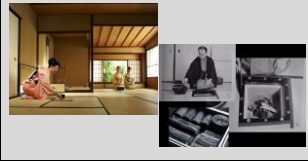






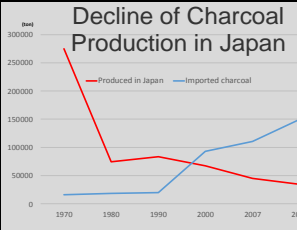


D : 「能勢の菊炭とマレーシアのマングローブ炭」
 ～” Kiku-Sumi” (Chrysanthemum-Charcoal) Produced in Nose,Osaka,
 and Malaysian Mangrove Charcoal～
 倉脇直哉、山田寛、松田くるみ

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| <p>(1)</p> | <p>“Kiku-Sumi” (Chrysanthemum-Charcoal) Produced in Nose, Osaka, and Malaysian Mangrove Charcoal</p> <p>Naoya Kurawaki Hiroshi Yamada Kurumi Matsuda</p> | <p>Today we will talk about the “Kikusumi” charcoal produced in Nose, our town in Japan and the mangrove charcoal made in Malaysia.</p> <p>We are studying about charcoal production in these two countries.</p> |
| <p>(2)</p> | <p>How to make wood charcoal</p>  <p>Chestnut oak</p> | <p>In Japan, oak wood is cut into the same size and made into charcoal. Charcoal in Japanese is called “sumi”. The oak trees that are cut will grow back again.</p> |
| <p>(3)</p> | <p>Charcoal is produced by skilled craft workers</p>  | <p>The technique of charcoal making is practiced by skilled charcoal makers in Japan.</p> <p>There is only one person who makes charcoal in Nose.</p> |
| <p>(4)</p> |  <p>Kiku-Sumi Super High-Grade Charcoal</p> | <p>Kiku-Sumi is a super high-grade charcoal. It is easy to light. It burns at a high temperature and gives off less smell than other types of charcoal.</p> <p>It is perfectly suited for using in charcoal braziers and heaters, and is very good for cooking.</p> |
| <p>(5)</p> |  <p>Kiku-Sumi Chrysanthemum Patterns on Grass Sections Specialty of Nose town! Our home town!</p> | <p>The cross-section of Kiku-Sumi looks like the flower of a Chrysanthemum. We call Chrysanthemums “Kiku” in Japanese, so the charcoal is called Kiku-Sumi.</p> <p>Kiku-Sumi has been a special product of the Nose region..</p> |
| <p>(6)</p> | <p>Kiku-Sumi burns for a long time</p>  | <p>Kiku-Sumi burns for a long time.</p> <p>For this reason it is used for many different purposes.</p> |

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| <p>(7)</p> <p>Kiku-Sumi and Japanese Culture Chanoyu: The Tea Ceremony</p>  | <p>Kiku-Sumi plays an important role in tea ceremony. It is used to heat the water for making the tea and is also enjoyed by the guests who admire the beautiful flower patterns it makes when it burns.</p> |
| <p>(8)</p> <p>Uses and Benefits of Charcoal</p> <ul style="list-style-type: none"> » Purification and Filtration » Humidity Conditioning » Releasing Minerals <p>Healing Effect of Charcoal</p> <p>Smell, Light, Sound</p> | <p>Charcoal is effectively used for purifying and filtering water. It can also control humidity by absorbing moisture in the air, and it also releases minerals in the air. It has a soothing effect on people with its good smell and soft light. Also the sound it makes when burning helps to create a relaxing atmosphere.</p> |
| <p>(9)</p> <p>Soap made from "Kiku-Sumi"</p>  | <p>We have a soap made from Kiku-Sumi. It contains minerals that help to moisturize and whiten the skin..</p> |
| <p>(10)</p> <p>Charcoal protects houses from humidity</p>  | <p>Charcoal is used to control humidity and moisture in houses. It can absorb the smell of cigarettes and pets in a room. It protects houses from insects and mold.</p> |
| <p>(11)</p> <p>Charcoal is used for BBQ and Japanese "Sate" ("yakitori")</p>  | <p>Doesn't this look good? Charcoal is used for grilling foods such as BBQ and yakitori, the Japanese style "Sate".</p> |
| <p>(12)</p> <p>Differences between "Kiku-Sumi" (Chrysanthemum-Charcoal) and Mangrove Charcoal</p> | <p>Now, we'd like to talk about the differences between Kiku-Sumi and Mangrove charcoal.</p> |
| <p>(13)</p> <p>Charcoal Kiln Sizes</p>  | <p>Malaysian charcoal ovens are made similarly to English kilns and are 3 times bigger than Japanese ovens. While Japanese ovens are compact, Malaysian kilns are big enough for people to stand upright inside..</p> |

IV. (2) 課題研究成果

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| <p>(14)</p> <p>Different Tree Species Used for Charcoal</p>  | <p>In Japan to make charcoal, the oak trees <i>Quercus Serrata</i> and <i>Quercus acutissima</i> are generally used. In Malaysia the wood of mangrove trees is used.</p> |
| <p>(15)</p> <p>Habitats of Trees Used for Charcoal</p>  | <p>These pictures show the different environments where trees for charcoal making grow.</p> <p>In Japan, oak trees grow in the forest mountains surrounding villages. We call mountains in the vicinity of villages “Satoyama”. These are well kept areas where other plants for food and other uses grow. In Malaysia, wood used for charcoal is taken from Mangrove forests.</p> |
| <p>(16)</p> <p>Decline of Charcoal Production in Japan</p>  | <p>This graph shows the decline of charcoal production in Japan. The red Line shows the amount of charcoal produced domestically in Japan, and the blue Line shows the amount of imported charcoal. As you can see, the amount of charcoal production is declining as the amount of charcoal imports is going up.</p> <p>Most imported charcoal is made from Mangroves, and Malaysia is one of the major exporters.</p> |
| <p>(17)</p> <p>Conclusion</p> <p>Japan Increase of Japanese charcoal production for a better maintenance of ignored mountains will contribute to environmental protection.</p> <p>Malaysia Prevention of mangrove deforestation and decrease of charcoal production will foster environmental protection.</p> | <p>As a conclusion Japanese satoyama mountains are increasingly becoming wild as domestic production decreases. And now, this rich environment is disappearing.</p> <p>In order to produce a lot of charcoal, many Mangrove forests have been deforested, which is also become an environmental problem. By using more domestic production, we can prevent Mangrove deforestation, which could be one of the solutions for the environmental problem.</p> |