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A relationship between the Thai race and fog in Xishuangbanna, Yunnan Province

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Xishuangbanna where contains 49 basins, the southern part of Yunnan Province, has a nickname of fog state. Given the suitable topographic condition, fog occurs there frequently in the dry season. Xishuangbanna has a population of 710,000 with 238,000 the Thai, 232,000 the Han and 168,000 the hill tribes (census of 1982). Until 1949 this area kept an independent state of the Thai and the segregation between the Thai and the hill tribes is clearly seen in the basins even now. The Thai lives in the bottoms of the basins and the residential areas of the hill tribes such as the Hani and the Jino are on the upper part of the slopes.

A stretch of Xishuangbanna (21-22N) is in the tropics. But as it has a basin topography with 500m - 1200m above sea level it tends to amass cold air at night especially in the dry season. Our meteorological observations used the slope observation and the captive balloon observation in the dry season show that each races in the basins concern themselves with the fog and the basin climate. It is coldest in the bottom of the basin at midnight right before fog forms. The fog then keeps the temperature at constant level until sunrise by the latent heat and the radiation from the fog droplets. As a result, the crops in the bottoms of the basins guard themselves against the cold by retaining heat via fog formation. On the other hand, the residential areas of the hill tribes and their swiddens on the upper part of the slopes are located on the thermal belt in the night time, and they can get the solar radiation after sunrise without delay because of no fog.

For a long time the segregation between the Thai and the hill tribes have been kept with the benefits of local climate. The Thai is conserving the forest on the lower part of the basin slope for fog formation. After 1949 the land use in the basins has changed due to an expansion of settlement of the Han race and now local climate fluctuations such as the decreases of foggy days and total amount of rainfall in the latter half of the rainy season occur there.

Keywords: fog, Xishuangbanna, the Thai race, segregation of race