



Medicinal Plants and Traditional Knowledge in the Northern Mariana Islands

Dilip Nandwani^{1, 3}, Julita A. Calvo², Jack Tenorio¹, Felix Calvo¹ and Lourdes Manglona²

¹ Cooperative Research, Extension and Education Service, Northern Marianas College, PO Box 501250, Saipan, MP 96950, Northern Marianas Islands

² Department of Community and Cultural Affairs, Rota, MP 96951, Northern Marianas Islands

Corresponding author email: dilipnandwani@yahoo.com

Abstract

Introduction and Objective: The Commonwealth of the Northern Mariana Islands (CNMI) is located in the Western Pacific and consists of 14 islands with a total dry land area of 176.5 square miles. The three major inhabited islands are Saipan, Tinian, and Rota, which comprise about 90% of the total landmass, and accommodate the entire population of 70,000 residents. There are two native ethnic communities in the CNMI, the Chamorros and the Carolinians, both accounting for about 50% of the islands population. In these islands plants have been very important resources for the medicinal purposes for native ethnic communities. The Northern Marianas College Cooperative Research, Extension and Education Service (NMC-CREES) is undertaking research on medicinal plants through scientific research. The purpose of the current study is to record plants that have been used traditionally for medicinal

<http://www.e-conference.elewa.org/agriculture>.



purposes and to identify other plants in the islands that have been recognized and reported elsewhere in literature. These plants will be explored for the utilization of their potential to benefit of farmers and communities in the CNMI. Some examples of traditional Chamorro and Carolinian knowledge and uses of plants with medicinal value is provided.

Methodology and Results: Three island locations, Saipan (Main Island), Rota and Tinian, were selected for the present study, which are highly significant in terms of biodiversity and as sources of medicinal plants for local communities and traditional healers. Continuous field trips were undertaken to the study areas and people in the community were interviewed on how they use the plants for medicinal purposes. Photos of plants and plant parts were taken and documented. About seventy promising plants have been identified for their medicinal value and cultural uses in the CNMI. These include *Morinda citrifolia* ('Ladda'), *Canavalia megalantha* (Akanakan), *Colubrina asiatica* (Gso'so), *Premna obtusifolia* (Ahgao), *Erythrina variegata* (Gaogao), *Phymatodes scolopendria* (Kahlao), *Cassia occidentalis* (Tumaga), *Asplenium nidus* (Korason galak), and *Peperomia mariannensis* (Potpopot). Traditional Chamorro and Carolinian medicines contain plant materials from single or more plant species. Investigations are ongoing on the types of plants or combinations of plants, or plant parts are suitable for various medicinal preparations. Traditional knowledge about medicinal plants is passed down from generation to generation generally within the immediate family by word of mouth, always to selected individual(s) in the family. Because of the changing family structure, new lifestyles, increased spread of modern synthesized medicines and hospital based medical care, knowledge and skills in

<http://www.e-conference.elewa.org/agriculture>.



traditional medicine is disappearing rapidly and is in danger of extinctions.

Findings: The valuable attributes or roles of medicinal plants are easy to define. Besides medicinal values and cultural identity, some of the plants that have been identified have nutritional values, including commercial potentials in the local markets. Some are traditionally consumed or used by local community as specialty crops or products, local value-added products, while others have potential for export and tourism marketing. Factors that affect productivity and enhancement of the medicinal plants in the CNMI include the lack of information and knowledge of propagation, lack of protection from insect pests and diseases, poor and lack and poor quality of planting materials, natural disasters, droughts and typhoons, switch in food preferences from traditional foods to imported foods, insufficient water resources, high production cost due to increased labor and management, dwindling economy, urban lifestyle and changes in diets.

The survey that was conducted has helped in bringing to light the uses of plant species whose utility and potential are little known. The study has also increased awareness about the role of the community in the conservation and protection of medicinal plants. To meet the challenges and to overcome constraints associated with exploitation of medicinal plants, NMC-CREES is implementing programs on the production of disease free and high quality planting materials propagated through tissue culture, clonal propagation of 'elite' genotypes, *in situ* and on-farm conservation and protection from plant pests and diseases. Government policies and strategies are needed to promote the dissemination of information on medicinal plants and the sharing of traditional knowledge.