

IN SITU CONSERVATION OF MILPA LANDRACES IN YUCATAN, MEXICO

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For centuries Maya farmers have maintained a rich genetic diversity of maize, bean, squash and chili within their “milpa” or swidden agricultural system. The rural population in the Yucatan today is still highly dependent upon milpa crop production for self consumption. This diversity is decreasing due to government modernization programmes, population pressure, and environmental changes. Social-cultural, ethnobotanical, agronomic, genetic and ecological studies were implemented to understand the extent and distribution of the remaining diversity of these crops and the processes and reasons used to maintain this diversity in Yaxcaba, Yucatán. This included gaining an understanding of how farmers name and manage local landraces together with agromorphological characterisation and isozyme markers, studies on gender and economic household activities, rural food processing and consumption characteristics, and bromatological analysis. Participatory breeding methods have also been used to reinforce *in situ* conservation on farm procedures including mass selection and limited back cross breeding systems in maize and recovering genetic diversity of traditional landraces like Nal-Tel seeds. Farmers classify landraces taking account morphology by growth cycle and grain colour, both of which are reflected in Mayan landrace names. Fifteen local varieties of maize were recorded, three landraces of squashes, six from beans and eight from chile. Farmer criteria is an important factor for conservation of landraces and adding value in any participatory breeding procedures.