

Comprehensive Study of Tea Culture and Its Possible Contribution to Creativity Education in Locals

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Abstract: *Tea is a popular beverage and has been medically used in the world. In geography, it is related to climate, soil type, altitude, and others. From an economic point of view, it is an important agricultural product in some areas. As it grows in mountainous districts, it is often cultivated by minority peoples or ethnic groups living in such districts. As it is favored as a drink, it is deeply related to the various aspects of lifestyle and culture including art in some countries. Integrating these various aspects of tea, this paper proposes its potential contribution to educational policies for fostering the local intelligent and creative faculties of the future development of locals.*

Keywords: *Complementary and alternative medicine; Culture; Ethnicgroup; Folkremedies ;Geography; Herb; Medical efficacy; Medicine; Minority people; Policy implication; Polyphenol; Tea; Tea ceremony; volunteer circle.*

1. INTRODUCTION

1.1. Purpose of This Paper

Tea is important as a beverage and medicine (Shih, Huang, *et al.* 2015). EdibleWildFood.com claims that tea is consumed more than coffee. Many people have long believed the medical efficacies of tea and other herbs (Zhang, Shan, *et al.* 2015), although the efficacies are not rigorously verified in scientific ways yet. Its medical efficacies are believably first “discovered” by the ethnic groups on the northern or the south sides of the Himalayan Range. This information and tea itself were “transferred” by other ethnic groups in India and China to other ethnic groups. Ancient peoples innovated its cultivating technics, and improved and refined its taste from bitter to mild taste by the tea plant breeding. Favored as a beverage, tea also has bred an artistic culture like tea ceremonies in China and Japan (*sa-do*). Hereafter, the latter kind of “breeding” of tea culture is referred to as the cultural development of tea.

Tea is important in several aspects as below, which are not distinct but mutually related each other. The purpose of this paper is to integrate these aspects into a policy recommendation for local development in the future.

Folk medicine. Today, traditional, folk or ethnic medicines (recently called the complementary and alternative medicines) like herbs and tea are important in gerontology and others. As an ethnic people have utilized tea as medicines, the anthropological study of their use of tea as medicines is expected to be useful for the scientific analyses of its efficacy.

Tea as a beverage and lifestyle. The custom, habit or culture of food and beverage are important in the aspect of social life including public health. Today, tea is favored mainly for refreshment and is important in everyday life.

Folk or local cultures and ethnic groups. Since some local ethnic groups have “discovered”, cultivated

and developed tea, it is directly related to folklore or local culture. The cultures of such ethnic groups in mountainous districts are often different from those of other peoples in plain districts. This difference sometimes raises some cultural or political issues (Khamlang, 2015).

Geography. The growth of tea depends on climate. Further, the quality of tea is affected by the temperature difference between the daytime and night. Therefore, mountainous or hilly districts like Assam, Yunnan, Taiwan, northern Thailand, and others produce high quality tea. Many ethnic groups inhabit such districts. In this respect, the issues of natural and cultural geographies meet at the tea studies (Pettigrew, 2002).

Botany, plant science, and agriculture. The tea plants are native to the Himalayan Range. In taxonomy, tea plants are classified into a subspecies: *Thea sinensis* L. (Alternatively called *Camellia sinensis* O. Kuntzt) and another subspecies: *Thea assamica* L. (*Camellia assamica* O. Kuntzt). The latter is usually fermented and the products are called black tea or English tea, while the former is usually not fermented and the products are called green tea. Between these two, some kinds of tea produced in Taiwan and others are semi-fermented and the products are called oolong tea. The fermentation process and others are important in local industry. Tea is important in agricultural economies in mountainous or hilly districts in India, Sri Lanka, southern China, Taiwan, northern Thailand, and others. In such districts, the geographic conditions do not favor the rice cultivation.

Art culture. As wineries, tobacco and coffee stimulated artists and promoted the cultural development, tea has promoted artistic culture. Influenced by China, Japan has developed a unique manner called tea ceremony (*sa-do*, or *cha-do*). It has significantly influenced the aesthetic system of Japan.

Policy and political matters regarding tea. As tea is related to a variety of social problems, tea is the matter of national or local policies with respects to local agriculture and urban culture. It is even related to political negotiation.

The fosterage or promotion of local intelligent potentials. Tea plants grow in countryside. Therefore, local peoples are in favorable conditions for botanical or agricultural studies of tea and can significantly contribute to scientific research of tea by providing the daily-observed data. This breeds the scientific potential among local youths. In several countries, tea is a major beverage and people know tea in everyday life. Therefore, there is little obstacle for the study or the inquiry of tea in natural or social contexts. This contributes to the progress of natural and social science in general and the raising the scientific potential of locals for the next generation and the future development of locals (Eto, 2013).

1.2. Structure of This Paper

Section 2 considers various aspects of tea. Subsection 2.1 surveys the discussions of the medical efficacies of tea and its *status quo* by focusing on modern Chinese medical research. Subsection 2.2 outlines the tea-consumption behaviors in several countries. Subsection 2.3 discusses the anthropological aspects of tea cultivating districts and the related policies for domestic conflict resolution between peoples. Subsection 2.4 roughly overviews the climate, altitude and other geographical conditions of tea. This section also pays attention to the minority peoples or ethnic groups living in tea-cultivating areas. Subsection 2.5 states the botanical aspects of tea in relation to the agricultural aspects. Subsection 2.6 describes the tea-related artistic or aesthetic culture fostered by intellectuals in China and Japan and discusses its political implication.

Section 3 considers tea in relation to policies. Subsection 3.1 integrates various aspects of tea-related problems in view of the national or local policies or politics in tea-related countries or districts. Subsection 3.2 proposes to promote the study of tea under the linkage of schoolteachers, students and tourism sectors by the inquiry activities by local intellectuals (teachers, librarians, museum staff, agricultural experiment staff, etc.) with students and citizens in the bottom-up way. Mobilizing the local intellectuals, citizens, students and pupils and others for the inquiries of tea is expected to foster the local intellectual potential against the drain of local brains for the sustainable development of locals.

Section 4 presents the conclusion, recommendation, and the remaining problems for future research.

2. VARIOUS ASPECTS OF TEA

2.1. Chemical and Medical Aspects

In the food chemistry aspect, tea contains polyphenols (including catechins), caffeine, amino acid,

carbohydrates, pectin, organic acids, vitamins, aroma, etc. (Harbowy and Balentine, 1997). Caffeine is commonly recognized as having the effect of wakening from the sleepiness. Medically, the effects of these constituents on health are important.

Tea and other herbs were the important medicines in the ancient era. But modern medicine used to ignores their medical efficacies. Today, however, the medical efficacies of tea are investigated mainly in the context of evidence-based complementary and alternative medicine (Kuo, Weng, et al., 2005; Lin and Lin-Shiau, 2006; Yeh, Chen, et al. 2003). This trend is also seen for herbs (Ma, Yang, et al. 2015).

Tea, herbal tea and herb are often confused in everyday life. The herbal tea usually denotes the infusions of fruit or herbs made without the tea plant, such as steeped of rosehip, chamomile, or rooibos, also called as *tisanes* or *herbal infusions* to distinguish them from tea. But such distinction is not important in our discussions hereafter.

Local governments of tea-producing areas (e.g., Shizuoka prefectural government, Japan) and Japanese Ministry of Health government recommends people certain foods and beverages for health.

Among a variety of animal experiment methods in medical or pharmacological researches, the experiments concerning the effect of tea (e.g., Lin, Cheng, et al. 1998) are socially acceptable because it little torments animals.

Thai medical communities are more interested in herbs rather than tea. As a whole, Thai have traditional medical treatment using herbs. The ancient Thai people used materials such as lemon grass, ginger, and other Thai herbs rather than tea. Today, the Thai medical communities are almost exclusively engaged in modern treatment.

Exceptionally, Mae FahLuangUniversity in Chiang Rai Province in northern Thailand is doing the fundamental (bio, chemical, medical, or pharmacological) research of *Camellia sinensis* (alternatively called *Thea sinensis*), a subspecies of tea centered in Yunnan, southern Province of China. This subspecies of tea is different from another subspecies *Camellia assamica* (alternatively called *Thea assamica*). *Camellia sinensis* is usually used for green tea in most part of Mainland China and is semi-fermented in Taiwan, which is called oolong Tea, while *Camellia assamica* is fermented for black tea. Although Thailand is located in the south of the Himalayan Range, the minority peoples in the northern part of Thailand share the tea culture of the Yunnan or Chinese peoples.

This university is interested in welfare and healthcare as its name indicates. The University name has a good meaning for welfare and possibly healthcare. *Mae, Fah,* and *Luang* mean mother, sky, and royal, respectively. Actually, "*Mae Fah Luang*" is the word used to refer to the mother of His King Bhumibol Adulyadej. In her life, she contributed so great to the promotion of the welfare of rural people especially through many development projects in the north. This university is doing the research of tea mainly from food chemical or pharmaceutical aspects and the research topics include catechines, garlic acid, genomics, geographic conditions, and others.

2.2. Consumption and Economy

Tea is consumed in India > Mainland China > UK > Japan > CIS (ex-Soviet Union) > Turkey > Pakistan > USA > Iran > Egypt, etc. in 1993 (Harbowy and Balentine, 1997).

Tea is a favored beverage as well as coffee. Among a variety of tea, black tea > green tea > oolong tea (produced mainly in Taiwan and some parts in Mainland China) > white tea are produced and consumed.

Now the increasing number of people worldwide is drinking oolong tea (produced mainly in Taiwan and then in Mainland China). But the share of oolong tea among the entire beverages does not increase, because the consumption of other beverages also increases.

In an official statistics (Executive Yuan, 2014), the Taiwan's annual tea consumption is over 40,000 tons, or 1.7 kg per capita on average in Taiwan, 2011. The consumption behavior depends on generations and the time trends. In 1980, the annual tea consumption is only 0.34 kg per person, the people of Taiwan; tea consumption in 2000 reached 1.33 kg per person per year, an increase of 4 times.

In the economy of Taiwan, there are over 200,000 people engaged in tea industry with marketing value

of about 800 million USD. Despite the increase of consumption, however, tea-planting farmers in the northern Taiwan became depressed. Thus, the tea-planting areas of Taiwan gradually shift to the southern and the mountainous districts. And the total area of tea plantations has reduced.

The tea-related situation in Southeast Asia is different from Northeast Asia. In Thai culture, for example, tea is no major beverage as a whole with the exception of the northern part of Thailand. Traditionally, the southern Thai people (that is the majority) did not have culture of drinking tea, although the northern area of Thailand is near the Himalayan Range and have cultivated tea for centuries or millenniums. Tea culture came from western and Chinese influence. Chinese tea culture may become more spread after the first generation of Chinese-Thai entered Thailand nearly a hundred years ago and set up overseas Chinese communities here. Since then, Chinese traditions had gradually been absorbed into Thai culture through the increase of Chinese families.

Among a varieties of Chinese tea, most of Thai people are familiar with oolong tea rather than Chinese green tea mostly produced in Mainland China. What Thai people call Chinese tea is the fermented black tea. Chinese restaurants and tea bars usually serve this tea to customers and it becomes what is called Chinese tea in Thai people's perspective. It tastes very dry. Japanese staying in Thailand drink only Japanese tea, jasmine tea and oolong tea besides black tea (Ceylon or English tea).

In the past, Thai people used to drink black tea with influence from western and Chinese tea. Green tea has just come together with Japanese influence and expansion of Japanese restaurants. At present, modern Thai people also love to have Japanese tea following their favor of Japanese food culture and partly because of health conscious as well.

2.3. History, Anthropology, and Folklore

The tea plant is tough enough to grow anywhere between 30 to 50 years. Therefore, ancient people were able to grow tea easily. According to a Chinese legend, Shen-nong, a botanist and one of the four saints in Taoism, discovered tea as a medicinal herb in Yunnan 4,000 years ago. According to another legend, the second Emperor of China, Shen Nung, is believed to have discovered tea when the leaf of the plant *Camellia sinensis* blew into his cup of hot water. According to archaeological and paleo-ethnological evidences (Qju 2015), Tibet people lived in the Himalayan Range including the northern parts of Burma and Thailand and they possibly brought tea to China.

Somehow, tea trees came to Taiwan. Ancient people native to the Mt. Alishan area in Taiwan called the native wild tea plant “*Shuen-cha*”, that means the tea from celestial beings. Tea was first cultivated by the indigenous or aborigine peoples of Taiwan, who belong to the family of Austronesian peoples (different from Han peoples in China). The first settlers are believed to come to Taiwan about 15,000 years ago, long before Han people of Min Dynasty migrated to Taiwan around the 1600s. As the aborigine peoples of Taiwan came to Taiwan from different origins via different routes at different time, they are different each other. Taiwanese government officially recognizes 14 ethnic groups, who are different each other in culture and language. Their total number is about 500,000, accounting for 2% of the entire population (Rubinstein 2007). Some of them live in mountainous districts and are often engaged in the tea cultivation. Therefore, the tea cultivation is not only the issue of agriculture but also the issue of minority peoples (Stainton. 1999).

The southern part of Thailand is far from the Himalayan Range, where tea was native. The tea history of the southern area of Thailand is not old. There is a record that tea entered Thailand in the period of Sukhothai Kingdom (1238-1438) along with Thailand and China relation tie. In the period of King Narai of Ayutthaya Kingdom (1656-1688), when Thailand had great commercial and diplomatic activities with foreign nations, there was a record that Thai people had the custom to serve tea for guests. But no evidence exists as to who brought tea into the southern area of Thailand. Tea is not the major drink in the south today, except for Chinese and Japanese restaurants.

Tea is important in the northern part of Thailand. This part is close to Himalayan Range, where tea was native. As mentioned above, Mae Fah Luang University in northern Thailand is doing the research of *Camellia sinensis* (alternatively called *Thea sinensis*), a subspecies of tea in Yunnan, China. Although this area is on the southern side of the Himalayan Range, farmers here have cultivated the Yunnan tea of the northern side of the Himalaya Range rather than the Assam tea on the southern side of the Himalaya Range. Probably, it is because the Tibetan people are archaeologically known to live on the both sides of the Himalayan Range (Qju, 2015).

In the northern part of Thailand, His Majesty King Bhumibol Adulyadej guided the tribes at Tung in the Northern Thailand to convert the opium cultivation to more beneficial and sustainable crops. One of his projects was the cultivation of tea. On the initiative of the Royal Development Project, experts from Taiwan were consulted to identify which Taiwanese Oolong tea cultivars are most appropriate for the cultivation on the slopes of northwest Thailand's mountains. Then, two cultivars (the Jin Xuan Oolong Nr. 12 and the Ruan Zhi Oolong Nr. 17) were imported and given to local farmers who are willing to shift to the cultivation of tea. At Doi Tung, there are hill tribe villages of several hill tribe races, like Akah, Egoh, Chan and Maew. Most of hill tribes in the northern part of Thailand originated from regions in China and Tibet (Qju, 2015). They remembered their own tea culture and tradition.

Doi Mae Salong (Doi means hill) was another Royal Project to promote the cultivation of tea. The community of Doi Mae Salong made a virtue out of necessity. The region now produces more than 200 tons of tea annually, and the quality of the locally grown Oolong teas is particularly high. Not only the Oolong teas, the Green Teas and more recently a locally produced Thai Black Tea, for which the plants were originally imported from Taiwan, steadily increase in international reputation in recent years. Doi Mae Salong provides just perfect conditions for tea growing. The altitude and climate conditions similar to those of the Taiwanese cultivation areas (from where the tea plants had been imported) are optimal for the cultivation of finest Green and Oolong teas. The region also produces tea scented with jasmine flowers, the Chinese "immortality herb" Jiaogulan, as well as Ginseng Tea and other scented teas like the exclusive Thai tea specialty 'Cha Khao Hom', 'Thai Rice Tea' or 'Osmanthus Oolong Tea'.

In Doi Tung and Doi Mae Salong, there are hill tribe villages of several hill tribe races, like the tribes called Akah, Egoh, Chen, Maew. Those who live in tea communities are mostly Akah or Egoh. The issue of tea is related to that of minority peoples.

2.4. Natural and Demographic geography

Geography is related to geographic features, natural landscape, climate, anthropology, history and local culture. As native to Himalaya Ranges, tea trees grow in mountainous areas, where the temperature is extremely different between daytime and night and often misty especially afternoon. Tea trees require the annual rainfall of 1,500 – 2,500 mm. while the average rainfall in Taiwan is 1,800 mm. As a whole, the climate of Taiwan is suitable for the growth of tea tree.

Before the agricultural era, ancient people tended to live in mountainous districts, where various plants and animals were often easily available. In such a situation, the ancient people began to cultivate and drink tea.

As such areas are not suitable to rice agriculture, the people there cannot enjoy the economic benefit from rice agriculture. According to the Executive Yuan Indigenous Peoples Commission (hereinafter referred to as the Indigenous Peoples Council) survey data show that aboriginal life misery index was high, with several times of general social gap (Taiwan aborigines living conditions survey report, 1998; Taiwan Aboriginal Living Conditions Survey report, 1999). Non-aboriginal households average monthly income of 87,000 NTD (new Taiwan dollars), while the average monthly household income is only aboriginal 38,087 NTD; about 2.3 times the income of non-indigenous aborigines (Executive Yuan Indigenous Peoples Commission 1998; Executive Yuan Indigenous Peoples Commission 1999). At present, however, there is no particular indication of serious social conflict.

The North East India is the homeland of different ethnic groups with a variety of cultures and speaking different languages and dialects have been now witnessing a process of ethnicity and identity formation by various social group. Particularly in Assam the process of ethnicity and identity has been becoming a burning problem with political development and raising aspiration of the communities after independence.

Large section of these elites believes that the people of this social group must develop or form a single common identity for themselves. In their consideration 'Tea Tribe' is the most suitable identity which can prestigiously cover every section of this social group. Over the years different organizations and people belonging to this group have been increasingly advocating this identity by various means. They are promoting a common Tea labor feeling, developing a common language namely Sadri, seeking political safe-guards and also by preserving common culture that is tea culture within Assamese society. They also celebrate a host of common festivals like Karam Sanmilan, Kali Puja, Jhumor folk dance and songs for preserving their identity. The celebration of such common festivals by themselves for a long time has obviously contributed towards their unification into a cohesive community, both psychology

and culturally regardless of their distinctive caste entity. Here their music and dancing performances are not mainly to attract tourists for money, but to establish their cultural and even political identity.

Tea Tribe has now given emphasis on various cultural forms to display their Tea Tribe identity. Nourishing culture and its implication for identity construction sees a constant process of negotiation among the Tea Tribe. They are not only keeping their culture within themselves but they have now started organizing various conferences like 'Karam Sanmilan', 'Tusu Samaruh', 'Jhumur Programmers', etc. where they are showcasing their distinct rich culture. The shift of Karam Parav venue from individual house to public dais has undoubtedly a symbol of focusing their identity. Similarly, the Jhumor dance having widespread prevalence among the tea garden laborers has been regarded as one of the most important element for unifying them all with a new identity as the Tea Tribe. In a sense they have by already given recognition to Jhumor dance as an inextricable part of the tea garden laborers' folk dance.

2.5. Botany and Plant Science

The tea plant is a kind of shrub native to the Himalayan Range. Taxonomically, tea is akin to *Camellia*. Tea is taxonomically classified into two subspecies: *Camellia sinensis* or *Thea sinensis* in Yunnan, north of Himalaya Range, and *Camellia assamica* or *Thea assamica* in Assam, northeastern areas of India (Su, Tsou, et al. 2007). As the name indicates, the tea is akin to *Camellia* known as the tree with beautiful flowers, which were highly praised through Verdi's opera "La Traviata" based on the novel by A. Dumas. *Camellia* is often popularly called *japonica* because of the beautiful subspecies bred in Japan. But actually it is believed to be native to the Philippines, near Taiwan.

Two major commercial types of tea (Paochong tea and Oolong tea) in Taiwan must be manufactured carefully with specific cultivars (Hu, Tsai, et al., 2014). Tea is a woody, perennial, and out-crossing crop that is highly heterozygous (Barua 1963). In tea breeding, the key points for parental selection are superior traits from parents and their wide-ranging genetic diversity that prevent the weakness of progenies (Bandyopadhyay 2011).

2.6. Tea Art and Tea Ceremony

In a Russian novel by Dostoevskii, aman said that a cup of tea is more important than the entire world. As winery, tobacco, and coffee have contributed to the development of literature and other arts, tea has also contributed to the development of the arts in some civilizations.

In the old days in Mainland China, Chinese intellectuals enjoyed tea in artistic ceramic cups while talking each other about poems, paintings, or politics in tea cottages in gardens, along streams, or in green fields. This culture influenced Taiwanese and Japanese intellectuals.

The Chinese tea ceremony, also called the Chinese Art of Tea, is a Chinese cultural activity involving the ceremonial preparation and presentation in serving tea. The elements of the Chinese tea ceremony are the harmony of nature and enjoying tea in an informal or formal setting. Note that tea ceremony is no ceremony at all, but western people misunderstood it as a ceremony.

Chinese traditional culture is closely connected with Chinese tea. Tea is often associated with literature, arts, and philosophy. Tea is connected closely with Taoism, Buddhism and Confucianism. Roughly, since Tang Dynasty, drinking tea is a must for self-cultivation. Chinese Chan (or Japanese Zen Buddhism) philosophy is also linked with drinking tea (Parkinson, 2013; Chen, 2012).

In Taiwan, Tea Art Culture has prospered with tea contests and tea-drinking endorsements held by the government since 1975. Away from a drink of harmony and peace, tea also represents the spirit of dedication and symbolizes the true sense of "no sweet without sweat." Tea lovers and professional originated civil associations to endorse tea art culture and to hold a diversity of tea art culture advertising movements under the government's directions. Tea Art Culture has thrived with tea competitions and tea-drinking promotions held by the government since 1975. Taiwanese tea culture includes tea arts, traditional tea ceremonies, and the social aspects of tea consumption. Tea art includes calligraphy, flower arts, and incense arts.

Around the 1500s, Japan developed a unique manner of tea (*sa-do* or *cha-do*), which is called the tea ceremony by Western people. *Sa-do* was born from Zen Buddhism of Japan and has significantly influenced Japanese black-white painting, poet, architecture (*cha-shitsu*), garden (often miss-named *bon-sai*), cuisine (*kaiseki-ryori*), table manner, flower arrangement (*ike-bana* or *ka-do*), ceramics (tea

cup and others), and others. Tea architectures are the most important treasures of Kyoto.

In Japan, tea is related to the Zen Buddhism and has given the impact on a wide-range of arts like garden design, architecture (*cha-shitsu*), furniture, black-and-white (*sumi*) painting, ceramics, cuisine, manner, poem, moral and others. This aesthetic system is called *sa-do* in Japanese, where “do” means the principle. *Sa-do* is translated into English (mistakenly) as tea ceremony because its manner looks like a religious ceremony. *Sa-do* was established around Civil War Period in Japan around the 1500s. Thus, *sa-do* acquired some political or diplomatic nuance.

The teahouse is a small cottage with tea room (often 3 meters x 3 meters, or a few feet x a few feet) and a small kitchen. Surprisingly, it has no entrance of reasonable size but only *nijiri-guchi*. (*nijiru* : to proceed without standing or without walking, *guchi*: mouth or entrance). Its size is about only 60 - 70 cm high and about only 60 - 70 cm wide (about 2 feet x 2 feet). It was good for private or secret diplomatic or political negotiations of two leaders. These facts are widely known among Japanese, but few Japanese recognize its political or diplomatic significance (Utsumi, 2014).

A yet-unsolved riddle in tea ceremony history is why the greatest tea ceremony artist Sen no Rikyu (a Zen Buddhist) was ordered to commit suicide (*hara-kiri*) directly by the top political leader Toyotomi Hideyoshi (a follower of Rikyu’s tea ceremony). Many historians have tried to solve this riddle, but the proposed answers are not necessarily persuasive. Anyway, tea ceremony had a political meaning.

Tea ceremony manner had another socio-political purpose, which may be compared to the French table manner. A series of revolutions radically changed the French culture. Many noble families declined while many common people were awarded the high ranks and joined the upper class. The Napoleon III made a very strict table manner for such “rough people”. The situation of Japan around the 1500s was similar. Tea-ceremony was established as a new noble manner against the traditional aristocratic manner during or after the Civil War Century of Japan in the 1500s, in which the noble people declined and the new warriors (*samurai*) like Toyotomi and Tokugawa Families took the political and cultural power.

3. RELATION OF TEA WITH POLICY AND POLITICS

3.1. Politics and Policies

Politics: Tea was favored by high-class people; it has been related to policy making and politics. In Japan, tea has long been deeply related with the political power. At the end of the 1100s, a Zen Buddhist Eisai (or alternatively called Yosai) advised Minamoto Yoritomo, the top power holder, to disseminate tea to people for the health. This advice was taken by the Zen Buddhism-based *Samurai*-government. Tea ceremony of Japan was developed during the Civil War Period in the 1500s. Its manner is graceful, calm and artistic, but its development may be interpreted as being deeply related to the need of “diplomatic negotiations” in civil wars as stated above. Shortly after Japan opened the door to West, Tenshin Okakura, the top leader of modern art movement of Japan, published “*Cha no Hon* (The Book of Tea)” and explained the tea as representing the Japanese spirit.

National economic policy: The tea export is still important in Taiwan. The Taiwan government promotes the tea export by the development of new products and by other means: Taiwan Tea Classification, Quality Management, and the stress of its health benefits.

Regional economic policy: As the incomes in mountainous districts are usually low, the tea-agriculture policy is related to regional economic policies, which are often related with the minority people problem. When the income gap is big between the urban districts and the tea-producing mountainous districts inhabited by ethnic groups, this gap is politically serious. As the income gap tends to yield domestic conflicts, the tea-agriculture policy is deeply related to domestic political policy. Thai governments have successfully solved this problem by the adequate tea agriculture policies.

3.2. Policy Proposal

The gap between cities and locals in many aspects including education is a serious problem. In the era of high-technology and knowledge industries, the educational gap enlarges the economic gap, which might lead to domestic conflicts. Locals often lack the educational resources such as well-trained teachers, well-equipped laboratories, museums, libraries, and others, except for the nature. But the nature itself is a good teacher, a good museum, a good laboratory and a good library. Pupils, students

and general citizens can observe experiment and collect the data on the nature including plants, forestry, birds, insects, fishes, hills, rivers, agricultural or fishery works, and others.

Education is not limited to giving lectures to students but can include the self-study by students or general public's by observing and inquiring the nature in the bottom-up way (Johnston, 2006), This does not cost very much and may be termed as little (natural or social) science (Price, 1963).

Today, the big science is central to natural science. Governments or big institutes organize big projects of natural scientific investigation. Social science follows this pattern through the governmental projects. The problem is that such big projects tend to ignore "minor" problems in locals. Meanwhile, everybody can approach natural or social scientific issues with his or her own resources (*e.g.*, new media, social experience, the observation of nature, visiting old castles, social participations, *etc.*). For the intellectual capital development, it is desired that many people join the inquiry of their own problems like disaster, environment, agriculture, and others (the "democratization" of natural and social science or the citizen's science).

In some countries, tea is popular and familiar to everybody including children. As tea is related to many aspects like botany, medicines, food chemistry, geography, climate, history, anthropology and others, the inquiry of tea enriches and widens the knowledge, particularly in countryside, where the intellectual resources are insufficient. As the government is almost exclusively interested in big projects based on big social scientific knowledge, small villages often fail to get the benefit from national projects. An opposite idea may be conceived: small scientific circle's activities by volunteers in locals. This may be called a local intellect quality circle: LIQC.

The startup procedure may be as follows.

Step1. Volunteering teachers (botany, chemistry, geography, history, classic literature, fine arts, *etc.*) in locals start up a small circle: LIQC.

Step2. Librarians, specialists (the staff of museum, botany garden, aquarium, agriculture experiment station, *etc.*), tea farmers, teashop managers and others join LIQC.

Step3. Local artists and professionals (tea ceremony teachers, carpenters of tea houses, and others) join LIQC.

Step4. City office (Mayor), city councils, school managers (principals), museum managers, *etc.* support LIQC.

Step5. Manufacturing sectors in locals transfer their technology or knowhow of quality circle (QC) to the LIQC by sending the experienced QC staff to assist LIQC.

Step6. The local tourism associations (hotels, transportation businesses, souvenir shops, restaurants, tea shops, and others), farmers association, and local newspapers financially support LIQC or indirectly support LIQC by giving intangible conveniences.

Step7. Students, parents, and other volunteers join LIQC and engage themselves with its creative inquiry of tea.

This activity is expected to give some effects on locals in the future.

Effect1. To raise the scientific potentials and develop the knowledge for the future in locals.

Effect2. To raise the scientific capabilities and knowledge levels in the future.

Effect3. This result contributes to the future development of locals.

4. CONCLUDING DISCUSSIONS

4.1. Conclusion

This paper discussed various aspects of tea, which include botanical, chemical, medical, pharmaceutical, geographic, anthropological, sociological, or regional economic and other aspects. Then, this paper proposed to integrate the tea-related knowledge by starting-up local intellectual circles (local intellect quality circle: LIQC) by volunteering intellectuals (high school teachers, librarians, agricultural experiment station staff, *etc.*) for the comprehensive studies of tea. This is expected to raise the intellectual (natural and social sciences, humanities, arts, *etc.*) potential in locals, which are the seeds of the future development of locals. This paper recommends public and private sectors in locals to promote

such bottom-up volunteer circles.

4.2. Remaining Problems and Future Studies

This paper focused on tea. Besides tea, locals have many treasures to stimulate and raise the intellectual potentials for the future development of locals. The examples are trees, roses, herbs, apples, rabbits, doves, sardines, ants, rocks, soils, beaches, cliffs, hills, waterfalls, rains, archaeological sites, castles, folk songs, legends, festivals, food, old customs, and others. These might be better materials for education and inquiring research of high school students than the government authorized textbooks. The feasibility study of bottom-up or grass-root small science in locals and the effectiveness evaluation of its future effects on the development of locals and sciences are needed. For this purpose, case studies may be useful.

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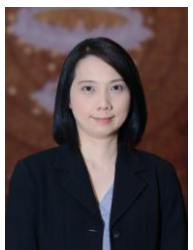


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