Various vegetable crops flourish in a 1.75 hectare land in Kalampangan, Palangka Raya. Besides chilli, spinach, and corn, some perennials, such as rubber; banana; rambutan; and orange trees, also grow there. Akhmad Tamanuruddin is the owner of the land. He has been trying for years to turn peatland into fertile, productive land to make living. Interestingly he has been doing so without fire. Tamanuruddin’s success debunks the myth that peatlands will only be fertile if it is burned beforehand.

Akhmad Tamanuruddin came from Ngawi, East Java, and is the first transmigrant in Palangka Raya. He was still young (26 years old) when he first moved and felt challenged to be a successful transmigrant. For him, moving to Palangka Raya was a bold decision to improve livelihood of his family, “[I feel] ashamed if I fail in someone else’s village. If you have moved, you can not go back. Whatever the risk, you have to...”

“Prohibiting farmers from burning lands is not wise if they are not given an alternative. Burning [method] is their last option to sustain living even when farmers dislike it themselves.”
face it”, said the man who was born on September 6 1954 in Ngawi.

When he first arrived, he put all his strength to turn the peatland fertile even though he knew it was difficult. The government provided him rice, soy sauce, and salted fish for two years. He felt determined to turn the peatland fertile before the aid ended.

**Surviving**

What happened did not turn out as planned. Akhmad Tamanuruddin’s 2 hectares of land, which on a quarter of it was built a house, was still not in good condition. Large slashes were everywhere after logging. “I collected (slashes) little by little to clear the land, and gradually and manually plow it using hoe, axe, and machete.” said the man who is usually called “Taman” when being visited by LESTARI team. At the time, plants could barely grow on the farming land and his backyard. Because peatlands are acidic, many chose to burn the land to clear away the remaining wood debris and fertilise the soil by increasing its nutrients. Both locals and transmigrants preferred land burning because it was cheap and permissible by law.

Though, Taman stuck to the fireless method. To make living, he made an all-out effort trying to turn his land arable even for just one plant, paddy. “I believe any land if cultivated properly will be fertile. I learn different natures of soils. Their needs have to be observed. My knowledge about peatland is limited. [But] like animals, if we love and treat them properly, Insha Allah (if God wills), it will be successful,” he said.

Land burning is indeed the easiest, quickest, and cheapest way to improve peatlands. The method is especially lucrative for farmers with limited financial resources and skills. For many transmigrants, land burning is the only option considering government’s aid would end soon. Burned wood debris will turn into ashes, and it will be spread all over the land. The method is foolproof to make plants grow. But the woods to burn will eventually run out. Woods will be more difficult to obtain to the point where people choose to use ferns instead. But ashes from burned ferns are much smaller in amount. In dire need of more ashes, many often look for woods farther into the forest, a protected forest. Ironically, their productivity is not high, only 2 tonnes per hectare.

Many transmigrants felt desperate about the situation. Almost half of the them in Kalampang chose to move back home to Java. Efforts and resources needed to farm was bigger than the money they made. In addition, government’s aid gradually decreased. Even worse, some lands in certain locations were left uncultivated. Taman explained, “After five years living here, grasses did not even grow. When ferns appeared, they were turned into ashes and spread all over the land. Then grasses started to grow. This burning was controlled and [the fire] did not spread out. Collected together, the ashes were probably just as much as three buckets.”

However, Taman did not choose to do so. He was determined trying not to damage the soil. He believes, if land is continuously burned, it will gradually be degrading. He kept trying to find alternatives to grow plants without fire. Burning will also damage the ecosystem, ecology, and hydrology. Instead, Taman chose to buy fertile soil with rich nutrients and spread it all over his land.

He bought some fertile soil from Tangkiling and Kereng and added natural and synthetic fertilisers. He spread them all over his land, but at first, things...
still did not turn out as expected. He kept trying hard. He wanted to be a successful transmigrant and kept holding on tight to his dream. After failing, he decided to change the way he managed his land. This time, the fertile soil would not be directly spread, but instead he made small holes in the ground and filled them in with the nutrients-rich soil. After leaving them for two weeks, he started to plant different kind of vegetable seeds on the land.

“Apparently, if we spread the [fertile] soil right away, it will be useless. The land will still not able to grow plants. The soil is chalky and harsh, and so plants will die. If we do so, the soil will slowly become fertile. After using the fertile soil, do not burn it; the soil will be damaged and turn into bricks. Keep adding chalk and natural fertilisers,” he explained.

Taman admits his method is time-consuming and requires extra patience. He had to experience many failures in the beginning. He actually nearly gave up and wanted to go back home. Having no more money, Taman worked as a construction worker and saved some of his income to buy ticket home. But remembering what brought him to Kalimantan in the first place, he decided not to give in to his fears. He recalled, “One night, I heard from RRI Palangka Raya Radio that the Education Agency opened recruitment for new teachers. The next day, equipped with a high school diploma, I decided to apply.”

This time, luck was on Taman’s side. After going through a rigorous selection process he was accepted as an elementary teacher. His land was abandoned for several years because he had to teach in Muara Teweh far from Palangka Raya. He gave his land temporarily to other farmers and paid it a visit once a year. After five years working in Muara Teweh, he was moved to Palangka Raya. While working as a teacher, he continued to experiment on his land to make it fertile.

“In the 1990s the fertility of my land was started to be noticeable. It took ten years, but budget-wise, [my method] is cheaper than land burning. Land burning is costly. How much effort and money that has to be spent for it? Not to mention, the land has to be plowed again. I think [land burning] is more costly because the land will be degrading and its fertility will be difficult to restore,” he explained.

The Fruits of Patience

Managing 1,75 hectare of land and two trucks of fertile soil costs Rp 1.5 million. Twenty bags of chalk costs Rp 1 million. Other things like fertilisers are tailored depending on the needs. The cost he spends are much smaller in comparison to the profit he makes. He admitted that fireless agroforestry brings a lot of benefits to him. Averagely, he makes Rp 2 million of profit a month from farming.

He explained, “An indication of a fertile soil is the healthy growth of grass. There is no doubt in it. On the other hand, an infertile soil will not grow grass, let alone [other] plants. I spray herbicide to dry off grasses. The decayed grasses will turn the soil loose. So, herbicide does not only kill weeds but also make the soil loose. If farmers do not clear grasses and other dirts, they are considered lazy. [But actually], grasses and other dirts will nourish the soil. Just wait for the decomposition.”

Taman’s success of trying to turn his soil fertile without fire took 20 years. He believes the first 10 years are the most critical period in which he tried to change the acidic nature of the soil. It took adequate resources and great patience. Even when farmers have taken many inputs, they may still fail. The soil started to display signs of fertility after 10 years. The
change was not immediate, but instead gradual. He was first satisfied by the fertility of his land in the 1990s after successfully farming onion and celery.

He concedes that his success is not without learning. But he thinks the utmost important quality is perseverance. He knows that man is capable of reasoning. He uses that ability to carefully observe and evaluate his failures. He analogises land as a child that requires care, protection, and love. “For example, if I fail, I will try to look for the causes. Is it because my soil is infertile, there is a disease, or others? That way, I can immediately find the solution. I learn from experience. My knowledge is the facts I gather from the field,” said the man with four grandchildren.

Taman has proved his ability to manage peatland for farming without fire. Now, many are interested to follow Taman’s method. Unfortunately, some have very limited resources. They cannot afford the fertile soil, chalk, fertilisers and transport services. The government’s support is also absent. Due to all of those factors, many stick to land burning method. “Prohibiting farmers from burning lands is not wise if they are not given an alternative. Burning [method] is their last option to sustain living even when farmers dislike it themselves,” he ended.