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The staff of the Mae Hat Watershed Management Unit (WMU) in Om Koi explains that the WMU has a government budget to provide each of 44 households per year with 10,000 baht to make terraces, provided that they give up the cultivation of sloped land in the proportion 4:1 (four plots of rotation land in exchange for one plot of terraced land)<sup>18</sup>. However, 44 households is a small percentage of the upland farmers in the district. The village head of Mae Larn Noi expressed disappointment that his village had not yet been able to secure such support. An additional constraint is that the support is sufficient only for the construction of terraces and not for the irrigation infrastructure. In Soplarn village, five households had received the WMU support. A focus group discussion suggested that dozens of households are interested in expanding terraced cultivation further from the river, to compensate for their loss of paddy land during flash floods.

In Nan, the Provincial Administrative Organisation (PAO) allocates budget to support the conversion of slope land to terraces by providing tractor power and pipes for irrigation (CODI 2009). The support is managed by the WMU<sup>19</sup>. Pang Yang village had received such support as a compensation for their loss of agriculture land to tree planting a decade ago. However, some farmers said they had not yet been able to secure pipes for irrigation, and could not yet cultivate crops on the terraces.

The village discussions on adaptation needs also addressed the issue of water scarcity during the dry season. Many of the interviewees had noted decreasing water levels in the streams during dry season. In Soplarn village, farmers found the water shortages puzzling, as they claimed that there had been no changes in forest cover or land use upstream during the past decade. There were divided opinions among villagers regarding the risk of future water shortages. A common perception was that the water would be enough if only they had satisfactory infrastructure for water storage and irrigation. However, especially the village heads have been more concerned, asking for support with analysis regarding changing rain patterns and availability of water.

Lebel, L. et al. (2009) point at the need for attention to the consequences of expanding irrigation: “Changes in flood regimes may interact with agriculture decision-making in complex ways as farmers try to adapt to changing risks of water shortage and excess, and thereby alter runoff, groundwater recharge and return flows to rivers from their fields”.

The second purpose of slope land cultivation is for income generation. In Pang Yang village, the farmers told us that they recognize the risk of erosion involved in hybrid maize production on the slopes. The village meeting, which discussed adaptation to climate change scenarios<sup>20</sup>, ranked finding alternative sources of income as their number one priority for adaptation and development. Farmers claim that it is

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<sup>18</sup> Interview December 2012

<sup>19</sup> According to interview with an officer of the Agriculture Department of Nan Province (September 2012)

<sup>20</sup> In Pang Yang village the scenario discussions were organized in cooperation with Recoftc – The Regional Centre for People and Trees, Bangkok.















