

Preface

The standards of public health vary widely from region to region and from country to country. Communicable diseases that many developed countries have long since forgotten are leading causes of death in developing countries. The inability of many to pay for basic health care and a lack of resource availability for those that are able to afford medical treatment are problems facing developing countries where large percentages of the population are below the poverty line. By analyzing the case of Bolivia, we seek to investigate the potential medical benefits natural biomaterials can have on the treatments offered in low-income countries. Biomaterials have been used for many years in the medical field to improve treatment outcomes with the current focus shifting from synthetic materials to natural materials, which are often less toxic and cheaper to produce.

Chapter 1 introduces the major health concerns in developing and developed countries as well as medical statistics by region, by socioeconomic status, and by government spending on health care. Various global initiatives taken to improve the state of global health is discussed, including successes of these initiatives and areas in need of improvement. The case of Bolivia is analyzed in terms of its own history, and as compared to world and Latin American averages. The history of biomaterials, both natural and synthetic, is discussed followed by an introduction to Bolivian natural biomaterials with potential medical applications. Chapters 2 to 7 present the backgrounds, benefits, and medical applications of barley, sugarcane, corn, sorghum, sunflower seeds, and quinoa, respectively. Chapter 8 delves into the feasibility of effectively translating previously mentioned biomaterials into health and medical benefits for Bolivia. This chapter reviews the struggle Bolivia faces and the balance it tries to maintain between traditional medicine and “healers,” on the one hand, and pharmaceuticals and conventional doctors on the other. An appendix introducing and listing a sample of traditional Bolivian medicinal herbs is included.

Natural biomaterials, obtained from locally grown sources, may be a source of medical treatment that is both safer and often easier to prepare and administer than

conventional treatments. This can be beneficial in countries seeking to reduce the price of medication. However, in countries like Bolivia where innovative research is limited and political, economic, and cultural considerations are complicated, the process of successfully integrating the use of biomaterials will require careful planning and thought.

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