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## Sustainability of Maize Based Cropping Pattern in the Mid-Hills of Nepal

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### Abstract

Maize based cropping pattern is the most important pattern for food security in the mid hills of Nepal where agriculture is the mainstay for livelihood. Maize is the second most important staple food in Nepal. This cropping pattern finds its position in excessively drained, slopy land, shallow soil depth prone to moisture deficit and low soil fertility. Because of lack of irrigation, most of the slopy lands in mid hills are unsuitable for rice production. The study has been carried out to monitor sustainability of this system and finding causes of productivity declination of the system. Organic matter content has been higher in slopy land than flat land owing to the application of farm yard manure in the former while flat land receives more urea. Integration of livestock and forestry with that of agriculture is the common rule in mid hills of Nepal. The traditional system of livestock rearing and access to the forest resources couldn't be further sustainable as pressure on the limited arable lands had increased due to the continuous growth rate of human population and the related consequences. Traditional grazing practice contributes to the land degradation. Slopy lands are not poor in terms of phosphorus and potash contents; however, it is severely poor in nitrogen content. Soil conservation measures have not been initiated in such slopy lands leading to severe erosion each year. This cropping pattern not sustainable anymore. There is the urgent need to initiate practices like erosion control, conservation of nutrients in the soil, using land scientifically and making provision of irrigation to make mid hill slopy lands more productive and sustainable. Planting plants with good anchorage root system, for example grass species, in the eroded slopes could help recover eroded land. Soil erosion control measures should be taken in the danger zones to control further damages. Legume species fodder trees on the terrace risers should be planted to control soil erosion and as source of protein fodder with subsidiary effect on soil fertility improvement.

**Keywords:** Cropping pattern, slope, sustainability, *Zea mays*