Bring “Node” Back To Life

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When heading toward the south of Thailand, the signature sceneries people can see are tall toddy palm trees and palm juice vending stalls.

Not only for producing the palm juice, a toddy palm or “Node”, which is called by the local people, has been a part of Thai agriculture throughout generations. Not only in the south, the trade with foreign countries made the plantation of the toddy palm spread to many provinces, Songkhla is one of them.

Even though the toddy palm is a multipurpose plant, people did not yet benefitted from the tree sufficiently. The decrease in number of “Node” worsened the circumstance. To address the situation, the academics from Rajamangala University of Technology Srivijaya (RMUTSV) worked with the local people in Rumdaeng Comminuty in the sub-district of Singhanakorn, Songkhla Province, to revive the plantation and the use of the toddy palm.

By the good strategies and the dedication, the toddy palm has become an essential part of the local people. They benefit from the plantation of the tree, which is a part of the conservation program under the HRH Chakri Sirinthorn’s initiative project on the conservation of plant species.

Isn’t it a good to bring the toddy palm tree back to life before it is forever gone?

Tracking the path of “Node” in Rumdaeng

“Before we started our study, the subject had been studied previously by another group of researchers.” Professor Chaiya Thanapatsiri, one of the researchers from the RMUTSV, mentioned about Dr.Jarey Suwannachart, a professor from the Faculty of Architectures from the same university. “My research team went to Satingpra peninsula, we

found 2-3 million toddy palms tress. People in Satingpra peninsula have bonded their lives with the toddy palm trees throughout their lives."

The time passed and the generation changed. Rice fields, where the toddy palm trees had been planted were bought by the real estate entrepreneurs. The lands were changed to oil palm plantation or shrimp farms. The number of the toddy palm trees drastically decreased. The people were unable to benefit from the tree as they used to.

In 2012, a group of researchers consisted of professor Chaiya, who worked on the the HRH Chakri Sirinthorn's initiative project, decided to include the toddy palm in the conservation program of plant species. They wanted to extend the lives of the 40-meter-tall toddy palm trees. The program started in Rumdaeng Community.

"We wanted to show the real benefit of how people can use the toddy palm trees", the professor recalled. "When working on the field research, we met the local people and the leader of the community. We saw people using the branch of the toddy palm as their fences, using the trunk as their wall partitions. They weaved the tree leaves to make hats and baskets. The fruit went to a palm juice and a charcoal production. The variety in using the tree has proved itself that we must conserve the toddy palm tree definitely.

After the beginning of the program, the result from the use of the toddy palm tree was not satisfactory. There were only few small elderly groups, who regularly worked on the production. The products also failed in the market. The younger generation chose working outside the community over planting the toddy palm tree.

Therefore, every faculty in the RMUTSV united together and built a long-term action plan that continued until 2016. The plan focused on an involvement from the local people.

Why chose Rumdaeng?

“The commitment of the community leader, including the Chief Executive of Sub-district Administrative Organization, was the first reason for us to choose Rumdaeng and his staff. They have known the importance of the conservation. The people in the community shared the same goal, to conserve the toddy palm tree for the benefit of the future generations.

On the pathway leading to the goal, every people passionately devoted themselves to build the future that they shared.

The New image of the toddy palm

The first step of the project was a brainstorming, which everybody eagerly participated. Then, the study on the plant species was conducted under the project called “Node Nar Pai Kon” (The toddy palm, the rice field, the bamboo and the people). Later on, the program to promote the toddy palm charcoal production and the biomass energy were carried out. Moreover, numerous product development programs were done such as textiles from the palm fiber, flower pot making, wall partition production and etc.

On the production of the biomass energy from the toddy palm, professor Chiya stated.

In the past, the palm fruits that were left over would be eaten by cows. Then, the cows spitted the seeds. Villagers used these seeds for the charcoal production. We saw the potential to develop it to be substitute energy. We conducted the study on the porosities of the toddy palm charcoal and found that the charcoal from the toddy palm had the better performance than the regular charcoal.

The result from the research was presented to the local people, so they could learn what and how to benefit from the toddy palm. Also, the Faculty of Business Administration sent their staff to help the product development including the formulation, packaging design, budget management, to put the product on sale as the local souvenirs.

Furthermore, the product development from palm fiber by the RMUTSV gave a wonderful result including the wall partition and the flower pot that decompose back to the natural element.

The making of wall partition or “the toddy palm partition” received a great success, as it won an international award, including Special Prize, the Gold Medal from ‘42 International Exhibition of Inventions of Geneva’ in 2014, in Geneva, Switzerland.

“Most of the partitions in the market were mixed with concrete cement but we used the fiber extracted from the palm branch as a component part, to make a light-weighted partition that effectively withstands the heat.” The professor said.

Besides, the toddy palm partitions were used in an award-winning “Baan BaiTaan Na Tambon Rumdaeng” (The House of Palm Leaves in Rumdaeng), that received the award in the Architectural Conservation Awards 2013, in a category of Institute Building and Public Building from The Association of Siamese Architects Under The Royal Patronage. In the past, the house was an obsolete building, planned for the deconstruction. The research from Dr.Jarey Suwannachart helped stop the plan because it showed the bonding between people and the toddy palm tree and the unified vision from the local people to live friendly with the tree. Winning the award brought the pride to everyone who worked on the project.

After the fiber extraction, flaky residue could be found. The professors from the Faculty of the Engineering molded the palm flakes to make flower pots that were decomposable back to the nature.

“We set up an exhibition presenting the work we did in the first year. We turned the Rumdaeng Community to be the model community for the plant species development. We also made the Rumdaeng Community a learning center for the other communities and in provincial level.

In the following year, the RMUTSV extended their achievement such as making a toilet deodorizer, a charcoal powder from toddy palm charcoal and a machine for the production of the wall partitions. They also came up with new projects including a juice extracting machine for the food processing, a cutting machine for cutting the palm leaves from the branch, a molding machine for a making of seedlings nutritive block, and a production of souvenir made from toddy palm with advance electronics technology.

“The Faculty of Science, studied on a production of biomass energy from the toddy palm such as making a deodorizer from the charcoal powder. The result indicated that the toddy palm deodorizer performed as well as the typical deodorizers made from carbon materials. We developed the packaging of the product, so people were able put the deodorizer in the fridge or the wardrobe. It helped increase the market value of the charcoal powder.

The work in the second year focused on extending the achievement from the beginning year, increased its effectiveness and efficiency.

“To develop means to make it better. The work in the second year emphasized on improving the existing projects such as the making of the wall partitions, we changed from the hand-made production in the previous year, and shifted to the machine-based production that produced multiple partitions at a time, to serve the market needs more effectively. Moreover, we came up with the new formula in the production of flower pots from the palm fiber, made it easier to formulate the pot and increased productivity.”

"Our new projects aimed to find the new ways to utilize toddy palm trees, including a juice extracting machine to make a toddy palm cake in "Krua Rumdaeng" (Rumdaeng's Kitchen), which is one of the community learning centers. The machine helped increase the productivity of the toddy palm cake making. It reduced the cost saved the time and energy to extract the powder and the juice from the toddy palm fruit. Also, a cutting machine for cutting the palm leaves from the branch helped lessen the time for using a machete to cut the leaves when making souvenirs. Then, we developed the cutting machine to the sharp-cutting machine in 2014. In addition, we came up with a molding machine for the production of a seedlings nutritive block from the palm fiber flakes. These projects increased job employment in the community."

Furthermore, there was a lamp made from a basketwork in the community, which was also the work of professor Chaiya. The lamp was equipped with an electronic mechanic, and could be switched on and off by clapping the hands.

"The primary objective of the project was to serve the needs of the local people." the professor mentioned. "We did whatever the locals needed. We also improved many things for the benefits of the people."

The professor explained that the first two years directed toward the point of making the most of the plantation of the toddy palm. "Our primary goal was to conserve and to make sure that the lives of toddy palm will not fade away from the people's lifestyles in Rumdaeng. The people needed to efficiently benefit from the tree"

The train of thoughts

There were rooms to develop the products from the toddy palm tree. In 2014, the toddy palm charcoal powder was used as the filter in a water purifier machine. Additionally, a cutting machine for cutting leaves from the palm branch was developed to

be a fiber extracting machine, made the fiber weaving process easier, along with an increase in functions of the wall partition making machine.

"The highlight of the third year was the production of the yarn made from the toddy palm fiber.", the professor said.

He saw a potential to develop the beautiful yellow the palm fiber to use in textile industry. The staff from the RMUTSV brought the palm fiber into the textile making process. It started from cleaning the fiber and fermented it with enzyme for 10-14 day, to get rid of the impurities and the fat. Then, the fiber went through the conditioning process, and later, the dyeing process. After dyeing, the fiber would be ready for the yarn production.

However, the fiber from the toddy palm was harder than the others. The cotton fiber was added into the textile production in the proportion of the toddy palm fiber 60% and cotton fiber 40%. The final output was a handmade woven textile made from toddy palm and cotton fiber. The RMUTSV worked with the Rumdaeng Community to develop numerous products and increased job opportunities in Songkhla Province.

Further, in 2015, professor Chaiya planned to use the achievement in Rumdaeng Community as the model and expand the working area of the HRH Chakri Sirinthorn's initiative project on the conservation of plant species, to the neighboring communities. He also aimed to collaborate with every department in the university to perform the field research and use their knowledge and experience to develop the communities.

The next destination will be Tone Koo Sub-District in Rattapoom District. The area has a strong community leader and the people who are ready to work on the project. They are interested in the conservation of rice species, which is the economic plant of the area.

“In 2017, we will conduct a research on rice. We want to use science, technology and innovations collectively to make the most of the rice farming in the sub-district.”

We will win together

The number of the lands bought by the investors for the oil palm plantation has decreased while more people in the community have learnt about the true value of planting the toddy palm tree. They know the reason to conserve the way of “Node” to their future generations.

“We can see that the local economy has become livelier. The community leader has created a lot of activities such as a meeting between the toddy palm field owners, or holding an event that attracts people from the other areas to boost the sale of the toddy palm products. The activities have successfully strengthened the economy of the locals.”

Nowadays, Rumdaeng Community runs their economy by themselves, under the supervision of the Chief Executive of Sub-district Administrative Office. The local people are eager to develop their works relentlessly, which make the community a role model for the other organizations, from the government and schools to learn from. After accomplishing the goal, the work of the RMUTSV under the HRH Chakri Sirinthorn’s initiative project on the conservation of plant species is now reduced to revise their studies and explain the result to the local people.

“They can go further by themselves. They have the good community leader and the devout staff who continuously work with the local people.”, professor Chaiya told his story with the pride.

Not only in Rumdaeng Community, the conservation project from the RMUTSV has impacted throughout the south of Thailand. The number of toddy palm trees that are cut down has astonishingly decreased. The southern people know how to really benefit from the

tree more than eating the fruits. The have added the market value to the products and improved their quality of lives.

"Many communities such as Taa Yuu community in Satingpra district came here to study the accomplishment of the Rumdaeng Community and brought the knowledge back to their hometown.", the professor recalled. "The civil society has been stronger. They can reach out to the necessary information easily. The role of the governmental organizations today is to provide the academic knowledge, and blend it with the village wisdom from the local people, to develop the practical strategies."

At present, the toddy palm trees stand tall firmly against the wind. The life of "Node" is successfully extended. How miserable people will be when everyone misses the sweet taste of the palm juice or the toddy palm cake in the day that the toddy palm almost no longer exists?

Being old does not mean being ready to throw away. Having the right attitude and develop it continuously, you will learn the true value of the old thing. – like the toddy palm tree and the wisdom from the local people in Rumdaeng Community.