

High Altitude
Medicinal Plants of Bhutan
An Illustrated Guide for Practical Use

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Phurpa Wangchuk¹
Samten²
Ugyen³



Pharmaceutical and Research Unit
Institute of Traditional Medicine Services
Ministry of Health
Thimphu, Bhutan.

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- 1 Research In-charge
2 Pharmacognosist
3 Ethno-botanist

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PRU. Photo by : Sonam Dorji, PRU

***G.SO-BA-RIG-PA* IDENTIFICATION**

Mr. Jigme Thinlay, Senior Manpa, PRU.

Drungtsho Yeshi Dorji, In-house Adviser, PRU.

BOTANICAL IDENTIFICATION

Mrs. Rebecca Pradhan, Ecologist, RSPN, Thimphu.

Mr. Raling Ngawang, Chief Forest Officer, Botanical Park,
Lampere, Thimphu.

EDITORS

Mr. Dorji Wangchuk, Director, ITMS

Mr. Tashi, Quality In-charge, PRU.

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FOREWORD

g.so-ba-rig-pa medical tradition is one of the important cultural heritages of Bhutan. It provides primary health care to the people and at the same time facilitates income generation to the rural farmers of Bhutan through collection and cultivation of medicinal plant programs. It can also provide basis for Bio-prospecting initiatives in Bhutan. Therefore, it is important that this unique medical system is preserved, protected, promoted and developed for the benefit of a country and the people.

Although the Bhutanese traditional medical texts describe the use of more than 2000 medicinal ingredients, the Institute of Traditional Medicine Services uses only 267 medicinal raw materials in the current formulation of 98 traditional herbal compounds. Out of these about 201 are medicinal plants. Therefore, it is very important that these ingredients are properly identified, described and sustainably utilized for the benefit of the Bhutanese people.

This book contain illustrations of only 116 high altitude medicinal plants and I am sure there will be another set of publications describing the remaining low altitude medicinal plants of Bhutan. I have no doubt that this publication will be a valuable resource for students, herbalists, researchers, and others who are interested in medicinal plants and their use in treating diseases.

Finally, I appreciate the efforts put in by the authors from the Research and Development Section of the Pharmaceutical and Research Unit. I also like to congratulate the staff and the management of ITMS in bringing out this first of its kind book publication.



(Dr. Dorji Wangchuk)
Director General
Ministry of Health

ACKNOWLEDGEMENT

The Institute of Traditional Medicine Services (ITMS) appreciates the initiative of Research and Development Section under the Pharmaceutical and Research Unit (PRU) in bringing out this first of its kind publication on “High Altitude Medicinal Plants of Bhutan”. Therefore, we would like to congratulate the authors and all those staff who were involved in the preparation of this publication.

The ITMS would also like to acknowledge the contributions of Dr. Paulo Morrisco, Ms. Rebecca Pradhan, Mr. Sonam Tshering, Dr. Lungten Dorji, Drungtsho Yeshi Dorji and Mr. Jigme Thinlay for assisting in the identification of g.so-ba-rig-pa and botanical names of the medicinal plants.

Mr. Ugyen Dhendup, Officiating Head of PRU, Mrs. Norbu Dolma and Mrs. Tsheing Zam also deserve special mention for their zeal and support.

Some of the beautiful photographs included in this book were taken by Mr. Dorji Thinlay, former Head of PRU and Mr. Tshitila, Head of the Medicinal and Aromatic Plants Section. We would like to acknowledge their contribution as well.

The support and guidance given by the members of the Traditional Medicine Research and Development Committee is gratefully acknowledged.

I hope that this book will serve its intended purpose as reference for the practitioners and students of traditional medicines.



(Dorji Wangchuk)
Director

Institute of Traditional Medicine Services

ABOUT THE BOOK

This publication contains comprehensive pictorial illustrations and descriptions of 116 high altitude medicinal plants that are used in the unique Bhutanese traditional medical system. It briefly describes the *g.so-ba-rig-pa* and botanical names, family, habitat, distribution within Bhutan including the altitude ranges, part used and the uses of individual medicinal plants. These descriptions are being supported by the plant photographs. Thus, this book is truly an illustrated guide for field identification and practical use.

However, this book does not cover all the high altitude medicinal plants that are currently used in the formulation of Bhutanese traditional medicines. Those medicinal plants which were botanically unidentified and that have discrepancy in botanical names are omitted in this book. Present book also does not provide any plant description. All these information will be added in the future publications.

The medicinal plants described in this book were first identified by the Drungtshos based mainly on the *g.so-ba-rig-pa* text called “*dri-med-zhel-gong-zhel-phreng*” and their field experiences. These plants were then botanically identified by the experts of Forestry Training Institute, Taba in 1990s. Ms. Rebecca Pradhan, Divisional Forest Officer Mr. Sonam Tshering and Dr. Lungten were fully involved. Some of the species were later identified by the experts from Kew Garden, UK.

Besides, various other literatures especially Tibetan books on medicinal plants, Flora of Bhutan and the Flowers of Himalaya have been exhaustively referred, thus making the plants more authentic and error-free in their identification and illustration.

This book is divided into three main sections: Introduction, presentation of individual plant, and glossary of *g.so-rig* and bio-medical terms. The introduction captures the classification

of medicinal plants, their collection and utilization, and also the sustainability issues.

Index of *g.so-rig* and botanical names are given at the last along with the page number and this should guide the users into the plant of their interests.

I hope that this book will be handy and useful to students, teachers, herbalists, researchers and others who are interested in knowing about the medicinal plants of Bhutan. This book will also serve as the reference document.

While the uses described in this book may sound promising for diseases, we would like to discourage the use of medicinal plants for self medication. This is because some of them are **highly toxic**.

Finally, we would like to invite any kind of feedbacks, comments and suggestions for the improvement of similar publications in near future.



(Phurpa Wangchuk)

Research In-charge

Pharmaceutical and Research Unit

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