

## Underutilized vegetable crops: The Nutritional Treasures

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### Abstract: -

Vegetables are the key component of balanced human diet and also the main drivers in achieving global nutritional security by providing nutrients, vitamins and minerals. This spectacular growth in vegetable production has increased and this was possible due to development of improved varieties/hybrids/ production and protection technologies through systematic research coupled with large scale adoption by the farmers.

### Introduction:

Vegetables are an important part of the human diet, yet only a limited number like tomato, potato, brinjal, onion and cabbage dominate our markets and kitchens. Alongside these common crops, there exists another group of vegetables that are extremely rich in nutrients but remain neglected and under-used.

These are known as **under-utilised vegetables**, sometimes called *minor, orphan, indigenous, or neglected vegetables*. They are traditionally grown by rural and tribal communities, mostly for self-consumption and rarely enter commercial markets.

### Why UnderUtilized Vegetables Matter?

#### a) Rich in Nutrition

Under-utilised vegetables are often

more nutrient-dense than commonly consumed vegetables. Many are rich in iron, calcium, vitamin A, antioxidants and dietary fiber. For example, drumstick leaves contain more iron and vitamin C than most leafy vegetables. They help fight malnutrition, anemia and lifestyle diseases.

#### b) Climate-Resilient and Low Input

Most under-utilised vegetables grow well in drought, heat, and poor soil. Their ability to survive in harsh conditions makes them ideal for climate-smart agriculture. They need fewer chemical fertilizers and pesticides, reducing the production cost for farmers.

#### c) Pest and Disease Resistant

Many of these vegetables have natural

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resistance to pests and diseases due to their genetic diversity and adaptability. This lowers the need for chemical sprays and helps protect the environment.

#### d) Short Duration and Suitable for Small Farmers

Several under-utilised leafy vegetables mature quickly and can be harvested multiple times. This makes them ideal for kitchen gardens, small farms and urban terrace gardens.

#### e) Medicinal and Functional Food Value

Many neglected vegetables have medicinal properties, supporting immunity, digestion, blood circulation and overall health. Their use in traditional medicine enhances their value.

#### Importance

- These crops provide diversification of diet leading to more balanced source of nutrients. These crops play a role in

keeping alive cultural diversity.

- These crops are adaptable to severe environment.
- They have potential to contribute to poverty eradication through employment and income generation.
- They provide crop diversification and global food security.

#### List of underutilized vegetables



Amaranthus leaves



Drumstick leaves

**Table 1. Underutilized vegetable crops and their nutritive value**

Amaranth leaves ( <i>Amaranthus spp.</i> )	Iron, calcium, vitamin A, vitamin C, folate, dietary fiber
Drumstick leaves ( <i>Moringa oleifera</i> )	Protein, vitamin A, vitamin C, calcium, potassium, antioxidants
Water spinach ( <i>Ipomoea aquatica</i> )	Iron, vitamin C, carotenoids, dietary fiber
Tindora / Ivy gourd ( <i>Coccinia indica</i> )	Vitamin A, C, dietary fiber
Turkey berry ( <i>Solanum torvum</i> )	Iron, calcium, antioxidants, flavonoids
Elephant foot yam ( <i>Amorphophallus paeoniifolius</i> )	Carbohydrates, vitamin B6, potassium, fiber
Parsnip ( <i>Pastinaca sativa</i> )	Carbohydrates, vitamin C, folate, potassium, fiber
Turkey berry ( <i>Solanum torvum</i> )	Iron, calcium, antioxidants, flavonoids
Pointed gourd ( <i>Trichosanthes dioica</i> )	Vitamin A, C, dietary fiber, magnesium
Ash gourd ( <i>Benincasa hispida</i> )	Water-rich, vitamin C, calcium, fiber



Water spinach



Spine gourd



Ivy gourd



Ash gourd



Elephant foot yam

## Features of underutilized vegetables/plants

Vegetables their distribution, biology, cultivation and use are poorly documented and have limited seed availability source

- ☛ These crops are limited to a specific geographical location and not commonly traded internationally
- ☛ The plants are acknowledged for indigenous use in local communities.
- ☛ Research, extension services, farmers, policymakers, and technology provider paid little attention

- ☛ It can be very nutritious, therapeutic medicinal, or other multiple uses
- ☛ Crops can be grown with minimal external investment

## Traditional and Regional Uses

Under-utilised vegetables have deep roots in local cuisines and traditional medicine. Tribal communities often use wild greens, tubers, and flowers for everyday meals. Dishes like Patrode (*Colocasia* leaves), Moringa leaf curry, Banana stem palya and Pumpkin flower bajji, show the rich culinary heritage

associated with these crops. Urban kitchens are now rediscovering these vegetables for their health benefits, leading to new recipes such as amaranth smoothies, moringa powder and taro leaf chips.

### Challenges in Promoting UnderUtilized Vegetables

- ⇒ Low Consumer Awareness: People are more familiar with common vegetables and hesitate to try traditional greens or unfamiliar vegetables.
- ⇒ Limited Market Availability: These vegetables rarely reach large markets due to small-scale production and poor supply chains.
- ⇒ Lack of Research and Improved Varieties: Very few improved or high-yielding varieties have been developed, reducing their popularity among farmers.
- ⇒ Perception as 'Poor Man's Food': Many under-utilised vegetables are associated with rural or tribal diets, limiting their wider acceptance.
- ⇒ Lack of Value-Added Products: Unlike tomatoes and potatoes, minor vegetables rarely undergo processing or packaging, reducing their economic potential.
- ⇒ Lack of desirable seeds and planting material.
- ⇒ Limited application of advance on-farm agro techniques: Limited application of

innovative and novel technologies such as biotechnology, plasticulture for enhancement of productivity.

### Conclusion

Under-utilised vegetables are hidden gems of our food system. Rich in nutrition, resilient to climate change and deeply rooted in traditional diets, they offer enormous potential for improving health, enhancing farmer income and strengthening future food security. With increasing awareness, supportive policies and market development, these minor crops can play a major role in sustainable agriculture and nutrition in the years to come.

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