

## Abstract

Participatory Action Research (PAR) on Agricultural Systems in the Opium-based Cultivation Community. The pilot site of illicit crop-based zone has conducted in Kun Tuen Noi Development Centre located at 800-1,200 MLS in remote Omkoi District, Chiangmai Province, Minimum temperature is 2-4°C, Maximum temperature is 15-20°C, where poor Karen communities 686 household and 3,386 population has rice cultivation and forest products. Poppy opium is illicitly cultivated in the area.

The participatory research program conducted with 38 farmers in 4 villages comprises of 3 sub-projects; integrated pest management (IPM), soil fertility improvement in organic Arabica coffee farming and alternative crops. The IPM in upland paddy sub-project compared integrated mechanic, agronomy, agro-engineering, biology practices in plant hopper control with the farmer practices. For soil fertility, the study compares impact of tailor-made compost with commercial ones in three coffee stage. Avocado (Hass and Buccaneer) and mango (E2E2, Nuankham, Chok Anan) were tested in different micro-elevation of 800-1,000 and more than 1,000 metre. After paddy cultivation experiment showed that Cantonese, sugar snap pea, Thai Rat Tailed Radish and coriander were most feasible in farming and marketing aspects.

**Keywords:** agroecology, area-based approach, Karen, highland

