

Mobilizing Traditional Knowledge, Innovations and Practices in Rotational Farming for Sustainable Development

by

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A study on innovation to improve soil quality in fallow land through reviving the use of P'dav trees

- **What is P'dav?**
- P'dav tree (*Macaranga denticulata*), they can be classified into four groups: 1) P'dav Caiv; 2) P'dav gauz hpo (red P'dav); 3) P'dav wa (white P'dav) and 4) P'dav loz loz (normal P'dav)
- **P'dav and Bamboo in 5-6 years fallow** The finding: there are 4 of **grass** species, 17 of **trees** species, 18 of **poultry** species and **terrestrial animal** wild life 15 species



- Hsau Weij puts his elders' knowledge into practice through experiments on P'dav planting methods, trees caretaking, and seeds collection.
- Hsau Weij adapted the experiences that his father he selected a normal fallow area, he collected good seeds of P'dav from other places, from trees with an age of 5 to 6 years. He sow them using different methods.



Comparison between farming a P'dav field and a normal fallow field

- Mr. Somboon Siri, 39, received P'dav fallow land areas from his uncle Mr. Yauj Weij and continues the experiment with P'Dav until now.
- P'Dav fallow land requires less weeding effort, compared with the normal trees fallow land..
- The produce of rice is higher in P'dav fallow land, i.e. 2 tangs of rice seeds gave around 75 tangs of rice in P'Dav fallow and around 60 tangs in normal fallow therefore P'dav fallow land gave 15 tangs more from the same amount of seeds.



Comparison between farming a P'dav field and a normal fallow field (2)

- P' Dav have less to no damaged plants, pests and weeds compared to normal fields.
- Plants in the P'Dav field have good health and are stronger than in normal fallow land fields.
- Last but not least, Mr.Somboon added that produce from P'Dav fallow fields is more reliable, even too dry, too wet etc. the products still reliable



Characteristic and benefit of P'dav trees

- The P'Dav tree is characterized by a soft trunk and branching roots that spread at shallow depths around the stump. It only propagates with seeds, and not with shoots from the trunk. Seeds can be collected during August and September.
- P'Dav normally bear large quantities of fruit, which attracts different animals e,g birds, rats and squirrels,etc. many species of bees,
- P'dav areas therefore become hunting and trapping grounds for humans.
- The shadow created by P'dav trees helps to control most of the grasses which make the soil poor for crop cultivation.
- P'Dav trees have grown for 2 to 3 years, as the leaves falling to the ground keep the soil surface cool and hold rainwater.
- People also use P'dav trunks for firewood, as they are easy to dry, get soft and good for making fires.

Conclusion and debate:

- One effect of the use of P'dav trees is that it decreases biodiversity?
- Fertilization of soils with diverse nutrients from other plants, or on wildlife and their food sources in fallow areas, and so on.
- Can we plant P'Dav as fast-growing tree in areas with bad soil, previously intensively cultivated with cash crops.
- Also, in other areas which need fire wood for cooking, P'Dav could be helpful because its branches are good for fire and the tree grows fast
- Successful technique to put less effort in weeding. Less grass grows
- Crops grow well and have good and more reliable produce.
- Plants are stronger and good nutrients in the soil, less damages or insects.
- Is P'Dav fallows allow and area to be regenerated and farmed again in only 5 years?
- some of the farmers say that planting P'Dav may cause them additional workload and they are not really facing a problem with their fallow land and low produce yet

Conclusion

- Fallow land play very important role particularly during 1-4 fallow years, it is very important for the wildlife most of terrestrial animal etc. to have space for the housing and breeding in these fallows,
- While fallow become bigger trees in 4th to 5th year and up wildlife animals come back to the 3rd and 4th year for hide, food and breeding gain, nature mechanism control each other to make a balance of ecosystem.
- The management of rotational farming cycle manage the sustainable cycle of plants and animals species in the direction of natural sustainable process
- Rights to manage the livelihoods and natural resources e.g. varieties of plants and animals to compliment and control each other in balance and sustainable process.