

Is *Wa-u* a potential agroforestry crop in southern Chin State, Myanmar?

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In the previous visit to southern Chin State, it was observed that *Wa-u* (scientific name *Amorphophallus sp.*, known commonly as *konjac*) has a high economic potential for the local swidden cultivators. Furthermore, the number of swiddeners was decreasing due to factors such as reductions in crop production and better job opportunities elsewhere. Consequently, the areas under fallow forests increased. In addition, the traditional cultivation practice underwent a transition to terrace farming, animal husbandry, and home gardening. In the case of home gardening, *Wa-u* is grown as a cash crop in the old fallow land that they have completely abandoned due to a lack of available labor. Therefore, I want to assess whether or not *Wa-u* has potential for the agroforestry system in southern Chin State.

Vegetation surveys and socio-economic interviews were conducted in two villages in Matupi township, southern Chin State, Myanmar. The 13 sample plots of 10m x 10m quadrats were set up in fallow forests planted with *Wa-u*, and 4 sample plots of 30m x 30m in forests where *Wa-u* naturally grows for vegetation analysis. For socio-economic interviews, 25 households were randomly selected and interviewed using a semi-structured questionnaire. Species identification had not yet been completed, and therefore species composition can only be presented after completion of identification. Analysis of vegetation structure showed that the diameter and height class distribution of the fallow forests planted with *Wa-u* was quite similar to that of the forests where *Wa-u* naturally grows. In addition, *Wa-u* prefers a shady environment with a soil pH range of 6.5~7.5 and a temperature range of 20~25°C. The environmental factors of this study site are within the preferred limits. Furthermore, the cost-benefit analysis indicated that the initial cost for *Wa-u* plantation (664,000 Kyats ≈ 664 USD per acre) could be returned within the first year of production. Moreover, *Wa-u* does not need to be replanted and only requires tending operation like weeding. Therefore, there is a great potential for agroforestry by introducing *Wa-u* in secondary forests after swidden cultivation.

Further analysis of species composition is necessary. In addition, these findings are very important for developing countries that, like Myanmar, have a high deforestation rate and similar environmental conditions. Finally, this research will contribute to my further publications and to my PhD dissertation.

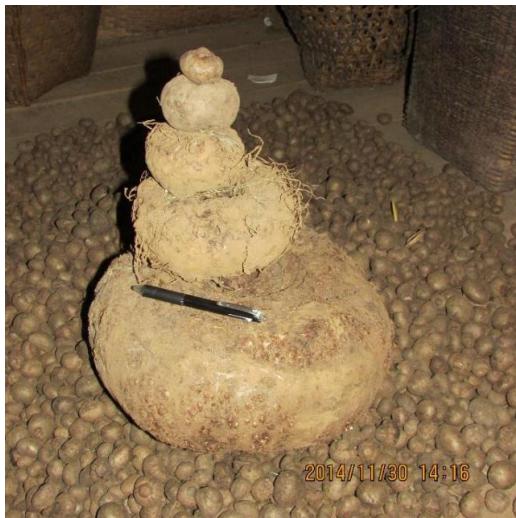


Figure 1. *Wa-u* after 4 years' cultivation



Figure 2. Peeling-off *Wa-u* skin for drying

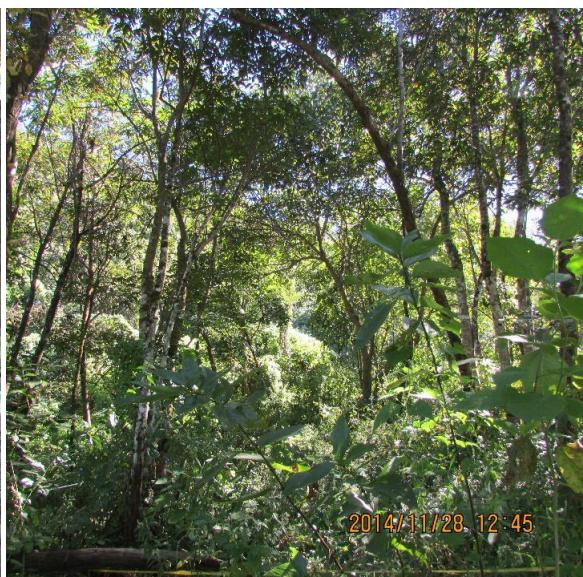


Figure 3. Vegetation survey in fallow forests planted with *Wa-u*