celebrations, various entertainments, even in the face of the wars they faced. They ate from noon and stayed at the dining table until midnight, or sometimes until dawn. They would get up to attend to their affairs and then start eating again. After that, they would sing and play musical instruments, tell jokes, ask riddles, and joke around" (Jacobs, 1971: pp. 141-145; Reid, 2014: p. 49).

## **8. Betel and Tobacco and the Traditions of Drinking and Festivities in Southeast Asian Society**

If alcohol is associated with feasting, then the daily socializing food in Southeast Asia is betel, a food containing soft narcotics that requires a mixture of three main ingredients: betel fruit (*reca catechu*), betel leaves (*Papier beetle*), or in Eastern Indonesia using beans and various long, slender, pendulous catkin-like tree flowers, and lime. Betel and betel nuts originally come from Southeast Asia, as evidenced by the many indigenous words for it. Lime is easily obtained from crushed shells that chemically react with betel fruit to produce alkaloids (arecadaine, arecoline, and guvacine) that calm the brain and central nervous system (Reid, 1988: pp. 532-533). These three ingredients also produce "red saliva" that chewers spit out.

Though the habit of chewing betel is also widespread in South India and Southern China in the 15th century, it seems that the habit originated from Southeast Asia. In this region, the habit is highly significant in ritual ceremonies and social life for everyone known. Chinese sources since ancient times mention the role of the betel tree (betel) in marriage rituals, and the word used for it, *pin-fang*, seems to be a borrowed word from the Chinese that has long been used in the Malay language refers to Wheatley, Chau Jukua, and Ma Huan, said about the Javanese people: "Men

and women take betel fruit and betel leaves, and mix them with lime, obtained from shellfish shells; their mouths are never free from chewing this. When they receive passing guests, they entertain them not with tea, but only with betel fruit". "For newcomers, Southeast Asians are always accompanied by betel. They eat tirelessly, so they never let go of it from their mouths. Therefore, these people can be said to always be betel chewers" (Jacobs, 1971: p. 51 & Reid, 2014: p. 50).

## 9. Sirih Pinang and Its Utilization in North Maluku during the Colonial Period

Frederik Sigmund Alexander de Clercq (1842-1906), Resident of Ternate (1885-1888), noted that during the colonial period, the indigenous community near the sultanate palaces in the See Area and the Maluku Islands, such as Ternate, were accustomed to placing a plate of betel leaves and areca nut on a small table. When two leaders sat, a servant would come with water for rinsing; this gesture was politely declined. Soon after, tea would be served, followed by sweet fruits to be tasted before any conversation could begin. If requested beforehand, a ceremonial dance called lego and dadangsa would be performed. Eight to twelve elegantly dressed women would line up to honor the ruler as a form of welcome, while a musician in traditional attire played the clarinet to start the music and the women sang songs to greet the visitors with great respect, dancing in a style somewhat resembling Javanese tandak (de Clercq, 1890a: p. 18).

In the 19th century, the Sultanate of Tidore was recorded to have approximately 17 types of heirlooms, including two sets of silver betel equipment and a silver-patterned betel box. This indicates that the kings and nobles of Tidore residing within the palace grounds had a tradition of betel nut chewing (de Clercq, 1890a: p. 20). Meanwhile, the Sultan of Ternate, along with a number of guards and his army, always carried betel leaves and areca nut loaded onto his large boat with all the necessary facilities. One of the important commodities transported on his boat was betel leaves. During his inspection trips to control his territories, including Kao, the sultan always chewed betel. The Sultan did not do it alone, but also invited his subordinates and other boat passengers to chew betel leaves specifically provided by the palace to be taken on board. During sea voyages, the boat was always equipped with a saubah, a wooden box used to store tobacco, betel leaves, areca nut, and others. The wooden box was used as a storage container for these items because it was waterproof (de Clercq, 1890b: p. 227).

## 10. A Feast in Banda, South Maluku

In Pigafetta's account (1524: 32 & see also **Figure 4**: Photo Collection from field research by Rahman, 30-04-2023: 5), it is believed that people in the islands chewed betel nut because it "cooled the heart, and if they stopped using it, they would die." This practice was also observed in Cochin China (Reid, 2014: p. 50). Borri mentioned that in every house, there were individuals whose only task was to prepare betel nut with betel leaves (Reid, 2014: p. 51). These prepared betel nuts

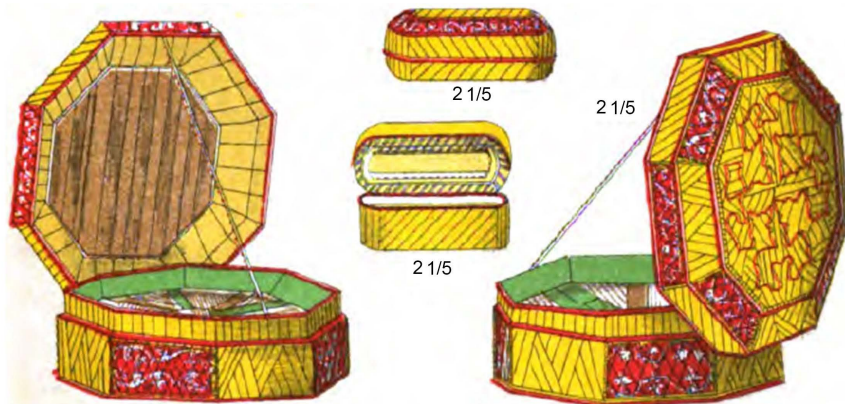
were then served in boxes, and people would chew on them throughout the day, not only at home but also while out in the streets, talking to others, at any place and time. For travelers, a basket of betel nut ingredients was more important than food as it helped alleviate hunger and thirst. Soldiers also needed it to regain their strength and courage. In social interactions, betel nut and areca nut held the same significance as coffee, tea, alcoholic beverages, and cigarettes. In the streets, men and women would offer each other betel nut and chew it together. A set of brass equipment for pounding betel and areca nuts was one of the few metal tools found in homes. Kings and nobles always had betel carriers in their entourage, usually preferred by young women as was the case in Ternate, where young women intentionally scarred themselves when young to enhance the charisma of the palace (Jacobs, 1971: p. 115). Since offering betel nut was a matter of etiquette and hospitality, offerings of betel nut and areca nut were essential in every important ritual ceremony. Chewing betel nut or presenting areca nut and betel leaves together was an integral part of every ceremony related to death, birth, and healing, with particular significance during engagement and marriage ceremonies.



**Figure 4.** A Feast in Banda, South Maluku (Source: from “Tweede Boeck, 1601: 70, reproduced with permission from De Walburg Pers”, Zutphen).

Because betel nut freshened the breath and calmed emotions, chewing betel nut was seen as a natural prelude to intimacy. Mixing areca nut, betel leaves, and lime in a certain way was considered an intimate service that a woman could provide to a man, symbolizing marriage or engagement in some cultures, and an invitation to courtship in others. The combination of betel nut and areca nut became a symbol of union, with the “heat” of the areca nut balanced by the “coolness” of the betel leaf. In eastern Indonesia, the sexual symbolism of betel and areca nut was more pronounced due to the slender and elongated shape of the betel leaf, symbolizing masculinity that complemented the feminine roundness of the areca nut.

In connection with this historical account, it can still be observed today that in the past, the practice of chewing betel nut in Indonesia was not a matter of individual preference but a social ritual imperative for every adult. Not offering betel nut or refusing it when offered could be considered an insult. This was closely related to the significance of betel nut as a symbol of friendship and respect. Interestingly, across Indonesia, the ingredients for betel nut are almost the same. Generally, there are three main components of betel nut materials: areca nut, betel leaves or flowers, and slaked lime. Sometimes slaked lime is obtained by crushing seashells. In some regions, the betel, areca nut, and lime mixture is supplemented with gambier and tobacco, and storage space is made in the form of beautifully thought-out boxes (as an example, see **Figure 5** below this).



**Figure 5.** Leaf-shaped Tabisau boxes originate from Sulabesi (Sula Islands) which is under the rule of Ternate. The larger boxes are used to store paraphernalia for chewing betel (areca nut and betel leaf). The smallest one is for cigarettes. All are filled with small pieces (Source: de Clercq, 1890a: p. 4, fig. 2.2.2.2, Plaat IV).

## 11. Betel and Areca Nut in Ternate Ceremonies

**Sirih** and **pinang** have their own special place in traditional ceremonies in the Ternate Sultanate. In the appendix to the book F.S.A. de Clercq (1890a: pp. 348-349) entitled *de Bijdragen tot de Kennis der Residentie Ternate*, which was later translated into English by Paul Michael Taylor and Marie N. Richards (1999: pp. 23-24) with the title *Ternate The Residency and Its Sultanate*, about the Ceremony of the Last Resting Place of the Sultan of Ternate. The book mentions that **sirih** and **pinang**, along with their placements, are among the requirements in the series of traditional ceremonies for arrivals and departures, including the preparation of the final resting place. In the ceremony, it is explained that after the Sultan's resting place has been prepared, there is a procession that marches orderly in front of the place with a formation of one company of Ternate troops, one company of Makassar people, one company of local residents, one company of European troops along with their officers. The fourth company is led by the Governor General of the Dutch East Indies, followed by six personal guards, the silver trumpet player of the king, the king's horse covered in black cloth carried by a royal

lieutenant, the betel nut carrier with a black cloth cover followed by her attendants. The attendants are literally also called “state princesses”.

In addition to the orderly marching procession, there are also male attendants carrying royal ornaments such as: a chain of gold **karawang**; a gold **morion**; a gold betel nut box shaped like a boat, with a gold **sirih** box; a gold sword; a silver box for tobacco and lime; five silver plates; five small silver plates; six silver rings; three silver rings shaped like shells; a silver **Masak** bowl; two long-necked silver water pots; three silver salt containers; two silver water containers with wash basins; a silver pot for oil and vegetables; two silver-gold colored rose water bottles; a silver **morion**; two silver **sirih** containers; three silver-gold salt containers; two silver wash basins; a silver pot for oil and vegetables; two silver-gold colored rose water bottles; a silver **morion**; two silver **sirih** containers; two silver cups with chains; a boat-shaped silver **sirih** container with its accessories; a boat-shaped silver **sirih** container with flower decorations; a gold **pedupaan**; a carved silver box; a silver plate; a plain silver plate; a plate with a glass bell; a silver-gold plate with a glass bell; a silver **pedupaan** with its stand; and a pair of silver women’s sandals (de Clercq, 1890b: pp. 253-254). Among the various parties involved in the departure and final resting ceremony of the Sultan of Ternate along with the equipment, there are several units of equipment such as **sirih** and **pinang** storage containers made of gold or silver along with supporting equipment and ornaments. This indicates that **sirih** and **pinang** are two agricultural commodities honored given their places made of gold and silver along with their equipment and decorations. **Sirih** and **pinang** are symbols of a king’s glory in eating patterns and customs. These items are always present and prepared by royal relatives in the Sultan’s activities and travels as the ruler of his entire territory.

## 12. The Use Betel Leaves and Areca Nuts in Ternate

The use of betel leaves and areca nuts is mentioned in the topography and travel descriptions of exploring the capital of the Sultanate of Ternate, which also served as the center of Dutch government in Ternate (de Clercq, 1890b: p. 8). De Clercq explains the difference between the monotonous environment outside the capital of the Sultanate of Ternate. In this capital, there is a bustling activity of local residents throughout the day, particularly felt in the morning. Everyone feels the need to relax from their work (although their work is usually not too heavy). They generally enjoy seeking a fresh atmosphere as they usually do while taking a brief break by going to the garden and eating sago. Native residents who enjoy comfort are delighted to squat next to their garden produce, chewing betel or areca nuts, and chatting with potential buyers. They do not actively promote their goods for sale to others. Only when a fellow villager or someone from the same region tells a recent adventure story, then the seller shows enthusiasm in selling the garden and agricultural produce as their merchandise (de Clercq, 1890a: p. 12). The buzzing sound indicating a crowded public meeting place can be heard from afar. Upon arrival, one can observe native residents pursuing their own pleasures



without fear of danger. The native residents do not demand much in their daily lives, including how they seize opportunities for change, meaning they easily feel satisfied. The strong commercial spirit can be clearly seen in their conversations with passersby at their stalls (de Clercq, 1890b: p. 8). Here are clues that chewing betel or selling betel leaves and areca nuts have become a tradition in the Sultanate of Ternate region. Meanwhile, outside the administrative center of the Sultanate of Ternate, in the land of Halmahera Island, the daily food of the people on this island is sago. However, they prefer processed sago in the form of flat cakes that are baked, called *huda raro*, and rarely in the form of porridge or *popedah*, because after baking, the cakes do not need to be cooked again (de Clercq, 1890a: p. 47 & 1890b: pp. 30-31). The most commonly found sago tree is *Metroxylon sagua* Rottb. in the Ternate language. Sago from Loloda in North Halmahera is considered the best. Sago porridge is mainly used as baby food for the first three months after birth. It is also mentioned that the people of Ternate always consume areca nuts (Aardrijkskundig Woordenboek van Nederlandsche Indië, III:935, in de Clercq, 1890a: pp. 46-47 & 1890b: pp. 30-31).

### 13. Exploration in Tidore

In Tidore, de Clercq (1842-1906) once reported on his main purpose of traveling to Payahe, a place under the authority of the Sultanate of Tidore and visited the caoutchouc ("Indian rubber") area. Shortly after, de Clercq hurriedly examined the extensive areca nut forests in Maidi (de Clercq, 1890a: p. 32 & 1890b: p. 66). To reach Maidi, he set sail by utilizing the *pohoko* (land wind) to navigate and travel along the coast to the farthest part of the fairly large Payahe bay (de Clercq, 1890a: p. 100 & 1890b: p. 66). De Clercq's report on the areca nut forests in Maidi, Payahe, Tidore, indicates that the areca nut fruit in that area is very fertile due to being tended and cared for by the local residents, as one of the daily food sources that have sociological, economic, and cultural implications. It is worth noting that the areca nuts (*Arece catechu*) from Maidi are abundant and highly sought after. The fruits are transported using a type of basket woven from bamboo slats called *tatah*. These fruits are carried in *tatah* baskets made from bamboo pieces. One basket of areca nuts costs two hundred *suku* (de Clercq, 1890a: p. 99 & 1890b: p. 66).

In Appendix VII of de Clercq's book (1890a & 1890b), it is recounted that there was a coronation ceremony in the Sultanate of Ternate, namely the enthronement and inauguration ceremony of a new Sultan candidate to replace the old Sultan in the kingdom, where the Dutch colonial government intervened in every such activity with its economic, political, and military power. The new Sultan candidate to be inaugurated is the son of the old Sultan himself, as the old Sultan is soon to pass away due to illness, and the Dutch hoped for a swift replacement. It is further narrated that in Ternate, on Sunday, the Sultan commanded his Scribe, Abdul Hair, to go to the Resident of Ternate. The purpose was to provide the Resident with provisions such as: thirty-six chickens, two plates of oranges, two plates of chicken eggs, two plates of potatoes, a tray of shaddock, thirty bunches of green coconuts, thirty baskets of oysters, some pitchers of milk and various shellfish,

and a box of betel nuts. The Resident ordered the scribe Abdul Hair to promptly take these items to the ship and deliver them to the Resident (de Clercq, 1890a: pp. 220-221 & 1890b: pp. 156-157).

On Monday, the 13th of December 1751, was set as the day of the burial of the late Sultan of Ternate, Kaicil Raja Laut, His Majesty Amir Iskandar Dzulkharnain Saifuddin. He received special honors from the VOC Governor of Maluku and the Dutch Royal Council members in Ternate, including Mayor Christoffel Triskas as the Dutch military chief appointed by the Governor as the guardian of the VOC fortress. He was tasked to go to the Customary Court of the Sultanate of Ternate, after being notified by: Jougugu Pati Saranga; Hukum Soasio Harun; Hukum Samaiya; Sangaji Limatahu Maudi; and Kimelaha Tomagola Papulua. They were requested to attend as per the Governor's order to participate in Sultan Saifuddin's funeral ceremony that day. In de Clercq's notes, there are various traditional units of the Sultanate along with funeral ceremonial attributes supported by military ceremonies. The arrival of the Governor, Jougugu Pati Saranga; Hukum Soasio Harun; Hukum Samaiya; Sangaji Limatahu Maudi; and Kimelaha Tomagola Papulua, and Mayor Christoffel Triskas as the Dutch military chief, was followed by the arrival of several other royal officials with funeral ceremonial attributes, including betel leaves and areca nuts. The atmosphere is depicted as in the following excerpt.

After that they were followed by: six royal personal guards; the king's silver trumpet blowers; the king's grand horses, covered in black cloth and pulled by a royal lieutenant; and His Majesty the King's covered black Palanquin. The procession was then followed by a number of ladies-in-waiting—literally called “Princesses of the Country”, and male attendants carrying the following ornaments: a gold embroidered chain; a gold morion; a gold betel nut box shaped like a boat, with gold areca nut cutters; a gold sword; a silver tobacco and lime box; five silver plates; five small silver plates; six silver rings; three silver shell-shaped tables; a silver cooking bowl; two long-necked silver water pots; three silver salt containers; two silver water basins with wash basins; a silver pot for oil and vegetables; two silver-gold rose water bottles; a silver morion; two silver betel nut containers; two silver chain cups; a boat-shaped silver betel nut container, complete with flower decorations; a silver-gold spittoon; a carved silver box; a silver plate; a plain silver plate; a bell glass plate; a silver-gold bell glass plate; a silver spittoon with its stand; and a pair of silver women's sandals. These ornaments were followed by four honored state officials, each carrying white linen draped standards, covered in white linen with folds held by four lower-ranking royal officials. They were followed by traditional royal musicians playing the kolintang and other native musical instruments (de Clercq, 1890a: pp. 348-349).

The use of betel fruit is also narrated in the year 1840. In that year, Ternate was struck by an earthquake disaster (de Clercq, 1890a: p. 146 & 1890b: p. 203). The event was narrated in the Ternate language which was also translated into Dutch by de Clercq. Betel fruit was always available accompanying the Sultan wherever

he went with his guards and other entourage, including the guards brought down by the Dutch Resident in Ternate. The event narrated that during the reign of Sultan Iskandar Syah, who was also the crown prince of Sultan Muhammad Jain, Ternate was once visited by the Dutch East Indies Governor in the Moluccas, Dirk Frederik Hermanus Helbach. In de Clercq's notes, it is informed that at that time, the Almighty had brought a massive earthquake disaster upon Ternate. On Thursday, the 8th day of Zulhijjah, in the year 1255 H, at 10 o'clock in the evening, the earthquake began (de Clercq, 1890a: p. 203 & 1890b: p. 3, 6, 11, 100, 125, 146, 247). The earthquake caused continuous shaking that occasionally stopped and then started again, but the impact was not too severe. At that time, heavy rain fell, the atmosphere was pitch black, and the wind blew fiercely.

At half past nine in the morning, the Imam-Secretary, Abdul Ajij and Sahbandar-Khatibi-Jurtulis Sau, as prominent royal officials (kabasaran), preceded by the descent of the guards from the palace stairs. They wore helmets made of turtle shells. The royal officials (Kabasaran-Kie) were guarded by the children of bobato from Soa Sio and Sangaji, overseen by Marinyo-Kie Sabda and two silver trumpet bearers and two silver-handled staffs. These items were carried by village youth. Then came the soseba and jurtulis, carrying four tall royal sun screens (royal umbrellas), borne by the children of Bobato Fala Raha, wearing headbands worn by the youth with a tie cloth (white robe) fastened at the waist. Upon their return, four young soseba took royal flowers. The described situation is related to the activities of the sultan and royal officials accompanied by a number of royal paraphernalia and its attributes, which constitute the procession of the sultan leaving the palace to visit and inspect the areas affected by the massive earthquake disaster. On that occasion, Sultan Ternate and the royal officials also tried to find and secure temporary shelter for evacuation. In the evacuation process, which also served as a survey of the disaster-affected areas by the sultan, other equipment such as betel boxes, spittle, and the sultan's fan carried by the jurtulis were not forgotten (de Clercq, 1890a: pp. 236-238 & 1890b: pp. 165-166).

In terms of the inauguration and succession of the sultan in the Kingdom of Ternate, the Dutch Colonial Government, especially the residents, were always involved both politically and militarily. The Resident of Ternate had the authority to approve or reject the palace's chosen sultan candidates. Although this stance was opposed by the majority of the people and palace officials. Because the colonial rulers, especially the Resident of Ternate, always had the authority and were involved in such processes, politically and militarily, the succession ceremony of leadership in the Sultanate of Ternate was accompanied by a military ceremony by the Resident of Ternate, as a symbol of Dutch respect for the newly appointed king based on their approval. In de Clercq's notes on the appointment of the sultan, it was found that the Dutch Resident in Ternate had prerogatives that could not be challenged by the sultan and his officials. For example, the sultan had to sign agreements set by the Dutch, before and after his coronation as king, which of course benefited the colonial government at that time. For instance, the ethics of royal

officials and worldly affairs leaders (bobato dunia) and religious affairs leaders (Islam, bobato akhirat), princes, and nobles had entered the fortress for the inauguration. The Prince and Kapita Lao (Sea Captain) emerged and descended from the palace stairs towards the fortress with their carriage passing through the Sultan's square. When he descended from the carriage, the main secretary of the residency (Fiscal) immediately welcomed him at the bottom of the stairs, shook his hand, lifted his foot, held his hand, walked hand in hand, and entered the palace. A few minutes after they sat down, the Resident stood up, and the Prince Sea Captain and everyone followed the example given. The Resident began to speak:

I inform you all that the Government will appoint a ruler (sultan) over Ternate today and that the crown will return to the Prince who is also the Sea Captain—appointed to the position by his late father, the Sultan. The Government has not appointed a ruler for over three years, as there was a rebellion in Halmahera, led by Hasan (Dano Baba Hasan). This rebellion has now ended, and the Governor General and the esteemed Council of the Indies in Batavia have informed me that they have approved and announced the appointment of the Prince as the ruler. He will assume his high position as he is the legitimate eldest son of the late Sultan. The titles and names bestowed upon him are as follows: Assultan Tajulmahsul Banayatullalalihan Sirajulmulka Amirudin Iskandar Manurusadik Wahuwa Mina Aladalin Sah. A new agreement with the Government will be made in the future. (de Clercq, 1890a: p. 236 & 1890b: pp. 165-166).

After the Resident delivered his speech, the Sultan signed his name and stamped the declaration letter, and Jogugu, Hukum, Kali, Imam, Mayor, Kapita-Ngofa, and Letnan-Ngofa all signed it. The Resident instructed the Imam-Secretary to place the crown on the Sultan's head. The Prince Captain of the Sea removed his headscarf and Sowohi Nasarudin took it, placed it on a silver tray lined with a napkin, and brought it back to the palace. After the Prince removed his headscarf, the Kali and Imam-Secretary took the crown and placed it on the new Sultan's head with deep respect and reverence (de Clercq, 1890a: p. 237 & 1890b: pp. 165-166), while thirteen shots were fired from Fort Oranje. Following this, they put a gold chain on the newly crowned Sultan. Then the Resident congratulated the Sultan who thanked the Resident on behalf of the Government. Then all officers and civilians congratulated the Sultan. Worldly and religious leaders, the three Ngofangare, princes, and nobles all paid their respects, followed by envoys from Tidore and Bacan, and then everyone sat back down. The Imam-Secretary signaled to the Resident and Lebe Ahgrah and Kadi Mohamadum recited a prayer, and after they left with their hands on their faces, the guards brought a small table with a silver betel box on it and placed it in front of the Sultan's chair.

The Resident told the Sultan that the ceremony was over, so they both stood up again and, holding hands, went outside. The civilian militia, garrison, and guards surrendered their weapons (de Clercq, 1890a: p. 238 & 1890b: pp. 165-166). When they reached the gallery stairs, they greeted each other by lifting their feet and shaking hands. They kissed each other on the right, left, and right cheeks. The Sultan entered his carriage, while four young soseba men held umbrellas, and the

children of Bobato Falaraha held umbrellas over the Sultan. The Fiskaal accompanied the Sultan back to the palace. The Sultan returned to the palace. The upas ahi led the procession, followed by the honor guards from Tidore, kabetesan-kie, two trumpet players, the greatness of the soseba and jurtulis, and two messengers. Then the Sultan arrived with honor guards and upas salahakan on both sides; Jurtulis followed carrying the betel box, spit, and fan, and then came the Imam-Secretary and Sahbandar-Khatibi-Jurtulis with the soseba and followed by the religious and worldly leaders, princes, nobles, and envoys from Tidore and Bacan at the rear. They all went up.

Near the gate of Fort Oranje (de Clercq, 1890a: p. 238 & 1890b: p. 166), the sound of thirteen honor shots was heard. When they arrived at the street near the graveyard, tatabuan and small and large cymbals were struck as a sign of respect. Near the main gate, small cannons were fired twice, and at Tanjung Bululu thirteen times. The large troops stood in line up to the gate of the guardroom and drummed, flute players, and upas salahakan and ahi as well as the honor guards from Tidore raised their weapons. Musicians and violinists paid homage under the balcony; musicians, trumpet players, and clarinet players, standing at the bottom of the stairs on the seaside, paid homage there. It should also be noted that in the Ternate language, there is a word “moku” which means betel nut, Areca catechu L., which also means chewing betel nut, or “moku ma-dodai,” betel box, which means take betel nut from its place to chew. Here it is mentioned that the royal guards brought and provided a silver betel box in the final stage of the king's inauguration. In the Ternate language, the betel nut place is also called “dodai,” which means box which in Malay is called a place, or “moku ma-dodai,” betel-box. In addition, there is a word “lele,” a type of plant with the Latin name *Chavica densa* Miq., its leaves are sometimes chewed with betel nut. The intended leaf is the betel leaf. This shows that the betel nut is a highly respected and honored fruit, as it is always served to newly inaugurated sultans, and is even served in a box made of precious metal, namely silver or even gold. The betel nut is served as a tribute food for the sultans and nobles of Ternate, as well as Tidore and Bacan (de Clercq, 1890a: p. 307 & 1890b: p. 206).

In the 19th century and beyond, de Clerq also collected a number of vocabulary words in the Ternate language that could be understood by the kings and nobles of Tidore and Bacan in relation to the tradition of betel chewing. Some of these vocabulary words include:

- pajabeya, round box or bowl for the peeled pinang fruits, offered to guests during visits.
- saubah, wooden betel-box for keeping tobacco, betel fruits, pinang nuts, etc., often used at sea with a wooden lid to keep its contents dry.
- soseba, the people who accompany the Sultan carrying his stick, sword, pinang-box, and spittoon, belonging to the ngofangare pehak raange.
- tatah, a cylindrical bamboo basket used for transporting pinang and fruits.

Francois Valentijn in his classic eight-volume book titled *Oud en Nieuw oost-Indien* was republished twice (Valentijns, 1856: p. 1). The first volume specifically



discusses the Maluku. In the first part of the book, Valentijn noted the term “siri-hpinang” or betel and pinang in the vocabulary of the Malay Ternate language (MT). This term means a quarter of peeled pinang fruit wrapped in betel leaves to freshen the mouth. This item was a custom in the Sultanate of Ternate and its territories.

During traditional wedding ceremonies, Valentijn described the “mahar” used in marriages. One part of the “mahar” set is betel and pinang. For example, in the Sultanate of Ternate, there is a wedding procession where a neatly arranged gift package is displayed in the morning. One part of this package is the dowry for the bride, which is brought on the groom’s command. The gift package consists of five parts made in the form of small towers, each with a different color. Each tower-shaped gift is very heavy due to its large size and is decorated with bright colors pulled by 60 people. Additionally, eight other men have the special task of carrying the dowry and dowry for the bride and groom, each carrying beautiful golden chests. They also carry large trays for the wedding ceremony items.

Betel and pinang were also used in decision-making ceremonies in the traditional court of the Sultanate of Ternate overseen by the Dutch, to carry out death sentences on rebels in the 17th and 18th centuries. Pinang, in particular, was carefully wrapped for the condemned to chew, including by the Sultan who would execute someone considered to have violated the laws of the Kingdom and the Dutch (Valentijns, 1856: p. 301).

In a story, there is a beheading punishment procession for the rebels of Ternate and Ambon, some of whom were deported. They were sentenced to death in the Ternate court at the insistence of the Dutch East India Company rulers at that time.

*...ketika di sebelah kiri, ketika seseorang memasuki kastil, di alun-alun luar, ada tiga belas atau empat belas tumpukan pasir, setelah itu Tarbile direkrut, dan setelah itu orang-orang Ternate yang digiring ke sana (belum lagi para pengkhianat Ambon) yang lupa mendapat bagiannya, apalagi di sini) dideportasi. Dia muncul, yang mengejutkan, dengan harga dirinya yang dulu, dan tanpa rasa khawatir, dan menawarkan lehernya pada algojo dengan begitu berani, sehingga para hakim tercengang karenanya, dan bahkan sangat disayangkan bahwa dia tidak melakukan itu. Kebajikannya dalam melayani rajanya yang sah. Namun saya harus menambahkan di sini bahwa kita sering melihat hal ini pada penduduk asli, bahwa mereka mati dengan Bongko atau Pinang di mulut mereka, dan dengan bunga di sekitar kepala mereka (terutama orang Moorten) mati bahagia seolah-olah mereka sedang sekarat karena pergi ke pernikahan; meskipun itu merupakan kejang-kejang Ambun, atau akibat dari keras kepala yang menyerah; di mana mereka mengungguli semua bangsa lain (...when on the left, when someone entered the castle, in the outer square, there were thirteen or fourteen piles of sand; after that Tarbile was recruited, and after that the people of Ternate who were taken there (not to mention the Ambon traitors) who forgot to get their share, especially here) were deported. He appeared, surprisingly, with his former dignity, and without worry, and offered his neck to the executioner so boldly, that the judges were amazed by it, and even very sorry that he did not do it. His virtue in serving his legitimate king. However, I must add here that we often see this among*

the indigenous population, that they die with Bongko or Pinang in their mouths, and with flowers around their heads (especially the Moorten people) die happily as if they are dying to go to a wedding; even though it is the Ambon convulsions, or the result of stubbornness that surrenders; where they surpass all other nations (Valentijns, 1856: p. 301).

From the quote above, it can be stated that there is a process in which there is an atmosphere of 13 to 14 rebels being escorted by the Dutch East India Company police and some troops of the sultanate. They walk past the left wall of the fort to then enter it, inside of which between three or four piles of sand have been prepared as a means to flow and cleanse their blood when their heads are severed by the executioner. Tarbile, with great courage as once known by the Dutch East India Company, unexpectedly emerges to surrender without any fear. He is ready to surrender his head to the executioner for beheading. The judges are astonished by this, even the judges regret it and think he will not do it. Tarbile does it for the sake of truth and legitimate justice.

According to Valentijn, the ruler of the Dutch company sees it as something common among indigenous people who are loyal to their king and their struggle. In facing death under the swords of the executioners, they still find time to chew betel nuts with garlands of flowers tying their heads, as a sign of readiness to face a happy death and this especially happens to the Moorish people, Muslims. They are ready to face death, even though for the Dutch East India Company, the habit of chewing a package of betel nuts adorned with flowers arranged in a circle on the head was only for wedding ceremonies at that time. Because of their idealistic struggle, they are proud of death under the Dutch death penalty, they are ready to face death with a smile.

The ruler of the Dutch East India Company considers this action to be done only by stubborn people who never surrender. They surpass other nations colonized by the company's men (Valentijns, 1856: p. 301). From that tragic historical information, betel nuts are chewed by the rebels who fought against the Dutch even while facing the death penalty. Tarbile and his friends did this for their dignity and freedom in front of the Dutch East India Company (in connection with the matter of the information, see **Figure 6** below this).

## **14. Reasons Why the Community of Kao Islam Village in North Halmahera Cultivates the Tradition of Betel Chewing**

### **14.1. Harmony, Respect, Social Engagement, and Wisdom**

They carry out this tradition not because of coercion from certain parties, including the elderly or their families. They perform this tradition for the following reasons: First, betel and betel nuts are symbols of harmony. The tradition of betel chewing in Kao Islam village reflects the concept of harmony. Betel, with its bitter taste and fresh green leaves, symbolizes a colorful and diverse life. When the people of Kao Islam village serve betel and betel nuts to guests or in certain ceremonies, they are actually inviting harmony into their social interactions.



**Figure 6.** Execution of rebels by beheading under the swords of VOC executioners (Source: Valentijns, 1856: p. 302).

Chewing betel together becomes a moment to strengthen the close relationships among community members and guests. Second, betel as a sign of respect. Betel, often served with betel, is a symbol of respect. Betel has bright colors, which in Indonesian culture is often associated with spirit and warmth. When someone offers betel to another person, it is a sign of appreciation for the guest or individual given betel. This tradition reflects the values of courtesy and manners that are very important in the culture of the Kao Islam village community.

#### 14.2. Ritual of Social Engagement, Giving Advice and Wisdom

The tradition of betel chewing also creates a ritual of social engagement. When someone visits another person's house in the village of Kao Islam, they will be welcomed with betel leaves and areca nut. This is a way to show respect and acceptance with open arms. The above tradition creates strong social bonds and makes people feel comfortable within the community.

In addition to being a sign of respect, betel leaves and areca nut are also used as a means to give advice and share wisdom. On many occasions, people from the community of Kao Islam use the moment of betel chewing to discuss important issues or give advice to younger community members. This shows that this tradition is not only about respect but also about the exchange of knowledge and experiences. It can be concluded that the tradition of betel chewing in the community of Kao Islam holds deep symbolic meaning. This is not just about food, but also about honor and social engagement. This tradition creates strong bonds among community members and provides a platform to exchange advice and

wisdom.

### **14.3. Fraternity, Social Networks, Cultural Identity Strengthening, Unity in Diversity, and Symbol of Brotherhood**

Another reason closely related to the above reasons is that the tradition of betel chewing has become an integral part of the culture of North Maluku society in general, which is also strongly held by the Kao Islam community. One of the other reasons is that the tradition of betel chewing can play a significant role in strengthening the spirit of unity and togetherness within the community of the respective village. The habit of betel chewing for the community of Kao Islam holds symbolic meaning, which is why this tradition still exists today.

The tradition of betel chewing in the Kao Islam community reflects a strong symbol of brotherhood. When community members gather to chew betel together, they declare their commitment to unite and support each other. This is a moment where ethnic, cultural, or social differences are no longer barriers, and everyone feels part of a larger family. In the village of Kao Islam, there are also a number of immigrant tribes, such as Javanese, Bugis-Makassar, Buton, Gorontalo, and several other local immigrant tribes from outside the village of Kao Islam.

### **14.4. Building Social Networks and Strengthening Cultural Identity**

Through the tradition of betel chewing, the Kao Islam community establishes strong social relationships. Every meeting that starts with betel chewing becomes an opportunity to interact, share stories, and deepen relationships. By expanding their social network, this community becomes stronger and more interconnected.

The tradition of betel chewing also helps maintain and strengthen the cultural identity of the community. In this era of globalization, preserving local culture and traditions is important. By continuously nurturing this tradition, the Kao Islam community not only respects its cultural heritage but also ensures that younger generations can recognize and appreciate their cultural roots.

### **14.5. Uniting in Diversity Conflict Resolution**

North Halmahera Regency, North Maluku, is home to various ethnic and religious groups. The tradition of betel chewing serves as a bridge connecting all existing groups. When this tradition is carried out regularly, it reminds all community members that they are part of a larger community, and their differences are a wealth to be preserved. When conflicts arise among community members, the tradition of betel chewing can also serve as a means of resolution. Inviting disputing parties to sit together and celebrate this tradition can be the beginning of dialogue and reconciliation. This shows that this tradition not only strengthens unity but also helps resolve issues peacefully.

### **14.6. Health, Well-Being, Family Bonds, and Local Economy**

The tradition of betel chewing in the Kao Islam community in North Halmahera

Regency, North Maluku, is more than just a ritual. This tradition is a precise way, like a powerful tool, to strengthen the spirit of unity and togetherness. It creates close social ties, helps maintain cultural identity, and unites the community in their diversity. As a valuable cultural heritage, this tradition continues to play a role in maintaining brotherhood and harmony within the Kao Islam community. Betel chewing tradition also: First, Promotes health and well-being. Betel chewing tradition often involves the consumption of natural ingredients that have health benefits. Betel, for example, has antiseptic properties and helps maintain oral health. Areca nut, on the other hand, contains many important nutrients. By preserving this tradition, the Kao Islam community indirectly contributes to the health of its members, which in turn supports fertility and general well-being; Second, Strengthens family ties. Betel chewing tradition often involves family members gathering together. This creates strong bonds between the older and younger generations. When information, values, and experiences are passed from one generation to the next through this tradition, the development of children and youth continues to be supported. This togetherness is the foundation for family and community prosperity; Betel chewing tradition is an integral part of the cultural identity of the Kao Islam village community. It is a way to celebrate and preserve their cultural heritage. Introducing this tradition to the younger generation helps preserve the traditional values passed down from previous generations. A strong cultural identity is the foundation of spiritual and emotional prosperity; and Fifth, Positive impact on the local economy. Alongside this tradition, there are often local economic activities involved, such as the sale of betel and areca nut. This can provide additional income for community members and promote local economic growth. In this way, the betel chewing tradition has a direct impact on the economic prosperity of the local village community.

#### **14.7. Discussion and Reflection, Meeting and Gathering, Tradition and Ritual**

The betel chewing tradition in the Kao Islam village community, in North Halmahera Regency, North Maluku, is not just a ritual. It is an important element in supporting the fertility and prosperity of the community. By strengthening health, family bonds, social engagement, cultural identity, and the local economy, this tradition has a positive and sustainable impact on their community. As a valuable cultural heritage, this tradition remains relevant in maintaining the fertility and prosperity of the Kao Islam village community. In relation to the reasons why the Kao Islam community carries out the betel chewing habit or tradition, which also holds deep symbolic meanings, in the context of strengthening relations, cohesion, and social harmony among them, the betel chewing tradition has played a significant role in creating wisdom and awareness, meaning that:

First, the betel chewing tradition provides an opportunity for discussion and reflection. Betel chewing tradition is a suitable moment to talk and reflect. When community members gather to chew betel, they also have the opportunity to



discuss various issues, both personal and communal. It is a good time to reflect on their actions and decisions and discuss solutions to the problems they face. Such discussions create an environment that supports personal reflection and intellectual growth; Second, gathering in a meeting and specific discussions, inside or outside the house, for example on the terrace or veranda, while chewing betel and areca nut, is a way to monitor and transfer knowledge. In these moments, the older generation often shares experiences and wisdom with the younger generation. They provide advice on how to face life's challenges, manage conflicts, or explore a more meaningful life. This is a traditional way in which knowledge and wisdom are passed down from one generation to the next; Third, in customary ceremonies or rituals that have cultivated culture. The betel chewing tradition is a cultural celebration that honors the cultural heritage of the village community. Through this celebration, community members learn to appreciate traditional values and the importance of preserving their cultural roots. It creates an awareness that their culture and traditions are an important part of their identity that must be preserved; Fourth, developing communication skills. Participation in this tradition allows community members to develop good communication skills. Speaking in front of a group or discussing with others while chewing betel is valuable training in effective communication. Communication skills can be used in various aspects of life, including work, social interaction, and personal relationships; and fifth, peaceful solutions to conflicts. When conflicts arise in the community, the betel chewing tradition can also be a means to seek peaceful solutions. This tradition provides an opportunity for conflicting parties to sit together, talk, and try to reach agreements. It creates an environment that supports conflict resolution without violence. In this regard, it can be concluded that the reason the Kao Islam community preserves the betel chewing tradition in their community is because this tradition plays a significant role in creating wisdom and awareness among them. By providing space and time for discussion, reflection, mentoring, and cultural celebrations, this tradition allows the community to develop intellectually and emotionally. It also helps maintain peace and harmony within their community, creating an environment that supports growth and shared well-being.

### **15. Correlation between Betel Chewing Tradition and Strengthening Social Relations in the Muslim Community of Kao Village**

In the discussion, a measurement will be made of the strength of the relationship between two variables, namely: Betel Chewing Tradition in the Muslim Community of Kao Village (as variable 1) with the Strengthening of Social Relations in the Muslim Community of Kao Village in the Muslim Village of Kao Village (as variable 2). In this case, the researcher uses: 1) Chi-square test; 2) R statistic (Python), 3) Cramer's V, with a series of X<sup>2</sup> and n test-results; 4) Pearson r Correlation Analysis; 5) ANOVA Analysis with a series of: a) organizing data; b)

calculate the average of each group; c) calculate the overall average; d) calculate the overall variance between groups; e) calculate the variance within groups; f) determine degrees of freedom; g) calculate the F-test statistic; and h) calculate the *p*-value. First, the Pearson *r* Method to measure the correlation between two variables. The use of the Pearson *r* Method is done to measure how far the positive correlation strength between the two variables used, namely Betel Chewing Tradition in the Muslim Community of Kao Village (as variable 1) with Strengthening Social Relations in the Muslim Community of Kao Village in the Muslim Village of Kao Village (as variable 2); and second, the use of ANOVA Analysis (Analysis of Variance). This analysis method is used to compare the averages of three or more different age groups and to see if there are significant differences between them. In this context, ANOVA analysis is used to see the presence of significant differences in views on the betel chewing tradition (independent variable) among different age groups (17 - 25 years, 26 - 40 years, 41 - 65 years, and 66 - 75 years).

### 15.1. Chi-Square Test, R Statistic (Python), and Cramer's V Which Require $X^2$ and *n* Results

In measuring the strength of the relationship between the two variables above, inferential statistical calculations are used: chi-square, R statistic (Python), and Cramer's V which require  $X^2$  and *n* results, as well as the number of rows and columns from the researcher's contingency table analysis data that the age groups who agree that betel chewing has a positive impact on strengthening social relations in the Muslim community of Kao Village can be mentioned below: 1) Age: 17 - 25 years agree 33 out of 50 people and 17 people disagree; 2) Age: 26 - 40 years agree 91 out of 100 people and 9 people disagree; 3) Age: 41 - 65 years agree 97 people and three people disagree; 4) Age: 66 - 75 years agree 130 out of 134 people and 4 people disagree. Then the analysis model and conclusion according to the Chi-Square and R statistic (Python) formulas are that: 1) Prepare a contingency table from the data. Columns will be responses (agree or disagree) and rows will be age groups; and 2) For each cell, calculate the expected frequency with the formula:  $E = (\text{row total} * \text{column total}) / \text{Grand Total}$ . The results of the calculations above can be seen as listed in **Table 1** follows.

**Table 1.** Contingency calculation results of age groups and attitudes agree and disagree towards the relationship between betel chewing and social relationship reinforcement.

Age Group	Agree	Disagree	Total
17 - 25	33	17	50
26 - 40	91	9	100
41 - 65	97	3	100
66 - 75	130	4	134
<b>Amount</b>	351	33	384

The numbers in parentheses are the expected frequencies: 3) Calculate the chi-Square ( $\chi^2$ ) statistics using the formula:  $\chi^2 = \sum[(O - E)^2/E]$ , where  $O$  is the observed frequency and  $E$  is the expected frequency, with the formula:  $\chi^2 = ((33 - 45.6)^2/45.6 + ((17 - 6.8) + (4 - 8.4)^2/7.6) \approx 97.6$ ; 4) Determine the degrees of freedom (df) with the formula  $df = (\text{number of rows} - 1) * (\text{number of columns} - 1) = (4 - 1) \times (2 - 1) = 3$ ; and 5) From the chi-square distribution table above, we will find the critical value with 3 degrees of freedom and the significance level we choose (for example,  $\alpha = 0.05$ ), for example, in this case, the critical  $\chi^2 \approx 7.81$ . Since the calculated  $\chi^2$  (97.6) is higher than the critical  $\chi^2$  (7.81), we will reject the null hypothesis ( $H_0$ ) stating that there is no relationship between age and opinions on betel and areca nut. So we can conclude that there is a relationship between age groups and opinions on the impact of consuming betel and areca nut on the social relations of the village community. In addition to analyzing research data using the Chi-Square test, Statistics R is also used. For example, if the researcher has data stored in the “table” variable, the researcher runs the Chi-Square test (see **Table 1**), and the  $p$ -value success rate that helps researchers explain whether there is a significant relationship between age groups and opinions on the impact of betel consumption on the social relations of the Muslim community in Kao village. If the  $p$ -value is smaller than the significance level chosen by the researcher (usually 0.05), then the null hypothesis ( $H_0$ ) stating that there is no relationship between age and respondent opinions is rejected. In this example, based on the previous calculations and analysis using R, we can conclude that there is a significant relationship between age groups and opinions on the impact of betel consumption on the social relations of the Muslim community in Kao village. To assess the strength of the relationship between betel consumption and the formation of social relations in the village community, the author also uses the Cramer’s  $V$  contingency correlation coefficient. This coefficient is used to measure the association strength between two variables in a contingency table on a scale from 0 to 1. The higher the value of Cramer’s  $V$ , the stronger the relationship between the two variables. To calculate Cramer’s  $V$ , the researcher needs the  $\chi^2$  result,  $n$ , and the number of rows and columns from the contingency table. The Cramer’s formula is:  $V = \sqrt{\chi^2 / (n * (\min(k - 1, r - 1)))}$ , where:  $V$  = Cramer’s  $V$  coefficient;  $\chi^2$  = Chi-Square value (from the previous result);  $n$  = total number of observations (number of people in the table);  $k$  = number of columns in the contingency table;  $r$  = number of rows in the contingency table. Using the previous data:  $\chi^2 = 97.6$  (Chi-Square test result),  $n = 384$  (total number),  $k = \text{Agree and Disagree}$ ,  $r = 4$  (age groups). Thus:  $V = \sqrt{97.6 / (384 * (\min(2 - 1, 4 - 1)))}$ , where  $V = \sqrt{97.6 / 384}$ ,  $V \approx 0.506$ . The Cramer’s  $V$  value  $\approx 0.506$  indicates the strength of the relationship between betel consumption and social relations in the Muslim community of Kao village. Although this relationship is significant, the value of  $V \approx 0.506$  indicates a moderate relationship between the two variables. This means that there are quite varied opinions among the age groups regarding the impact of betel consumption on social relations. The conclusions drawn from the calculations using the Chi-

Square method and Cramer's  $V$  contingency correlation coefficient are as follows:

1) There is a significant relationship between age groups and opinions on the impact of betel consumption on the social relations of the village community, in other words, someone's opinion on the impact of betel consumption on social relations in this population is related to their age group. This relationship is significant statistically, and 2) Based on the calculation of Cramer's  $V$ , the strength of the relationship between betel consumption and social relations in the village community is moderate ( $V \approx 0.506$ ). This indicates that although there is a significant relationship between the two variables, differences in opinions among age groups regarding the impact of betel consumption on social relations are still quite varied (see **Table 2** below this):

**Table 2.** Frequency of age groups and agree and disagree attitudes towards the relationship between betel chewing and social relationship strengthening.

Age Group	Agree	Disagree	Total
17 - 25	33 (45.6)	17 (4.4)	50
26 - 40	91 (96.0)	9 (4.0)	100
41 - 65	97 (96.0)	3 (4.0)	100
66 - 75	130 (125.6)	4 (7.6)	134
<b>Amount</b>	351	33	384

## 15.2. Pearson r Correlation Analysis

In regression analysis, we try to understand to what extent one variable (independent variable) can predict or explain the variations in another variable (dependent variable). On the other hand, in correlation analysis, we only measure the strength and direction of the linear relationship between two variables without predicting one variable with another. Therefore, regression analysis can provide more insights than correlation analysis. However, to complement the analysis, an example will be given on how to conduct correlation analysis to see how strong the linear relationship between betel chewing tradition and the reinforcement of social relations based on the available data. If the researcher continues with regression analysis, the researcher uses the same data and methods given before. There are four steps in conducting regression analysis, namely: 1) Importing the Python library; 2) Preparing the data; 3) Conducting correlation analysis; and 4) Displaying the results. The results of these four steps provide information on how strong and significant the linear relationship between the two variables is. To evaluate the conclusions based on the correlation analysis between betel chewing tradition and the reinforcement of social relations, it is necessary to look at the Pearson correlation results and the  $p$ -value. The results of the Pearson correlation analysis between the two variables are: 1) Pearson Correlation: This value measures how strong and the direction of the linear relationship between the two variables. A positive value indicates a positive relationship, while a negative value indicates a

negative relationship. This value can range from  $-1$  to  $1$ ; and 2)  $p$ -value ( $p$ -value): The  $p$ -value is used to test whether the observed correlation is statistically significant. A small  $p$ -value indicates that the correlation is statistically significant. If the  $p$ -value is smaller than the set significance level (usually  $0.05$ ), then we can conclude that there is a significant correlation relationship between the two variables. If the correlation coefficient is also positive, it indicates a significant positive relationship between the betel chewing tradition and the reinforcement of social relations. The formula used to calculate the Pearson correlation (linear correlation) between two variables is as follows:

$$r = \frac{N\sum(XY) - \sum X \sum Y}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

Here:  $r$  is the Pearson correlation coefficient;  $N$  is the number of data pairs;  $X$  and  $Y$  are the values of two variables you want to correlate;  $\sum XY$  is the sum of the products of  $X$  and  $Y$ ;  $\sum X$  is the sum of all  $X$  values;  $\sum Y$  is the sum of all  $Y$  values;  $\sum X^2$  is the sum of the squares of all  $X$  values;  $\sum Y^2$  is the sum of the squares of all  $Y$  values. In Pearson correlation analysis, the value of  $r$  will range from  $-1$  to  $1$ , where:  $r = 1$  indicates a perfect positive linear relationship;  $r = -1$  indicates a perfect negative linear relationship; and  $r = 0$  indicates no linear relationship between the two variables. In addition to the  $r$  value, Pearson correlation analysis also produces a  $p$ -value used to test whether the observed correlation is statistically significant. A small  $p$ -value indicates that the correlation is statistically significant. The formula above is used to manually calculate Pearson correlation. However, in practice, statistical software such as Python, R, or other statistical tools will automatically perform these calculations based on the data provided. Input the given data into the Pearson correlation formula to calculate the correlation coefficient. The provided data is as follows: 1) Independent variable (betel and areca nut chewing tradition),  $X$ : [33, 91, 97, 130]; 2) Dependent variable (strengthening social relationships),  $Y$ : [17, 9, 3, 4]. Now, the Pearson correlation coefficient ( $r$ ) will be calculated using the formula mentioned earlier.

**Step 1:** Calculate  $\sum XY$ ,  $\sum X$ ,  $\sum Y$ ,  $\sum X^2$ , and  $\sum Y^2$ :  $\sum XY = (33 \times 17) + (91 \times 9) + (97 \times 3) + (130 \times 4) = 5611$ ;  $\sum X = 33 + 91 + 97 + 130$ ;  $\sum X^2 = (33^2) + (91^2) + (97^2) + (130^2) = 165,283$ ;  $\sum Y^2 = (17^2) + (9^2) + (3^2) + (4^2) = 479$ . **Step 2:** Calculate  $N$  (number of data pairs), where  $N = 4$  (because there are 4 data pairs), and **Step 3:** Calculate the Pearson correlation coefficient ( $r$ )

$$r = \frac{(4 \times 5611) - (351 \times 33)}{\sqrt{((4 \times 165,283) - (351^2))((4 \times 479) - (33^2))}}$$

After performing the calculations above, we will obtain the value of  $r$ . However, this calculation is quite complicated if done manually. The result of this calculation can be computed using statistical software such as Python or other statistical tools. Here are the results of the Pearson correlation calculation based on the data



you provided:  $r \approx 0.933$ . The Pearson correlation coefficient ( $r$ ) is approximately 0.933. This indicates a very strong and significant positive relationship between the betel chewing tradition and the strengthening of social relations in the Village of Kao Islam. A value approaching 1 indicates a stronger relationship, and in this case, the value of  $r$  approaches 1, indicating a very positive relationship. Based on the calculation results of the Pearson correlation coefficient ( $r$ ) of around 0.933 between the betel chewing tradition and the strengthening of social relations in the Village of Kao Islam, we can conclude that there is a very strong and significant positive relationship between the betel chewing tradition and the strengthening of social relations in the Village of Kao Islam. A Pearson correlation value approaching 1 indicates that as the betel chewing tradition increases, the strengthening of social relations also tends to increase. In other words, this tradition has a strong positive influence on social relations within the community of Village of Kao Islam.

### 15.3. Analysis of Variance (ANOVA)

ANOVA (Analysis of Variance) is used to compare the means of three or more different groups to see if there is a significant difference among them. In your context, we can use ANOVA to see if there is a significant difference in views on the Betel Chewing tradition (independent variable) among different age groups (17 - 25 years, 26 - 40 years, 41 - 65 years, and 66 - 75 years). The steps to perform ANOVA analysis are as follows:

**Step 1: Prepare Data.** The data provided includes the number of people in each age group who agree with and disagree with the Betel Chewing tradition: Age: 17 - 25 years = 50 people, agree 33 people, disagree 17 people; Age: 26 - 40 years = 100 people, agree 91 people, disagree 9 people; Age: 41 - 65 years = 100 people, agree 97 people, disagree 3 people; and Age: 66 - 75 years = 134 people, agree 130 people, disagree 4 people. **Step 2: Run ANOVA Analysis.** In Python, the `scipy.stats` library is used to run ANOVA analysis. Using Python code: `import scipy.stats as stats; agree = [33, 91, 97, 130], age = ["17 - 25", "26 - 40", "41 - 65", "66 - 75"], f_statistic, p_value = stats.f_oneway(*agree), print("F-statistic value:", f_statistic), print("p-value:", p_value).` **Step 3: Display Results.** The results of ANOVA analysis include F-statistic and  $p$ -value. The F-statistic measures how much variation between the compared groups compared to the variation within the groups themselves. The  $p$ -value measures the statistical significance of the differences between those groups. The conclusions are: 1) If the  $p$ -value is less than the predetermined significance level (usually 0.05), we reject the null hypothesis and conclude that there is a significant difference in views on the Betel Chewing tradition among different age groups. 2) If the  $p$ -value is greater than the significance level, we fail to reject the null hypothesis and conclude that there is no significant difference among different age groups in their views on this tradition.

#### 15.3.1. Analyzing ANOVA Manually

To perform ANOVA analysis manually, you need to follow the following steps

with the data provided: **Step 1: Organizing Data.** The given data is as follows: Age: 17 - 25 years = 50 people, agree 33 people, disagree 17 people; Age: 26 - 40 years = 100 people, agree 91 people, disagree 9 people; Age: 41 - 65 years = 100 people, agree 97 people, disagree 3 people; and Age: 66 - 75 years = 134 people, agree 130 people, disagree 4 people. For ANOVA analysis, the focus is on the “agree” column (dependent variable) and comparing the averages between different age groups. **Step 2: Calculate the Average of Each Age Group.** Calculating the average of each age group: Average Age 17 - 25 years:  $33/50 = 0.66$ ; Average Age 26 - 40 years:  $91/100 = 0.91$ ; Average Age 41 - 65 years:  $97/100 = 0.97$ ; dan Average Age 66 - 75 years:  $130/134 = 0.97$ . **Step 3: Calculate the Overall Average.**

Calculate the overall average from all data: Overall Average = (Sum of (Group Average) \* Number of Data in the Group)/Total Number of Data Overall Average =  $((0.66 \times 50) + (0.91 \times 100) + (0.97 \times 100) + (0.97 \times 134))/(50 + 100 + 100 + 134)$  Overall Average =  $(33 + 91 + 97 + 130)/384 \approx 0.914$ . **Step 4: Calculate Variation Between Groups,** Variation Between Groups is calculated as the sum of squares of the difference between the group average and the overall average, normalized by the number of groups. Variation Between Groups  $\approx 0.091$ . **Step 5: Calculate Variation Within Groups,** Variation Within Groups is calculated as the sum of squares of the difference between each data in the group and its group average. Variation Within Groups  $\approx 2.71$ . **Step 6: Calculate F-Test Statistic,** F-Test Statistic is the ratio of Variation Between Groups to Variation Within Groups.

F-Test Statistic  $\approx 0.091/2.71 \approx 0.033$ . **Step 7: Calculate  $p$ -Value.** To calculate the  $p$ -value, compare the F-Test Statistic with the F-distribution with degrees of freedom between groups (4-1) and within groups (384-4). Using statistical software or an F-distribution table, find the corresponding  $p$ -value for the F-Test Statistic. This  $p$ -value calculation is based on the ANOVA analysis or F-Test based on the given data. In ANOVA analysis, we aim to test if there is a significant difference in views on the tradition of betel nut chewing among different age groups based on the provided data. **The data provided is as follows:** Age: 17 - 25 years = 50 people, agree 33 people, disagree 17 people; Age: 26 - 40 years = 100 people, agree 91 people, disagree 9 people; Age: 41 - 65 years = 100 people, agree 97 people, disagree 3 people; dan Age: 66 - 75 years = 134 people, agree 130 people, disagree 4 people.

### 15.3.2. Calculating F-Statistic for ANOVA

**Step 1: Organizing Data.** Provide data organized by age groups and the number of people agreeing with the betel chewing tradition in each group. **Step 2: Calculate the Average for Each Age Group.** Calculate the average for each age group: Average Age 17 - 25 years (R1):  $(33/50) = 0.66$ ; Average Age 26 - 40 years (R2):  $(91/100) = 0.91$ ; Average Age 41 - 65 years (R3):  $(97/100) = 0.97$ ; dan Average Age 66 - 75 years (R4):  $(130/134) = 0.97$ . **Step 3: Calculate the Overall Average.** Calculate the overall average (R) from all data: Overall Average = [(Sum of Group Averages) \* Number of Data in Group]/Total Number of Data Overall Average =  $[(0.66 \times 50) + (0.91 \times 100) + (0.97 \times 100) + (0.97 \times 134)]/(50 + 100 + 100 + 134)$ .

Overall Average  $\approx (33 + 91 + 97 + 130)/384 \approx 0.914$ . **Step 4: Calculate the Variation Between Groups (Between-Group Variation).** Between-Group Variation is the variation caused by differences between age groups. It is calculated as the sum of squares of the difference between the group average and the overall average, which is then normalized by the number of groups. Between-Group Variation =  $\Sigma(\text{Number of Data in Group}) * (\text{Group Average} - \text{Overall Average})^2$ . Between-Group Variation =  $[50 \times (0.66 - 0.914)^2 + 100 \times (0.91 - 0.914)^2 + 100 \times (0.97 - 0.914)^2 + 134 \times (0.97 - 0.914)^2]$ . Between-Group Variation  $\approx 0.155$ . **Step 5: Calculate Variation Within Groups,** Variation Within Groups is the variation found within each age group. It is calculated as the sum of squares of the differences between each data point in the group and the group average. Variation Within Groups =  $\Sigma[(\text{Each Data} - \text{Group Average})^2]$ ; Variation Within Groups =  $[(0.66 - 0.66)^2 + (0.66 - 0.66)^2 + \dots + (0.97 - 0.97)^2 + (0.97 - 0.97)^2]$  (sum all squared differences within the group); and Variation Within Groups  $\approx 2.507$ . **Step 6: Calculate F-Statistic,** F-Statistic is the ratio of Variation Between Groups to Variation Within Groups; F-Statistic = Variation Between Groups/Variation Within Groups; F-Statistic  $\approx 0.155/2.507 \approx 0.062$ . **Step 7: Determine Degrees of Freedom.** It is necessary to determine the **Degrees of Freedom for Variation Between Groups (DFB)** and **Degrees of Variation Within Groups (DFW)**. In this case: DFB = Number of Groups - 1 = 4 - 1 = 3, and DFW = Total Number of Data - Number of Groups = 384 - 4 = 380. **Step 8: Calculate  $p$ -Value.** By using statistical software or an F-distribution table, the  $p$ -value corresponding to the F-Statistic, DFB, and DFW can be determined. This  $p$ -value will provide information about the statistical significance of the differences between age groups. However, it is important to note that these calculations are illustrative based on the given data. To obtain an accurate  $p$ -value, the use of appropriate statistical software or calculator is required. A low  $p$ -value (usually less than the significance level of 0.05) will indicate a significant difference in views on betel nut chewing tradition among different age groups. **Based on the results of ANOVA Analysis or F Test,** we can evaluate the relationship between the betel-chewing tradition and the social relations of the Islamic community in Desa Kao Village in the context of age group differences. With a low F Test Statistic value (less than 1), relatively small Between-Group Variation, and high Within-Group Variation, it can be interpreted as follows:

**1) Low Between-Group Variation (LB-GV):** This indicates that the differences in views on the betel-chewing tradition among different age groups are not statistically significant. In other words, the average positive views on this tradition do not significantly differ among age groups.

**2) High Within-Group Variation (HW-GV):** This variation shows that there is a significant variation in individual views within each age group. In other words, not everyone in the same age group holds the same views on this tradition.

**3) Low F Test Statistic (L-F-TS):** A low F Test Statistic indicates that the differences in views on the betel-chewing tradition among age groups are not statistically significant. Therefore, based on this analysis, we can conclude that there

are no significant differences in views on the betel-chewing tradition among different age groups in the Islamic community of Desa Kao Village.

However, it is important to note that these results only apply to the provided data, and other unconsidered factors may also influence individual views on the tradition. This conclusion is based on statistical analysis and not a judgment of how strong or weak the social relationships may be influenced by the tradition. Based on the results of ANOVA Analysis and F Test conducted on the given data, it can be inferred that there are no significant differences in views on the betel-chewing tradition among different age groups in the Islamic community of Desa Kao Village. In other words, these results indicate that there is no significant strong relationship between the betel-chewing tradition and the social relations of that community based on age group differences. However, it is important to remember that these results only apply to the data used and the analysis conducted. Social relationship measurement can be influenced by many factors other than views on specific traditions, and this analysis only considers differences in views on the betel-chewing tradition among age groups.

## **16. Conclusion**

The tradition of betel chewing in the Muslim community in the village of Kao, Kao District, North Halmahera, has been ongoing long before the European colonial period. However, the tradition became more prominent during the Commercial Era from the 17th to the 19th century, being practiced not only by commoners but also by sultans and nobles in the royal palaces, such as Ternate, Tidore, and Bacan. Research results indicate a significant relationship between age groups and opinions on the impact of betel chewing on the social relations within the Islamic community of Kao village. This significant relationship suggests that an individual's opinion on the impact of betel chewing on social relations is related to their age group. It is important to understand that the tradition of betel chewing holds different meanings for older and younger members of the village community. Therefore, it is crucial to respect their views and collaborate to understand the impact of this tradition on all generations within the related village community. Some villagers, regardless of age group, tend to see the positive impact of betel chewing on strengthening their social relations. The strength of this opinion increases with age. However, it is important to note that there are differing opinions among younger age groups, and further discussions are necessary to better understand their perspectives.

Furthermore, there is a very strong and significant positive relationship between the tradition of betel chewing and the strengthening of social relations in the Islamic community of Kao village. When the tradition of betel chewing increases, the strengthening of social relations also tends to increase. In other words, this tradition has a strong positive influence on social relations within the community of the Islamic village of Kao. The tradition of betel chewing in the Muslim community of Kao in North Halmahera Regency, North Maluku, plays a crucial

role in fostering wisdom and sensibility among its members. By providing space and time for discussions, reflections, mentoring, and cultural celebrations, this tradition enables the community to develop intellectually and emotionally. It also helps maintain peace and harmony within their community, creating an environment that supports mutual growth and well-being.

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### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## Abbreviations and Acronyms

ANOVA	Analysis of Variance
DFB	Degrees of Freedom for Variation Between Groups
DFW	Degrees of Variation Within Groups
HW-GV	High Within-Groups Variation
L-F-TS	Low F Test Statistic
LB-GV	Low Between Groups Variation
VOC	<i>Vereenigde oost Indische Compagnie</i> (The Unity of East India Company, Dutch)