

## Evaluation of Agricultural systems practiced in Upper Siang and Upper Dibang areas of Arunachal Pradesh in Northeast India

G. Ghosh

Department of Botany, Bejoy Narayan Mahavidyalaya, Itachuna,  
Hooghly-712147 (India)

\*Corresponding author: E-mail: [goutambot@rediffmail.com](mailto:goutambot@rediffmail.com)  
WhatsApp No. 9432075078

### Abstract

The study of agricultural systems includes *jhum*, valley and terrace cultivation available in Upper Siang and Upper Dibang areas of Arunachal Pradesh. Three types of *jhum* based on their previous forest vegetation types of terraces such as hill terrace and river basin terrace were used. The agricultural systems were evaluated in terms of productivity and economics. The trend of crop production was more or less similar in bamboo based- forest derived *jhum* and bamboo free forest derived *jhum*. Production of crops was high in the first year and it decreased with the increasing cropping years. But it showed quite different results in case of grassland derived *jhum* where production of crops for the first-year cropping was low and the next year was very high then it decreased with the increasing number of cropping years like the other *jhum* types. The highest yield was obtained at low elevation valley among all the agricultural systems. The bamboo free forest-derived *jhum* recorded the highest yield than that of other *jhum* types. The study suggested that management of grassland derived *jhum* was one of the best ethnic knowledge of land use practices and the valley cultivation of rice was tenable on both economic and ecologic considerations. The river basin terraces closer to the valleys eventually converted into valley lands were viable for longer duration.

In India, 80% of the population lives in villages and 70% of the people derive their livelihood from agriculture<sup>1</sup>. Recently, scientists have started looking at subsistence agriculture or traditional agriculture as one with high productive efficiency. Shifting cultivation

made a revolutionary change in human societies from food gatherer to food producer. Series of studies<sup>2-10</sup> have shown that under the given conditions of high rainfall, low soil fertility and steep gradient, this is the only viable system of agriculture and all other alternatives