Local management of indigenous mountain rice and fodder tree: Short notes on the lowest practice of climate change mitigation

by Leo D. Cueto and Anacleto M. Caringal

While many residents in the 'global village' are contemplating on “inconvenient” warming and melting ice, there is still a need however to think of "the small, the least and the lowest practices" by mountain people (Figure 1). In the mountainous coast of Lobo and San Juan**,** about 170km south of Manila, Philippines, mountain farming is characterized by century-old kaingin (slash-and-burns); forest fragments are cleared to give way for growing food crops thus eliminating the natural island of trees as an important carbon sink.

Figure 1. Retreat from their kaingin (swidden) along the backdrop of forest green, mountain women with harvest accessory: takuyan (bamboo baskets) strap on the shoulder or by horizontal bamboo pole. The fruits of the mountain a year after slash-and- burn include the sweet berry (Annona squamosa), pigeon pea (Cajanus cajan), papaya (Carica), and indigenous variety of grain (Oryza). Fallowing will replace the annuals with Leucaena fodder (shouldered by the boy –extreme left) for ruminant feeding. (A.M.Caringal).

But today, the traditional slashing-and-burning of carbon sinks is forgivable. Degraded and less productive mountain slopes have been converted to fodder tree plantation (Figure 2) of nitrogen-fixing native *ipil-ipil* (*Leucaena philippinensis)* to sustain small-scale ruminant production. Plantations’ canopies shade the barren slopes and provide a favorable micro-climatic condition most likely to encourage natural forests; rainfall interception and ground water recharge, thereby ensuring adequate supply during prolonged drought.

Figure 2. Five-year old Ipil-ipil fodder plantation intended for goats and cattle established in Lobo-San Juan Mountains. This mimics the structure of the previous natural forest degraded by slash-and-burn. The most important experiential effect of this man-made forest is enhancement of favorable micro-climatic regime (A.M.Caringal)

Leaving the phytomass after grain stripping (Figure 3) or stocking the hay, is the earth-friendly feature of indigenous mountain rice cultivation. The unforgiving hay-burning after harvest is an extinct practice, lessening the potential contribution to carbon dioxide and nitrous oxide releases. Rice hays are either allowed to decompose for natural soil fertility restoration or fed to ruminants during extreme summer months when forage is scarce.

Figure 3. Mountain rice harvesting in Lobo-San Juan Mountains is now sensitive to climate change mitigation by non-burning of phytomass. Before, hectares of grain-stripped slope are burned as an easy way to prepare the land for the next cropping, but the practice proves to be harsh to soil and water regime aside from atmospheric contamination (A.M.Caringal)

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