Fruit Injections on Transdisciplinary Perspective (Study of Biological and Socio-Sharia Law Economic)

*Husain Insawan
Rector, Institut Agama Islam Negeri Kendari, Indonesia
*Email: husainsawan@iainkendari.ac.id

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Abstract

This study aims to determine the content of saccharin and cyclamate fluids in injected fruit and to analyze an Islamic economic perspective on injected fruit, as well as to analyze the legal status of injected fruit in Konawe Regency. This study uses a mixed method which collects and analyzes data obtained quantitatively and qualitatively as well as laboratory tests by taking the steps of data reduction, data presentation and drawing conclusions and verification. The results showed that the analysis of the contents of saccharin and cyclamate in apples, grapes, and watermelons, did not find any saccharin and cyclamate sweeteners in the samples. Injected fruit that already contains saccharin and cyclamate is not in line with the values and principles of Islamic economics, especially the values and principles of halalan thayyiban, dharar, and tadlis as well as the business principles of tazkiyah. The legal status of injectable fruit containing saccharin and cyclamate is haram and violates the principle of maslahah mursalah because it does not maintain maqashid sharia, especially protecting the soul, mind and offspring.

Keywords: Islamic economy, halal, haram, syubhat, tazkiyah

Introduction

Many people today prefer to consume more fruit than carbohydrates. The fruit was chosen because it is one of the food supplements that has the nutrients and nutrients needed by the body, in the fruit there are vitamins that work as antioxidants, while the antioxidants themselves work by binding and destroying free radicals and are able to protect the body from oxidative reactions that produce toxins. By eating fruit regularly can prevent heart disease, liver damage, stroke, control cholesterol, hypertension (high blood pressure), even cancer. Because of the multiple benefits that people choose to eat fruit. It will feel uncomfortable if you don't eat fruit after eating.

Indonesia benefits from its natural wealth including the variety of fruit that can live in this country's climate so that fruit can be easily obtained at relatively affordable prices. Unfortunately, the interest in fruit in the market is used as a rogue business opportunity for some unscrupulous fruit traders. In order to get a lot of profit, traders inject some chemical content into the fruit. The first way is to inject artificial coloring into the fruit to make the color more attractive and the second is to inject artificial sweeteners to make the fruit sweeter.

Please note, that artificial coloring agents and sweeteners that are injected into the fruit are very harmful to health. There are two artificial dyes that are more widely used, namely red dye which contains rhodamine B, and yellow dye which contains methyl yellow, these two dyes are widely injected into fruit and endanger health.

Even though it has been injected with brilliant colors, if it's not sweet, of course it won't be attractive and it won't look perfect. Not surprisingly, besides being injected with artificial coloring agents, fruit is also injected
with artificial sweeteners. Types of sweeteners that are often used are saccharin, cyclamate and aspartame. Based on the 1970 literature, this sweetener was no longer allowed to be used, but in 1980, it was said that artificial sweeteners could still be used. With this conflict, it is still not possible to decide on its use. In Indonesia itself, the use of artificial sweeteners is still permitted, but countries such as the US, Japan and Europe have banned it.

Islam wants that the products that will be consumed by its followers are guaranteed to be halal and pure. The provisions of halal, haram, thayyib and syubhat contain spiritual values and reflect the nobility of one's character and morals. Therefore, Islamic sharia pays very high attention in determining whether food and drink are halal, haram or doubtful (syubhat). If you link between the fact that in the market there are injected fruits that can endanger health, as explained earlier, with religious demands that oblige a Muslim to ensure that the food consumed is halal.

In the meantime, the variety of food consumed and the behavior of fruit traders must pay attention to Islamic economic values and principles because these Islamic economic values and principles are the theological and sociological foundations in determining the existence of the sanctity and sterility of the fruit consumed and become a reference in taking action to provide, sell and or buy these fruits. So it is not only the substance of the fruit that is highlighted by Islam, but the behavior of the fruit seller is also a part that does not escape attention, whether it is in accordance with Islamic economic values and principles or not. Traders are often negligent in paying attention to the values and principles of Islamic economics. Even though these two elements are very important to assess whether the form of the fruit and the actions of the businessmen who trade the fruit are categorized as in accordance with Islamic teachings or not at all.

In line with this, in the Tazkiyah Business Theory there are four important elements that must be considered in determining whether a business is lawful or unlawful, namely: a) the object being traded contains substances that are lawful or unlawful; b) what is the process of obtaining and selling it, is there any party who is harmed or not as a result of the actions of the businessperson; c) how the profits are obtained as a result of business transactions carried out; and d) how the results and profits in the form of money and goods obtained are then utilized in a way that is lawful or not. If it turns out that one of the four elements contains elements that are considered illegitimate, then it can be concluded that the business being conducted is categorized as illegitimate as a whole. On the other hand, if all of the existing business elements, in practice, not a single element is found that is declared illegitimate, then the business is categorized as a halal business in totality.

Apart from that, it is also necessary to know the legal status of the injected fruit, whether it is permissible or not. This needs to be studied thoroughly, so that fruit business people feel they are not being harmed as a result of the findings of this study. On the other hand, it is necessary to explore whether injecting fruit with certain reasons is permissible, so this becomes a reference for fruit businessmen to maintain the behavior of injecting fruit with artificial colorings and sweeteners that are formulated from chemicals.

Research on fruit injected with artificial sweeteners and dyes, as well as the perspective of Islamic economic values and principles on fruit injection, then determining the legal status of this action in the context of maslahah mursalah is urgently needed, bearing in mind that research like this is almost not found in the treasury of sharia economic law research. However, if research like this is not carried out, it will certainly have a broad negative impact, both for business people, customers and the public, even for fruit growers and other stakeholders. In a broader context, it can affect the rotation of the economy in a region, where business transactions in the economic sector, especially the buying and selling of fruit, will experience a sluggishness. This is where the urgency lies in carrying out research on fruit injected with artificial dyes and sweeteners using chemical substances in various places in Indonesia, especially in Konawe Regency and Kendari City in Southeast Sulawesi.

**Literature Review**

**Halal, Haram, and Syubhat**

The words “halal” and “haram” are Qur’anic terms and these are used in various places with different concepts, and some of them relate to food and drink. These two words are also used in the Hadith of the Prophet. Halal in language, according to some opinions, comes from the root word al-halal which means al-ibahah which means something that is permissible according to the Shari’a. (Ali, 2016: 292) Al-Jurjani writes, the word “halal” comes from the word al-halal which means “al-fathu (open)”. In terms, it means anything that is not subject to sanctions for its use or an act that is freed by the Shari’a to do. (Al-Jurjani, 1405: 124) According to AbûJa’far al-Thabârî (224-310 H), the word halâl means thalaqa which means detached or freed.

Abû Muhammad al-Husayn ibn Mas’ûd al-Baghawî (436-510H) from the Shafi’i school, argues that the word “halâl” means something that is permissible by the Shari’a because it is good. Muhammad ibn ‘Ali al-Syawkânî...
Concept of Injecting Fruit and Dyes

Injected fruit is fruit that is injected with certain substances to produce fruit that is more attractive, both in terms of color and taste. The two things that are injected are artificial coloring and sweeteners. What you need to know is that artificial coloring and sweeteners that are injected into fruit are harmful to health. Dyes are divided into 2, namely natural and artificial dyes. Homemade dyes are still divided into 2, namely water-soluble dyes usually obtained from plants and fat-soluble artificial dyes usually derived from synthetic dyes, namely dyes for textiles and wall paint. This fat-soluble artificial coloring is one of the deviations from the use of food additives. There are two dyes that are more widely used, namely red dye which contains Rhodamin B and yellow dye which contains Methanil Yellow, these two dyes are injected into fruit and are harmful to health. (Nurya, 2019)

The reason traders use these dyes is a matter of price, dangerous dyes are sold much cheaper. This is of concern to producers because the purchasing power of the Indonesian people is still low. The second reason is the level of stability where the dye has a better level of stability, so the color remains bright even though it has undergone processing and heating. Third, the dye can produce brilliant colors, so it can give a better appearance and indicates that the fruit is fresh or ripe or old. The question is why traders don't use natural dyes which are also cheap and can be obtained in nature, for example the yellow color from turmeric, the red color from teak leaves, Erpa, onion skin, tea or guava leaves, for the green dye comes from sugi leaves. But unfortunately, the resulting color tends to be unstable even though it can be needed in large quantities and of course it takes time and costs.

Saccharin is a type of artificial sweetener to replace sugar. Despite having a sweet taste up to 300-400 times stronger than sugar, saccharin contains low calories. The negative effects of saccharin due to its excessive use include: having a bitter taste in accordance with increasing concentration, causing danger to human health, including migraines and headaches, memory loss, confusion, insomnia, irritation, asthma, hypertension, diarrhea, stomach ache, allergies, impotence and sexual disorders, baldness, brain cancer, and bladder cancer.

Sodium cyclamate is a chemical compound that is often used as an artificial sweetener. Its sweetness level is 30-50 times higher than sugar. Negative impact is carcinogenic or triggers cancer, increased blood pressure and testicular atrophy or reduction in testicular size, poisoning the fetus.
Rhodamine B is a synthetic dye in the form of crystalline powder, green or reddish purple in color, odorless, and in solution it will glow bright red/fluorescent. Rhodamine B is a dye in the xanthenes dyes group used in the textile and paper industries, as dyes for fabrics, cosmetics, oral hygiene products, and soaps. Consumption of Rhodamine B can cause symptoms of liver and kidney enlargement, impaired liver function, liver damage, physiological disorders of the body, or can even cause liver cancer.

Maslahah Mursalah Theory

Al-Syatibi (1977: 162) only makes two criteria so that maslahah can be accepted as the basis for the formation of Islamic law. First, the benefit must be in line with the type of action, because of that benefit that is not in line with the type of action or that contradicts the argument cannot be accepted as a basis for establishing Islamic law. Second, benefits such as criterion number one above are not indicated by specific arguments. If there is a special argument that shows it, according to Ash-Syatibi, it is included in the study of qiyas.

Maslahah simply means something good and acceptable to common sense. Accepted by reason means that reason can know clearly the benefit of realizing benefits, goodness and pleasure for humans which is called jalb al-manafi. Avoiding mankind from damage and ugliness which is called dar al-mafasid. Human benefit can be realized if the five main elements of human life can be realized and can be maintained, namely religion, soul, mind, lineage, and wealth. Dividing maqashid into three levels, namely dharuriyat, hajiyat, and tahsiniyat. Al-Syahthibi concluded that the correlation between dharuriyat, hajiyat and tahsiniyat Maqashid dharruriyat is the basis of maqashid hajiyat and maqashid tahsiniyat. Damage to maqashid hajiyat will also bring damage to maqashid hajiyat and maqashid tahsiniyat. Conversely, damage to maqashid hajiyat and maqashid tahsiniyat cannot damage maqashid dharruriyat. Damage to maqashid hajiyat and maqashid tahsiniyat which is absolute can sometimes damage maqashid dharruriyat. Maintenance of maqashid hajiyat and maqashid tahsiniyat is treated for the proper maintenance of maqashid dharruriyat. In an effort to achieve the perfect maintenance of the five basic elements, the three maqashid levels cannot be separated. It seems that for Al-Syaththibi, the hajiyat level is a refinement of the dharuriyat level, and the tahsiniyat level is a refinement for the hajiyat level, while dharuriyat is the main subject of hajiyat and tahsiniyat. This classification shows how important it is to maintain the five basic elements in human life.

Methods

This research method is a mixed method research that collects and analyzes data obtained quantitatively and qualitatively as well as laboratory tests by taking the steps of data reduction, data presentation and drawing conclusions and verification.

Results and Discussions

Based on observations and laboratory tests carried out by researchers as described above, the white precipitate as expected appears when testing apples, grapes, and watermelons taken from fruit selling points in Konawe, South Konawe, and Kendall City. Laboratory test results showed that there were no saccharin and cyclamate sweeteners in the fruit samples studied. Thus, the fruits sold by fruit business operators around Kendari City, Konawe and South Konawe Regencies do not inject saccharin, cyclamate, methanil yellow or rhodamin B into the fruits being sold. Likewise, fruit producers and their suppliers do not take action to inject fruit using artificial coloring agents and sweeteners, so that these fruits can be consumed and do not have a negative impact on human health, both in the short term and in the long term. However, it is also necessary to anticipate that it is suspected that the fruits sampled are fruits that are intentionally conditioned by fruit businessmen when there are government officials or researchers who will conduct research on these fruits to determine how high the levels of chemicals they contain.

Meanwhile, no white precipitate has been found which is an indicator if saccharin and cyclamate are found in fruits. Although in several cases and exposures from various media, both print, electronic and social media, it was reported that there were findings of artificial dyes and sweeteners that were deliberately used by fruit businesses by injecting or dissolving them in the chemical liquid, so that the fruit that was previously unripe became ripe when it has been dissolved in a chemical liquid; or the color of previously faded fruit turns fresh after being dipped in a chemical liquid; even the previously pale fruit flesh becomes brighter and more convincing when after being injected with chemical-based artificial dyes, it seems very fit for consumption.

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Likewise with fruit that was bitter or almost tasteless, it turns into a sweet taste after being injected with chemical-based artificial sweeteners.

As for the condition of the fruit injected with saccharin and cyclamate, at first glance it was observed that many of the fruits looked very fresh and attracted attention. However, after being examined by conducting laboratory tests, it was revealed that these fruits contained artificial coloring and sweeteners which were intentionally injected into the fruit by the fruit producers or suppliers, and even by the fruit sellers themselves. Fruits that are deliberately injected to include saccharin and cyclamate substances in fruits are not in line with Islamic economic values and principles, especially the values and principles of halalan thayyiban, dharar, and tadlis as well as the business principles of tazkiyah.

These fruits are then declared non-halal because the chemicals which are very harmful to the human body have been deliberately injected into the flesh of the fruit by the producers, suppliers and/or fruit sellers who interact directly with the customers. Likewise, these fruits are not thayyib because when consumed by customers, it is certain that their physical health will be disturbed and dangerous, both in a relatively short time and in a long period of time.

It is considered dharar because the perpetrators of injecting the fruits have done something, namely deliberately injecting dangerous chemicals such as methanil yellow and rhodamine B into the flesh of the fruit which can harm the human body and can result in death. The injecting agent was declared to have committed tadlis because he also deliberately concealed the deficiencies of the fruit that had been injected with artificial dyes and sweeteners. Likewise, in the perspective of Tazkiyah’s business theory, it shows that the existence of fruit, the process of serving and selling, the profits obtained, and the utilization of these profits, if one of them is categorized as haram, then all stages and cycles of the fruit business are haram. run.

Meanwhile, the legal status of fruits injected with saccharin and cyclamate substances explained that fruits which have been deliberately injected with chemicals in the form of saccharin and cyclamate substances by producers, suppliers or sellers of fruit are illegal and violate the principle of maslahah mursalah. It is stated that the law is unlawful because it is explicitly seen as violating the objectives of Islamic law itself which is called maqashid sharia, especially those related to the purpose of preserving the soul (hifdz nafs), preserving the mind (hifdz 'aql), and preserving offspring (hifdz nashb). As it is known that maqashid sharia consists of five matters, namely preserving the soul (hifdz nafs), preserving the mind (hifdz 'aql), preserving offspring (hifdz nashb), preserving wealth (hifdz maal), and maintaining religion (hifdz diin). Among the five maqashid sharia, there are at least three objectives that are violated as a result of injecting the fruit with chemicals in the form of saccharin and cyclamate, namely protecting the soul (hifdz nafs), protecting the mind (hifdz 'aql), and protecting offspring (hifdz nashb).

Fruits that are injected with the chemicals saccharin and cyclamate or artificial coloring and sweeteners are seen as not preserving the soul (hifdz nafs) because consuming fruits that have received saccharin and cyclamate injections in the long term without the consumer realizing it can cause death. If you intentionally or unintentionally continue to get used to consuming fruits that contain artificial coloring and sweeteners, then practically we are not protecting our bodies from being contaminated with these chemicals. Negative impacts at the beginning such as interference with one or several organs of the human body that are not functioning normally, of course in the long run will affect other organs of the body, so that in the end it will be fatal or even cause people to die from it. If this condition occurs, then of course it will be seen as a form of violation of the objectives of Islamic law (maqashid sharia), namely not protecting the soul (hifdz nafs).

Likewise, fruit injected with the chemical’s saccharin and cyclamate or artificial dyes and sweeteners, when sold, bought and eaten by consumers, is seen as not protecting the mind (hifdz 'aql) because it is one of the organs of the body that is attacked by substances methanil yellow and rhodamine B is the human brain. While the brain is the basis of human reason. If we consume fruits that have been injected with chemicals, either intentionally or unintentionally, it is seen as not maintaining the mind (hifdz 'aql). Intellect that stems from the human brain when experiencing disturbance, will certainly have a big influence on the life and future of someone who will almost certainly experience gloom. Conversely, if humans always maintain their minds, then the life they live will feel normal and optimistic that they will have a bright future. Therefore, Islamic law recommends to Muslims to always keep their minds in order to form a generation that is smart and has noble character.

Likewise, fruit injected with the chemical’s saccharin and cyclamate or artificial coloring and sweeteners is deemed unable to maintain offspring (hifdz nashb). One of the negative impacts caused by saccharin and cyclamate is that it can cause impotence. Impotence means the inability of a person to reproduce sperm or ovum normally and optimally. When a person does not have enough sperm or ovum to produce fertilization, then surely the fetus will not exist and grow. However, if a person has sufficient sperm and ovum stocks as a result of
consuming halal and thayyib fruit, then this is seen as fulfilling maqashid sharia, namely being able to maintain offspring (hifdz nashb).

In order to avoid the negative impacts caused by artificial dyes and sweeteners injected into fruits, it is necessary to know the characteristics of the injected fruit. The characteristics of the fruit that was injected, namely: a) visible injection marks and often occurs in oranges; b) the color of the fruit is not evenly visible, usually occurs in watermelons; c) fruits that use artificial sweeteners usually have an uneven sweet taste; d) for fruit containing water, if it is injected with artificial coloring or sweetener, it will be more easily damaged, wrinkled or withered after being split or cut; e) fruit that uses natural dyes if it comes into contact with hands will be easy to clean while artificial coloring will be difficult to clean because it contains fat. Usually, it can be cleaned with alcohol or acetone or other fat-soluble color cleaners. (Nurya: 2019)

After knowing the characteristics of fruit that has been injected with artificial dyes and sweeteners, then it is also necessary to know how to use safe tips for consuming fruits, namely: a) pay attention to the surface of the fruit whether there are injection marks or not; b) be aware of fruit that has an uneven color and taste; c) if faced with colored fruit, it is better to choose white and brown fruit because they are relatively safer compared to the others; d) do not choose or be wary of fruit with striking colors. (Nurya: 2019)

Conclusion

Based on the results of the research conducted, it can be concluded that the analysis of the contents of saccharin and cyclamate in apples, grapes, and watermelons, did not find any saccharin and cyclamate sweeteners in the samples. Injected fruit that already contains saccharin and cyclamate is not in line with the values and principles of Islamic economics, especially the values and principles of halalan thayyiban, dharar, and tadlis as well as the business principles of tazkiyah. The legal status of injectable fruit containing saccharin and cyclamate is haram and violates the principle of maslahah mursalah because it does not maintain maqashid sharia, especially protecting the soul, mind and offspring.

Aknowledgement

If there is a similar study, then for samples in the form of solids it is necessary to do an earlier refinement treatment. Research can also be carried out on other artificial sweeteners such as aspartame, sucralose, acesulfame potassium and neotam in the sample; and it is deemed necessary to carry out the identification of artificial sweeteners for samples of drinks and street food snacks. In addition, further research on the content of saccharin and cyclamate in samples can be carried out using quantitative observation methods using UV-Vis. It is recommended to fruit business people to maintain fruit sterilization from injection of artificial dyes and sweeteners because it violates Islamic economic values and principles and will have a negative impact on the health of the human body in the future.

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