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On-Farm Rice Diversity and Farmers' Preferences to Varietal Attributes in Ayeyarwady Delta, Myanmar

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Abstract

Crop genetic resources are the corner stone of sustainable agricultural development as these can be used to improve crop varieties adaptable to heterogeneous environmental conditions. Myanmar is one of the centers of genetic diversity of rice and there are still many landraces present in the country. Moreover, the diversity of *Oryza sativa* in Myanmar is the highest in Southeast Asia. The main objectives of this survey were to identify the current varietal diversity of monsoon season rice in Ayeyarwaddy delta, the rice bowl of Myanmar, and to assess farmers' preferences for rice varietal traits. A total of 150 respondents were randomly selected from five townships, namely, Bogale, Mawlamyinegyun, Labutta, Myaung Mya, and Pathein, in Ayeyarwaddy region. The survey questionnaires included data on rice varieties grown, major problems in rice production and associated socio-economic characteristics. Farmers' preferences on rice varietal traits were measured by using 24 important traits, which were scored from 1 (extremely important) to 3 (not important). Almost 83 percent of the sampled farmers cultivated more than one variety per season. Growing several varieties per season serves as a function of risk management and for resilience to diverse weather conditions. Varietal diversity was higher in areas affected by salinity and there was no correlation between farm size and levels of varietal diversity. The diversity on-farm was high since 39 different rice varieties were found. Among those 39, farmers mostly grew Pawsan varieties, Mee Shay, Ayeyarmin, Manaw, and Madama, as top five varieties. Fifty two percent of total cultivated land in sampled villages was occupied by Pawsan group, therefore, those Pawsan varieties are of high importance in the Ayeyarwady delta. The farmers ranked the varietal attributes according to their preferences in the following order: i) high market demand, ii) high yield with less inputs, iii) resistance to insects/diseases, iv) high milling recovery, and v) less broken rice. Understanding farmers' preferences would also increase variety diversification.

Keywords: Farmers' preferences, Myanmar, rice, varietal diversity

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