

Subject: Monthly Activity Report for AGREEN

Date: July 10, 2020

Site: Long Semadoh, Sarawak, Malaysia

Title: Traditional paddy farming subsistence .



Since the month of February, water buffaloes have been set free to roam the swathes of paddy fields in Long Semadoh Valley. Covering an area of approximately 900 acres, the fields are situated on both sides of the Trusan River in the Highlands of Lawas, Sarawak.

This seemingly simple and insignificant action during the 6 months fallow period plays a pivotal role in maintaining the fertility of the fields without the need of any chemical nor much physical intervention.

The core idea here is optimising of resources:

1. Providing water buffaloes with food
2. Providing water buffaloes with frolicking space
3. Buffaloes will eat up the remainder of the paddy stalks and any weeds, effectively cleaning up the paddy fields
4. Buffaloes' mud bath and trampling of the fields effectively turns the soil and mud of the paddy fields, creating low impact and deep 'tilling' effects
5. Buffaloes' excrement that are rich with microbes inoculate the paddy fields to effectively break down any organic matter into rich nutrients and humus, creating nutrient dense soil with good structure.



The Lun Bawang community of Long Semadoh is made up of largely subsistence farmers and have converted from swiddening dry paddy to wet paddy fields for more than half a century. Their farming practice has never relied on chemical nor much mechanical interventions. While this may be seen to be 'backward' especially in the eyes of so-called scientific and industrial agriculture, this minimal intervention farming method requires minimum labour effort by leveraging on domestic animals like the buffalo.

Contrary to most conventional wisdom, by practicing no-tilling for decades, the soil structure and fertility of the fields are preserved and improves year on year! Yield data that has been collected show that their yield averages around 2.8 tonnes of paddy per acre! While this is marginally lower than the 3 tonnes of paddy per acre national average, this has got to be viewed in context. The 3 tonnes/acre yield can only be achieved through the use of power tillers, seed broadcasting, intensive application of chemical fertilisers and pesticides. This undoubtedly show a disproportionately high cost of input for just a marginally higher yield, not to mention the slew of environmentally destructive outcome of such industrial farming practices.



On top of that, the community still retain and plant more than 30 heirloom varieties of paddy, giving rise to a rich crop biodiversity that can ensure the crop resiliency and by extension food security of the community as a whole. The local paddy variant exhibits very unique characteristics that resembles a cross between the javanica and japonica variety. With a grain size between small and medium grain, the rice contains enough amylopectin to allow for applications in dishes like sushi and onigiri. Yet, this variety is light and airy in texture, unlike the japonica variety.



For the month of May and June, the villagers have been clearing the paddy fields, filling them up with water to be ready for transplanting. The community's transplanting method might take a bit more labour but saves up to 90% of seed usage compared to conventional seed broadcasting method.

In the midst of weeding, the fields also provides sustenance in the forms of pescatarian sustenance. The first seedlings have just sprouted and will be in time for transplanting come late July, early August.

It is a truly delightful sight of new life and hopefully another year of bountiful harvest in the highlands, providing sustenance and livelihood to the current generation of farmers like those that came before them.