

Chapter 22

Using Public Grants for Intrapreneurial Projects at a University: A Feasibility Study Example for the Medicinal and Aromatic Plants Research Center

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ABSTRACT

The purpose of this study is to present a condensed version of a feasibility analysis for the Medicinal and Aromatic Plants Research Center at a Turkish university, which is prepared for a grant application to a government agency. The center will conduct essential research and development, quality control, analysis, and testing operations to support the ecosystem. The aim of the center is to identify the yield and quality parameters of medicinal and aromatic plants and transform them into industrial raw materials such as herbal medicines, organic food, herbal cosmetics, etc. that can serve as alternative sources of sustainable income in various regions of the world. The chapter can function as a reference for comparable intrapreneurial intentions.

INTRODUCTION

Throughout history, human societies have commonly utilized medicinal and aromatic plants for the purpose of treating a diverse range of ailments. The utilization of plant-based food supplements and herbal medicines has surged in popularity in recent times due to their comparatively lower incidence of adverse effects in comparison to synthetic pharmaceutical products (Mehta et al., 2020).

In recent years, there has been a notable increase in the trade volume of medicinal and aromatic plants in Turkey and globally. This can be attributed to the rise in both supply and demand, which has

DOI: 10.4018/978-1-6684-8781-5.ch022

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historically followed the trade routes of silk and spices. Despite the significant potential of medicinal and aromatic plants, which currently dominate the global market with an estimated worth of 100 billion USD, the Turkish industry has yet to fully capitalize on this opportunity. It is anticipated that the worldwide herbal market will continue to expand and attain a value of 7 trillion dollars by the year 2050. China, Brazil, and Indonesia are the primary sources of supply. According to Panwar et al. (2018), the European region represents the most extensive market for herbal products in this geographical area.

The cultivation of medicinal and aromatic plants is prevalent across numerous European nations. Nevertheless, the regions where production takes place in these nations are relatively limited in scope. The cultivation of medicinal and aromatic plants in significant production areas has been a longstanding practice in China and India, with the extent of cultivation being contingent upon consumption (Karik & Tunçtürk, 2019).

The prominence of concepts such as food safety, herbal medicine, food supplement, and herbal cosmetics in the world has been effective in the widespread use of medicinal and aromatic plants. The use of medicinal plants (food additives, preservatives, colorants, tea, spices, natural cosmetics, food supplements, functional foods, etc.) has increased due to the increasing awareness of food safety and people's interest in natural life and natural products, and the dangers of indiscriminate use of chemicals. Compared to chemicals, it is preferred for the food and pharmaceutical industry as it does not form toxic residues according to the final products (Oluwafemi, Olawale, & Alagbe, 2020).

The employment of herbal-based drugs constituted over 40% of the pharmacological agents utilized in the early 1900s, however, this proportion experienced a significant decline to less than 5% during the 1970s. Subsequent to the 1990s, there has been a surge in the demand for natural products, leading to an upswing in the utilization of medicinal and aromatic plants within the pharmaceutical sector. Despite the developments in modern medicine and the chemical industry, the increase in the tendency of people to be treated with traditional and natural methods has also positively affected the production of medicinal and aromatic plants in recent years.

Research is being conducted in Turkey with the aim of developing novel cultivars of medicinal and aromatic flora. Studies on the development of varieties in medicinal and aromatic plants commenced comparatively later in comparison to other cultivated plant species. Hence, it is widely acknowledged that the diversity of species in medicinal and aromatic plants is comparatively limited. Today, breeding and variety development studies have gained momentum. As per Karik and Tunçtürk (2019), the development of products catering to the varying demands of producers and consumers leads to an improvement in the quality of products available in the market.

The contemporary surge in demand for medicinal and aromatic plants has necessitated the acquisition of raw materials, product development, quality control, and preclinical and clinical studies. These measures are essential for the utilization of these plants in various domains such as nutrition, human and animal health, and cosmetics. This situation highlights the necessity for the establishment of centers that will determine the cultivation of medicinal and aromatic plants, their safe use, determination of their quality, and their use in the field of health all over the world.

The global rise of ideas such as the adoption of a natural lifestyle, sustainable agriculture, and the consumption of safe and uncontaminated food has led to a growing inclination towards the utilization of medicinal and aromatic plants at both the national and local levels. Research and development studies on herbal production and cultivated plants have been carried out for many years in Türkiye. The acceleration of research on medicinal and aromatic plants in Turkey can be attributed to the emergence of novel concepts and the pursuit of value-added production in agriculture.

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