

Participatory approach in the development of technologies to control erosion for sustainable cassava production in Thailand

Watananonta W.1, Vongkasem W.2, Klakhaeng K.2 and Howeler R.3

¹Field Crops Research Institute, Dept. Agriculture, Chatuchak, Bangkok 10900 Thailand

²Field Crops Promotion Division, Dept. Agricultural Extension, Chatuchak, Bangkok 10900 Thailand

³CIAT Cassava Office for Asia, Dept. Agriculture, Chatuchak, Bangkok 10900 Thailand

Abstract. During the first 2-3 months of cassava canopy establishment, part of the soil remains exposed to the direct impact of rainfall, which can cause serious erosion. Complete canopy closure in a cassava crop takes a long time. If farmers do not apply fertilizer to cassava, soil fertility may decline while plant nutrients in the soil may be lost due to erosion when the crop is grown on slopes. Although nutrient extraction and removal by cassava tends to be less compared with many other crops, soil loss due to erosion may be higher because of the crop's slow initial development. Past research has shown that fertilizer application, reduced tillage, contour ridging, mulching, intercropping and the planting of contour hedgerows can greatly reduce erosion. Nevertheless, farmers seldom adopt such soil conservation practices, mainly because the recommended practices are not suitable for the local conditions. They may be too costly or require too much labor, or they may be ineffective. Moreover, farmers are often not aware of the amount of soil lost

by erosion. Results of the farmer participatory research (FPR) project in various pilot sites in Thailand indicate that farmers should make their own decisions, and that they are willing to adopt soil conservation practices such as the planting of contour hedgerows of vetiver grass or legumes, if these were shown to be effective in reducing erosion. The use of a farmer participatory approach was very effective as many farmers readily adopted the selected practices and also helped disseminate these to farmers in neighboring communities. The selected practices would be well-adapted to the local conditions if the farmers made their own decisions and were directly involved in the development of new technologies by planning and implementing the trials together. This is of fundamental importance for enhancing the sustainability of cassava production.