

Chapter 2

Ethnobotanical Wealth of Home Gardens

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ABSTRACT

The use of ethnomedicinal plants of home gardens has played an important role in treating minor illnesses related to physical and psychological wellbeing among rural folks. Local healers often use plants from their home garden or nearby forest. In this chapter, the traditional uses of medicinal plants using various tools with sample data have been used to facilitate ethnobotanical research on home gardens. Samples measuring the relative importance of species through quantitative analysis are tabulated. These tools, if applied during in-situ data collection, would help generate reliable information on characteristics of home gardens and medicinal plants. Conservation of medicinal plants from the perspective of home gardening is important. To document how medicinal plants are used to treat different diseases, their use value and ethical considerations would be significant for bioprospecting of medicinal plants and protecting intellectual right of the associated traditional knowledge.

INTRODUCTION

Home gardens are limited, terraced lands available for sustenance farming to every house-hold in the village of the Himalayan region. They usually vary in size (Agnihotri et al., 2004; Ali, 2005; Barbhuiya et al., 2016), with rich floral composition (Bargali, 2016; Rana et al., 2016; Singh et al., 2014; Yang et al.,

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2014). Medicinal plants and their products are frequently used by the local healers or by elderly people in a family. Also, for many healers, this practice is part of their livelihoods and community service. Using medicinal plants and their products available within their home garden or from nearby forest against minor illnesses during rituals are common among people living along the foothills of Bhutan. Similar to home gardening is the culture of kitchen gardening, common in Nepal (Gautam et al., 2009; Shrestha et al., 2001; Subedi et al., 2006), Bhutan (Chetri et al., 2018; Tobgay, 2006) and many other parts of the world (Galluzzi et al., 2010; High & Shackleton, 2000; Inta et al., 2008; Kehlenbeck & Maass, 2004; Reyes-García et al., 2014; Yusuf et al., 2007).

The *home garden* is a land-use system that combines trees and crops, along with animals (Fernandes & Nair, 1986; Paembonan et al., 2018). It is an important site for *in situ* conservation (Trinh et al., 2003). Home gardens are found to have complex structures (Mesfin et al., 2009), traditionally with multifunctional roles and considered hotspots with regard to their importance in conserving genetic resources (Das & Das, 2005; Galluzzi et al., 2010). A traditional home garden is a typical practice of agriculture used by indigenous people for their own sustainability in a small area (Huai & Hamilton, 2009). Home gardens within a small area constitute annual crops while the wider lands have various species, including medicinal plants.

They contribute to income generation influenced by the mixture of plant species and the area of land. The economic contribution income ranges from 0% to 50% annually (Alam, 2011), 43.27% to 49.06% (Paembonan et al., 2018), and up to 54% (Trinh et al., 2003). According to Clarke et al. (2014), rural people with low income tend to choose garden plant species that they are knowledgeable with regard to edibility and medicinal uses as they have minimum access to urban market. Some of these plants are ornamental (Blanckaert et al., 2004). Home gardens are an important source of traditional medicines. The plants found in rural home gardens carry time-tested medicinal values and are used to treat ailments ranging from simple cuts to heart diseases (Rahman et al., 2013). Such an ethnobotanical wealth of home gardens practiced and passed down by elderly people and local healers from generation to generation must be documented with a sense of urgency.

While considerable research has been carried out on ethnobotany of home gardens in other parts of the world (Agelet et al., 2000; Alam, 2011; Chetri, 2019; Das & Das, 2005; Fernandes & Nair, 1986; Huai & Hamilton, 2009; Kala, 2010; Kala & Ratajc, 2012; Saikia & Khan, 2014; Shrivastava & Heine, 2005; Sthapit et al., 2006; Upreti et al., 2010; Vlkova et al., 2011; Vogel et al., 2004; Zimik et al., 2012), researching the socio-economic benefits of home gardens in enhancing local food production would be a significant contribution to food security among rural populations. These home gardens maintain the biological diversity of native and exotic as well as managed or wild species, and play an important role in improving the quality of life, economic and social welfare of people (Gautam et al., 2006; Rahman et al., 2013; Trinh et al., 2003) and food security (Marsh, 1998). As global food prices soar, there has been an increased emphasis on building local food systems and a need for research on the cost-benefit analysis of home gardening (Galhena et al., 2013).

The People, Place, and Plants of the Home Garden

The home garden is the most productive agroecosystem, with soil organic carbon and nutrient concentrations significantly higher than all other forest or agricultural land uses (Singh et al., 2008). In Kumaun Himalaya common locations for gardens in relation to house are backyards, front yards, side yards, and those that almost encircle the house (Bargali, 2015).

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