

Natural and Artificial Rehabilitation of Degraded Soils (*Mal*) of Pohnpei island, FSM

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ABSTRACT

"*Mal*" is the Pohnpeian word for barren or degraded soil, too poor to support crop growth and occupying at least 15% of land in Pohnpei. It has been controversial whether these *mal* soils could be made productive. This study aimed at determining whether there has been some rehabilitation of *mal* soils. It was hypothesized that some *mal* of Pohnpei have been transformed both naturally and artificially into productive soils.

Six methods were employed in the study: 1) literature search, 2) local interviews, 3) studying photographs of lands taken different years, 4) field visit to *mal* lands, 5) greenhouse studies to assess fertility of *mal* and non-*mal* soils, and 6) laboratory analyses of the soils. Literature search showed degraded soils being rehabilitated while local interviews showed mixed results. Nevertheless, there are locals who confirmed that Pohnpeian *mal* soils have been made productive by natural and artificial means, which is supported by photographic evidence. Field visits also show *mal* land in transition – changing from a fern, to a grass/fern, then a grass, and finally a forest area. Greenhouse studies confirmed that the *mal* (fern) area is less fertile and productive than a forest area that was previously a *mal*. Soil analyses are ongoing to support findings from the greenhouse study.

Awareness campaigns are now needed to inform the villagers to prepare them on how to transform their *mal* to productive soils.

Key Words: "*Mal*", land rehabilitation, Pohnpei, Micronesia