



The Cultivation of *Moringa Oleifera* is a Blessing for the World's Underdeveloped Rural Communities

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Abstract

The significant social impact of the Moringa tree has long been recognized and is now widely accepted worldwide. The tremendous social, environmental, and economic advantages Moringa provides for rural communities are only one of the many factors that make it recognized as "the Miracle Tree." One of nature's most powerful plants is the moringa tree, scientifically known as *Moringa oleifera* and native to Asia and Africa. Its seeds contain oil and may be used to cleanse water, and its leaves are unusually nutrient-dense. It is a drought-resistant plant that can give small farmers a year-round source of income. It can support the area by helping to improve the environment, combat malnutrition, and alleviate poverty among rural populations. Locals can make a sustainable income through the sale of the moringa they grow, as opposed to receiving aid. The immature pods, roots, and leaves are eaten, and farmers may sell them as vegetables or as dried herbs for medicinal purposes. The bark, pods, leaves, nuts, seeds, tubers, roots, and flowers of the moringa tree are all edible. These parts are all well-known for their enormous nutritional and therapeutic benefits [1]. Because the vitamins and minerals in the moringa leaves can be preserved for a considerable amount of time after drying, the dried moringa leaves and powder are used for a variety of nutritional and therapeutic purposes [2]. Most rural areas around the world deal with a few common problems that could contribute to poverty and slow development. The issues that rural populations frequently face include harsh climates, difficulty cultivating crops, poor soil quality and deforestation, poverty and economic constraints, population malnutrition issues, and a lack of clean drinking water. To deal with all of the aforementioned problems, these areas might not have access to the necessary resources or local growth. The moringa plant alone can cope with all the problems of a harsh climate, poor soil, poverty, malnutrition, drinking water problems, and poor resources [3]. Planting moringa trees is a simple way to improve the environment, fight malnutrition, open up a business and economic opportunities, and end rural poverty. Moringa, which is native to Africa and Asia, is one of nature's most potent plants. Its drought-resistant leaves are unusually nutrient-dense; its seeds yield oil and may be used to cleanse water; and it can give small farmers who grow it a year-round source of income. Most arid or semi-arid regions in tropical and sub-tropical climates support the growth of the moringa tree. Although it thrives between 25 and 35 C (77 and 95 F), it can withstand 48 C (118 F) in the shade and a light frost. Moringa thrives in direct sunlight and enjoys the heat. It can grow well in poor soil or marginal lands with minimal rainfall [4].

Keywords: Moringa Oleifera; Environment; Combat Malnutrition; Deforestation; Tubers

Introduction

Among rural populations, a moringa tree can combat malnutrition and health issues

Moringa is used for its miraculous qualities all over the world due to its well-known nutritional and medicinal benefits. Due to poverty, harsh desert climates, or other economic factors, the majority of the rural population may suffer from food scarcity or malnutrition. The moringa tree is known as "The Miracle Tree" due to its high nutrient content. Its leaves contain five essential vitamins and minerals (calcium, iron, vitamins A, E, and K), as well as a wealth of plant protein and fiber. Therefore, growing moringa offers a valuable source of nutrition and enhances the food security of rural communities. Due to its quick growth and superior nutritional value, it can be fed to animals. Topical uses for the skin and hair are also widely known, incredibly beneficial,

and healthy. Its use by women during pregnancy and the nursing stage has been well documented because it is a highly nutritious and medicinal plant [5].

Agricultural production is difficult in rural areas with a harsh climate

Because moringa trees are deep-rooted and tolerant of a variety of soils, they can grow almost anywhere in the world and thrive even in the harshest conditions. They are also resistant to drought and low watering. All other common plants and trees may find it difficult to thrive in such climatic conditions, but Moringa is known to thrive in them. As a result, it will be relatively simple, quick, and supported by the climate to plant Moringa trees. There may be another type of harsh climate that causes deforestation and desertification in areas with poor soil quality

and harsh climates. Arid or semi-arid regions cannot support the growth of conventional crops or vegetables. In some places, the growing human population may be accelerating deforestation and desertification. As the number of people in an area grows, the need for food increases, destroying potential farmland in the process. Because moringa grows quickly and easily and is supported by the environment, it can be used to establish mini forests and gardens and aid in the region's recovery from its two most serious problems, desertification and deforestation [3]. Not only can more trees benefit the environment by enhancing the soil and air quality, but they can also meet food needs. Therefore, this one tree may benefit the region's future vegetation, population, and environment.

Poverty and economic constraints

Rural areas are underdeveloped, and the general state of the population's financial status is poor. Due to poverty, the population's affordability is low, and they deal with a variety of additional issues. There are no companies, industries, or financial resources in the region for the general populace. Moringa is also an extremely fast-growing crop, reaching full maturity in just 9 months. Its leaves can be harvested just 6–8 weeks after planting and immediately regrow, so 6-8 weeks later they can be harvested again. Moringa trees are also perennial, so a single plant can be harvested twice a year, making it a fast-growing plant. This plant can support the stability and development of the local economy through a variety of beneficial commercial uses. Farmers can cultivate and market tree parts as fresh vegetables with a variety of uses. Fresh leaves and other parts of the plant can be bought and eaten raw or cooked. For dietary or medicinal purposes, leaves and other plant parts can be dried. Dried leaf and powder products have a longer shelf life. The dried plant parts used in traditional, alternative, and modern medicines can be sold for therapeutic purposes [2]. Local medical professionals can benefit from this industry of medicinal uses, which can also improve rural health standards. From the seed, the moringa seed oil is extracted and sold as a sweet liquid that can be ingested or applied topically. While extracting moringa oil from the moringa kernel, also called the peeled moringa seed, is its primary use, it is also used as a mast cell stabilizer or for its anti-inflammatory properties [6]. In addition to its seeds, this plant also has a kernel that is used to purify drinking water. This plant can be used to make low-cost water filtration and purification systems for the rural population that can support small populations in addition to its seeds, which are used to purify drinking water. Water purification with moringa seeds has the potential to be a lucrative enterprise and research opportunity [1]. Providing the locals with access to clean drinking water and establishing a small industry to meet their needs are two ways to address the issues. Poor rural areas may lack resources or any local development to address their problems because there are no significant businesses that can be supported in the area. The plantations, however, can offer research, agricultural, and financial

opportunities that are resource-efficient, low-maintenance, self-sustaining, and extremely advantageous in many ways. Moringa cultivation can therefore be done on a tight budget, even though it can produce a variety of high-quality businesses.

Conclusion and Suggestions

For health and wellness reasons, moringa has the potential to become one of the most well-liked superfoods, benefiting populations and opening the door for its eventual cultivation and economic benefits. Evaluating whether it is environmentally feasible to grow Moringa in underdeveloped rural areas is the first crucial part. After the area has been assessed for some factors, such as soil pH and texture, soil nutrient content, climate variables, and reachable water resources, planning for tree cultivation can assist with future plantation. Concerned individuals may assess the plant's potential local and commercial uses, including all possible products, domestic and commercial consumption, marketability, and resources for small and large-scale industries. Education in rural areas is necessary to raise public awareness of the many health advantages of moringa. Governments and other interested parties should support education about and preparation for the cultivation of this plant as necessary. These initiatives may have the potential to develop into sizable businesses that benefit the neighborhood, efficiently use resources, and ultimately benefit the economy, environment, and human population. The locals who most need it might benefit from the business, farming, and financial opportunities if moringa plants are grown in rural areas. Future small farmers will be able to trade the moringa they grow for a sustainable income, which is better for both the community and the environment.

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