Indonesian’s nutmeg for the world, synergizing consumers need while increasing farmer’s welfare

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Abstract. Nutmeg has been acknowledged as one of the spices that originally grown in Indonesia, namely from the Moluccas Islands. The power of values of that spice had drawn almost all nations all over the world to come to the Moluccas. In fact, Indonesian colonisation by the Western countries had closely related with the geo-climatically rich spices biodiversity’s advantages on the one hand and the weakness of knowledge, technology, political, as well as military power on the other hand. So, the world has shown the path that Indonesia that rich in economic values of spices remains as a poor country. Since the year of 1700s the value of spices in the world economy had declined dramatically relative to their roles in the period, for example in the 1600s. In recent development, however, there is an increasing trend of import of spices in general and nutmeg in particular by developed countries. History taught us that the high demand for nutmeg or spices does not necessarily has direct causality with the increasing welfare of farmers or growers of that crops in Indonesia. This article explores the potential opportunities for both increasing Indonesia farmers’ welfare and the consumer countries’ welfare as well.

Keywords: History of nutmeg, market value, future trend.

1. Introduction

Nutmeg has been acknowledged as one of the spices that originally grown in Indonesia, namely from the Moluccas Islands. The power of values of that spice had drawn almost all nations all over the world to come to the Moluccas. In fact, Indonesian colonisation by the Western countries had closely related with the geo-climatically rich spices biodiversity’s advantages on the one hand and the weakness of knowledge, technology, political, as well as military power on the other hand. So, the world has shown the fact that Indonesia that rich in economic values of spices remains as a poor country.

We face very challenging questions for example what is the logic behind believe why we expect that nutmeg in particular or spices in general can be expected as our future economic prime mover? Nutmeg was like a diamond in the past that made every nations raced to find it. But it was in the past! In the past nutmeg was only found in Moluccas but now it is found almost in everywhere in the tropical regions.

In terms of fundamental situations faced by the tropical regions of nutmeg producers and western countries in the past like 400 years ago and now is relatively the same. We can see how extreme situation in Banda Neira in comparison with New York when through treaty of Breda in 1667 New York (Manhattan) which used to be owned by the Dutch was exchanged with Banda Neira (Run island) which used to be owned by The British. The point we would like to note here is that without advancement of
local situations by fast accumulation of knowledge and technology, better institutional development and other types of capital, time has no meaning except it is adding its number.

The race for nutmeg in the 1500s by the Europeans was for their wealth. For example, the price of ten pound of nutmeg in Banda was less than one English penny. The same spice in London sold more than 2.1 Pound-sterling, a markup 60,000 per cent [1]. Why it was so different between the price of nutmeg in local markets and its price in the consumers’ market. Of course at the time in the 1600s the main factor is the scarcity of the goods that took more than a thousand miles to get plus very high risks that must be faced by the travellers. But, behind the scarcity of the goods, the explorers’ countries side has the technologies and institutions that can create good markets for running the business. In fact, the establishment of VOC (vereenigde oostindische compagnie) by the Dutch merchants showed the world how developed the explorer countries to organize themselves to be able to win the competitions or wars. So, from that old time and present time the substance of nutmeg is still remained the same.

However, it is because of changing in societal or global meaning give to nutmeg, then its presence can be different. Here are open new opportunities for both locals and global players to gain benefits of its presence due to new knowledge, technology and tastes or preferences. The very basic question is how all interests of consumers’, traders’, processors’, farmers’ and other institutions are arranged to make everybody happy. To come to this end we have better to start with seeking knowledge that can be gained from our long history in relation with nutmeg in particular and spices in general.

2. History of exploration: where did nutmeg came from and what did we learned?

History of nutmeg or spices told us that their roles in people life have been so important since the era of antiquities. The Romans had used spices for their high level of status symbol, for pleasures, and also for rituals. The same things were with Egyptians, Arabians, Persians and Indians. The Chinese and Japanese also had known as spices users. But, where was the location of sources of nutmeg?

In the eyes of the Westerners the location of sources of nutmeg was dark for more than a thousand year since the Roman intensively used spices in their parties in 500AD. They called for nutmeg supplies from the traders from Middle East especially the Arab or Persian. The Indian traders, of course, played important roles. The Middle East traders were logically in their interests not to disclose the information where was exactly the sources of nutmeg on earth.

It was the Iberian, namely Portuguese, that invested their time and efforts to find the way the sources of very high valuable goods such as nutmeg or cloves. The Portuguese succeeded to find the way to reach Moluccas after they conquered Goa (India) in 1510 and Malacca in 1511 under the commander of Afonso de Albuquerque. Then, they reached the islands of spices, Moluccas, in the year of 1512, under the commanders of Two Portuguese ships, Anthony d’Abreu and Francisco Serau, were in command of each of the ship, landed in Banda Island and Penyu Island, respectively [2]. Since then the European market for spices were concentrated in Lisbon.

As usually happened with monopolistic market structure that creates huge profits for the monopolist then the position of Lisbon had also made other European countries envied. The monopolistic position Portuguese almost reached as long as a century. The Dutch merchants finally found how to reach the spices land in the late of 1599. Their voyages which were composed of a fleet of 8 ships under Jacob van Neck in March 1599, the first Dutch fleet reached the ‘Spice Islands’ of Maluku, the source of pepper. The ships returned to Europe in 1599 and 1600 and the expedition made a 400 percent profit [3]. Figures 1-4 show the route of spices road before the European knew the way to reach Banda islands; the road of Portuguese and Spanish; the road of VOC; and the map of Banda islands.
**Figure 1.** Spices Road from Asia to Middle East

**Figure 2.** Portuguese and Spanish World Voyages for Spices

**Figure 3.** The Spice Road of VOC
The main point we would like to share here is that the time involved for Europeans to be able to reach Banda Islands called for a more than a thousand years since the Roman parties with spices in 500 AD. In economics it is called search cost, namely, the cost of knowing or seeking of what we want to know. Now, everybody knew where Banda Islands is. In fact, nutmeg has been widespread almost in all over areas of tropical climate regions. In more than 400 years the world of nutmeg or spices has been openly to almost all the earth citizens. So, the main question now is not how to find nutmeg but is how to get benefits of it for consumers, producers, traders, and farmers all over the world places. Based upon the past road we reached into the situation of tropical region which play as source of nutmeg such as Banda Island which is still a lagged behind region. On the other hand the main consumers of nutmeg which used to be the explorers have reached a very high position in the global welfare status.

3. The future trends
Here, we started again with the application of Kondratieff model of prediction that produced by Allianz [4] such as depicted in Fig. 5. According to Allianz the next long wave Kondratieff cycle is the technologies dealing with environment, nano technology, biotechnology or health care. It was predicted that the role of information technology and communication technology are now in the case of declining.

To increase the world economy, the worlds need new technological capabilities.

One example that our environmental resources are in danger is shown by the global climate change trend, namely, increasing the temperature globally such as shown in Fig. 7. If the way we grow the economy is not fundamentally changed especially in our ways to depend on fossil fuels for energy, food or transportation; or continue to make deforestation and deterioration of marine resources especially coral reefs then there will be no sustainable future. The ice melting in the pole region due to increasing the earth temperature will increase seas levels. The increase in sea levels will endanger small islands like Banda Islands such as the island of Run. So, keeping small islands covered by forests, including by nutmeg trees, is compatible with the strategy of harnessing global climate change.

In the area of health researchers found the main human killer in the 2050s will not either be the case of diabetes nor cancers. It will be anti-microbial resistance or publicly known as anti-biotic resistance. The roles of spices in general or nutmeg in particular will be very important such as shown by current research results, namely, spices or nutmeg has high potential in yielding anti-microbial peptides. The advances in biotechnology, microbiology and nano technology provide new potentials for nutmeg or other spices for future uses that can be suited by the preference of the present dominant generations namely what are usually called by the names of Millennials and Generation Z.

The trends of Millennials and Generation Z must be acknowledge and rightly adopted in our formulation of nutmeg development. A generation which is identified as Millennials is a generation that was born between 1980 and 1995; and a generation Z is a generation which was born 1996-2010. So the oldest of the millennials are now 39 years and the youngest are 24 years. They are the most productive labor forces. In addition, the Generation Z has the oldest age is 23 years old and the youngest one is 9 years old. The sum of the millennial and the Z generations are the dominance population on earth. Therefore, their trends in consumption, travels, and other activities will determine the future path of development. Within its path is the locus of nutmeg. The trends of millennials are they like to travels and love culinary which is locals. They love nature and more care about environments. They love new experience and varieties.
4. Market values

The main purpose of this section is to know that to what extent nutmeg is having values in the market place (Fig.6). As mentioned earlier in the paper that pepper was a driver of the world economy (K8) in 1350 (669 years ago) or spices was the driver of the world economy (K10) in 1492 (527 years ago).

Figure 5. The Kondratieff Cycles

Figure 6. World Production of Essential Oils (000 t; 000,000 US$) [5]

Figure 7. European market of spices and seasonings
Essential oils are approximation for nutmeg or spices markets in their product markets, in both quantity and quality of essentials oils markets were increasing. It means that the demand grown outweighs the supply of essential oils that entered the markets within the period of 17 years and the high growth was predicted to continue till 2020. The growth market value increased from less than US$ 2 billion in 2011 and reached about US$ 6 billion in 2017. It means that the world market value for essential oils have grown by 66.6% per year. The European markets for spices and seasoning have also increased by 4.33% per year from 2019 to 2024 (Fig. 7).

A special case is a significant increase in demand for nutmeg in Germany. In 2010 the demand for nutmeg in Germany was only US$ 10 million. In 2012, its demand for nutmeg reached value almost about US$ 25 million; or, within two years the value of nutmeg markets in Germany increased by 150%. In addition, German per capita consumption of nutmeg was also more than twice of the average of Europe consumption per capita in 2008. Even though it saw a declining rate of Germany’s average nutmeg consumption per capita from 2008 to 2012, but it was still almost twice of the average European consumption per capita. Based upon the trends of market values of essential oils, spices, food seasonings and nutmeg in Europe it can be predicted that nutmeg in particular and spices in general have good market prospects.

5. Indonesia’s nutmeg for the world
Almost all nutmeg produced by Indonesia is produced by farmers. The total production of nutmeg in Indonesia is about 30 to 35 thousand ton a year. The nutmeg production has been steadily increasing due to increasing in land area planted by nutmeg. Unfortunately, the productivity of nutmeg in Indonesia still has no improvement over time. The average productivity of nutmeg per hectare of land was less than 500 kg.

In 2016, according to quantity of nutmeg exported, Indonesia was the highest nutmeg producer country with the magnitude of exported nutmeg about 19,957 tones. The second and third largest exporting countries were Guatemala and India, with the magnitude of exported nutmeg 16714 tones and 10629 tones, respectively. However, if we measure by value of dollar received by nutmeg exporting countries in 2016 we come with the following figures. The highest valued nutmeg exporting countries was gained by India and Indonesia and Guatemala were in the second and the third position, respectively. India gained US$ 107,906 thousand, and Indonesia and Guatemala received US$ 96672 thousand and US$ 95,505 thousand, respectively. It means that Indian nutmeg has higher value than the rest of countries producing nutmeg. It also means Indian nutmeg can be in higher quality.

It is interesting to see that export price per unit of nutmeg received by Indonesia has been increasing since 1970. In 1970, Indonesia exported 4420 tons and its price per unit was US$ 434. In 1980, Indonesia exported 7481 tons or 169% higher than that of in 1970, the price of nutmeg per tons was US$ 1370 or it was 313% higher than its price in 1970. In 1990, the nutmeg exported from Indonesia reached 7441 tons. This magnitude was almost the same with the quantity exported in 1980. However, the price received by Indonesia in 1990 was US$ 1712 per ton. In 2015, Indonesia exported 17027 tons and its unit price reached US$ 5881 per ton. In 2016, the price per ton of exported nutmeg slightly declined to US$ 4844.

Observing the above trend is interesting since the pattern of nutmeg price movement over time has the opposite patterns with the most commonly price movement of agricultural commodities like sugar or palm oil, among others.

5.1. Harmonizing Future Globalization
The global trends and the local or national situations in relation with nutmeg have positive indicators. One of the most important indicators faced by producing countries like Indonesia is that there were positive trends of price per unit of nutmeg in world markets. This positive price trend is in association with the nutmeg production and export increase. So, there is an indication that demand for nutmeg is increasing with the rate of increase which is higher than that of supply of nutmeg. Farmers’ income
seem increasing such as shown by increasing production of nutmeg and in turn has increased exported nutmeg from 4420 tons in 1970 to 19,957 tons in 2016.

As we learned from the above discussion, we faced a global common trends such as global climate change or global warming, threat from antibiotic resistance or antimicrobial resistance (AMR), the dominance of Millennials and the Z generation with their own characteristics, the world of poverty and inequality, and the persistence poverty in the tropical regions which are the origin of nutmeg or other spices. Spices like nutmeg, among others, are having a great potential to meet the above challenges.

We learned, however, from more than 400 years of globalization we saw that the areas that used to be major sources of nutmeg are now still lag behind. It means we need more power which is more than increasing demand for nutmeg that increases its price. We need to think of how to integrate of Millennials trend to have more tastes on travels with historical tourisms to the origins of nutmeg regions that had been the main destination and occupations in the past. Protecting cultural heritage and biodiversities at the same time is a part of harmonisation between locals’ supplies and globals’ demand. Can we imagine what will be in Bali if there is no more culture? The same imagination can be built in the case if there is no nutmeg and cloves and the local cultures in association of their histories in Banda Islands. Burying the past is destroying our civilisation because disconnecting the present and the past will make our culture has no meaning at all. The richness of our cultures is determined by the richness of our past cultures.

Of course, when we defined win-win solution as a situation that make everybody happy, then the processes to reach that situation will be very demanding. It does not only need so much energy but it must also have lively encouraging human mind from all parties involved in the process of harmonizing their interests. In Table 1 we depicted a simple model if two parties want to reach a win-win situation for both of them if they face three possible outcomes of interactions such as win, impasse and loss. So, out of nine possible outcomes there is only one possibility that make both parties reach a win-win situation (W,W).

| Alpha·and·Beta·Interaction | Win |
|---------------------------|-----|
|                           |     |
|                           | W,W |

Table 1. Win-Win is only 1/9 possibility
5.2. Geographical Indication as Based for Altruism

It is not difficult to see that a specific region of nutmeg producer region is a specific one in a sense of its uniqueness in its geography. However, we need more than that. A region like Run or Banda Neira is also unique in its own socio-economic situation and especially in its history. There is no other region in the world that has its uniqueness in the past just like what Banda Neira has. It is actually a lab of civilisation. Therefore, it can be seen as a policy laboratory of regional development. More precisely it can be seen as a lab of historical small islands development studies in the tropical areas.

When we think of nutmeg as identity of Banda Neira, for example, then we think of its path of history. Banda Neira has brothers or sisters in the past such as Lisbon, London, Holland, or even New York. Of course, Batavia, Makassar, Surabaya and Manado or Ambon, are their brothers or sisters too. When we think of brothers or sisters than we will find our fathers, mothers, uncles, aunts, and so on. What I would like to say that we will see all regions that have the relations in the pasts will be our families. When we talk about families, of course good families, then we will grow values of altruism. Altruism is very important energy to reach a win-win solution that is meant to make everybody happy. Nutmeg can be used its vehicle to reach that goal.

6. Closing remarks

The uses of nutmeg are as old as human civilisation. The uniqueness of nutmeg for Indonesia is its position in our history. Nutmeg is originated from Banda Islands and it was the target of all nations in the past to come there for wealth. The power of wealth creation in the past made this region unfortunate. The people and culture of this region had been exploited by what we know as colonialization. It means that we are endowed with a rich past history but a kind of history that we need to reorient toward all parties happy or a future win-win situation.

Global markets of nutmeg seems friendly to local farmers. But, we need more than that of better price of nutmeg. We need to hold nutmeg as our instruments for building better future communities among global consumers, which most of them millennials and generation Z, local communities where nutmeg is grown. If in the past nutmeg as a symbol of colonialism then in the future nutmeg is created as a symbol of global cultural friendships. Altruism is one of values that must be seeded.

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