



## Study of locally available leafy vegetables in daily diet

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### Abstract

Vegetables are the essential part of our daily diet, especially leafy vegetables which available everywhere and provide complete nutrition for leading healthy life. These are easily digestible, rich in minerals, vitamins, antioxidants and having medicinal properties. The present work aims to study and proper use of leafy vegetables in daily diet Shivamogga Karnataka. Total 12 different kinds of leafy vegetables belong to 10 genera and 7 families were explored and identified with their culinary uses in daily diet. Dominant family include Amaranthaceae represented by 4 species Brassicaceae and Apiaceae with 2 species whereas Fabaceae, Asteraceae, Lamiaceae and Moringaceae respectively with one species each. Leafy vegetables such as *Spinach oleracea*, *Amaranthus caudatus*, *Amaranthus dubius*, *Alternanthera sps*, *Moringa oleifera*, *Trigonella foenum*, *Anethum graveolens*, *Brassica oleracea var. capitata*, *Brassica oleracea var. acephala*, *Lactuca sativa*, *Coriandrum sativum* and *Mentha arevensis* were studied. The present work highlights the importance of incorporating leafy vegetables into daily diet for maintaining good health and preventing nutritional deficiencies.

**Keywords:** *Amaranthus*, diet, leaf, *moringa*, *spinach*, shivamogga, vegetables

### Introduction

The accelerated growth of the population worldwide results in growing levels of food in adequacy. To overcome this issue, food production needs to be enhanced to satisfy the food requirement of the growing population. In view of this, exploration, identification, and utilization of less known leafy vegetables could play a prominent role in alleviating the hunger of the world's expanding population further, traditional leafy vegetables, being highly nutritive play a crucial role during times of famine and poor harvest in ensuring food security. (K. T. Achaya 1994) [26]. Leafy vegetables play a vital role in maintaining a healthy and balanced daily diet. These vegetables, which include spinach, *Amaranthus*, cabbage, lettuce, and fenugreek leaves, are widely consumed due to their rich nutritional value and health benefits. They are excellent sources of essential vitamins such as vitamin A, vitamin C, and vitamin K, as well as minerals like iron, calcium, and magnesium. In addition, leafy vegetables are high in dietary fiber and low in calories, making them ideal for promoting digestion and maintaining a healthy body weight. (Shubhangini A. Joshi. 2010) [12]. Regular consumption of leafy vegetables helps in preventing various health problems such as anemia, heart diseases, and certain types of cancers. They also strengthen the immune system, improve vision, and support bone health. Many leafy vegetables contain antioxidants that protect the body from harmful free radicals and reduce inflammation. (Imathiu, S. 2021) [11].

Incorporating leafy vegetables into the daily diet is especially important in developing regions, where they are easily available, affordable, and form a significant part of traditional meals. They can be consumed in various forms such as salads, curries, soups, and side dishes, making them versatile and suitable for different cuisines. Therefore, including leafy vegetables in everyday meals is essential for ensuring proper nutrition and promoting overall health and well-being. Leafy vegetables are excellent sources of minerals such as iron, magnesium, calcium and potassium

along with vitamins B, C, E and K. Besides they are bestowed with phytonutrients such as Betacarotene, lutein, zeaxanthin, and Omega -3 fatty acids, which protect cells from injury and age-related problems. They are enriched in compounds that possess antidiabetic, anti-histaminic and anti-carcinogenic properties. Being enriched in folic acid, leafy vegetables fight Antioxidants in leafy green protect against various diseases by scavenging free radicals in our body. Due to the nutritional and therapeutic benefits of leafy vegetables, it can be explored as further herbal drugs and superfoods. (Usha Chandrasekhar (2002) [32]. Furthermore, leafy vegetables contain powerful antioxidants and phytochemicals that help in reducing inflammation and protecting the body from harmful free radicals. Their regular intake is also associated with lowering the risk of chronic diseases such as hypertension, cancer, and anemia. Despite their benefits, the consumption of leafy vegetables is often inadequate due to factors such as lack of awareness, seasonal availability, and improper cooking methods that may lead to nutrient loss. Therefore, it is important to educate people about the importance of including a variety of fresh, properly washed, and minimally cooked leafy vegetables in their daily diet. (N. P. Rao, & V. Reddy (2009) [31].

### Study Area

The present study was carried out in selected villages and semi-urban areas of Shikaripura in Shivamogga district and Hirekerur in Haveri district of Karnataka. These regions were selected due to their strong agricultural base and the common use of traditional food practices, including the consumption of leafy vegetables in daily diets. Shikaripura taluk lies in the Malenadu region, characterized by moderate to high rainfall, fertile soil, and favorable climatic conditions that support the cultivation of a wide variety of green leafy vegetables such as Spinach, *Amaranthus*, *Alternanthera*, drumstick leaves, and fenugreek. In contrast, Hirekerur taluk falls under a semi-arid zone with relatively

lower rainfall, where leafy vegetables are cultivated seasonally and are also sourced from local markets.

The population in both study areas consists mainly of rural households with diverse socio-economic backgrounds. Agriculture is the primary occupation, and many families grow leafy vegetables in kitchen gardens for daily consumption. Traditional South Indian dietary habits are prevalent, where leafy vegetables are incorporated into common dishes such as sambar, Palya, dal, and chutneys. These regions provide a suitable setting to study the consumption pattern, availability, and nutritional awareness of leafy vegetables among different communities. The comparison between the two taluks also helps in understanding how climatic and socio-economic factors influence the inclusion of leafy vegetables in the daily diet. Hence the present work has been taken to explore some important locally available leafy vegetables for their regular uses in daily diet.

## Materials and Methods

### Materials

Leafy vegetables samples: Spinach, Amaranthus, fenugreek leaves, coriander leaves, drumstick leaves, etc.

Questionnaire/Survey forms: To collect data on consumption patterns.

Notebook and pen: For recording observations.

Camera/Mobile phone: For documentation.

Internet and books: For collecting secondary data.

### Methods

The present work has been taken out to explore leafy vegetables and their role in our daily diet, in Shivamogga Karnataka. The present study on leafy vegetables in the daily diet was conducted using a descriptive survey method to understand consumption patterns and awareness among individuals. The study was carried out in selected rural and semi-urban areas, particularly in Shikaripura and Hirekerur

taluks, where the use of leafy vegetables forms an important part of traditional food habits. Both primary and secondary data were used for the study. Primary data were collected directly from respondents like house wives, elder women etc through a structured questionnaire, personal interviews, and observation methods. The questionnaire included questions related to the types of leafy vegetables consumed, such as spinach, amaranth, and fenugreek, the methods of preparation, awareness about their nutritional benefits, and factors influencing their intake such as availability, cost, and taste preferences. Secondary data were gathered from various sources including books, research journals, government reports, and online resources related to nutrition and dietary practices.

The tools used for data collection included questionnaire forms, notebooks, and mobile devices for recording responses. After data collection, the information was systematically tabulated and classified. Ethical considerations were maintained throughout the study by obtaining consent from respondents, ensuring confidentiality, and using the data strictly for academic purposes.

## Results and Discussion

In the present work, 12 different kinds of leafy vegetables belong to 10 genera and 7 families are studied along with their uses in dishes and nutritional benefits (Tabulated in Table-1).

Dominant family include Amaranthaceae represented by 4 species Brassicaceae and Apiaceae with 2 species whereas Fabaceae, Asteraceae, Lamiaceae and Moringaceae respectively with one species each. Leafy vegetables such as *Spinach oleracea*, *Amaranthus caudatus*, *Amaranthus dubius*, *Alternanthera sps*, *Moringa oleifera*, *Trigonella foenum*, *Anethum graveolens*, *Brassica oleracea var. capitata*, *Brassica oleracea var. acephala*, *Lactuca sativa*, *Coriandrum sativum* and *Mentha arevensis* were studied.

**Table 1:** List of leafy vegetables which are widely used in Shivamogga region.

Name of Leafy vegetables	Uses in Dishes	Nutritional Benefits
Red Amaranthus/Kempu Harive soppu	Used in stir fries, red amaranth dal, curries and sambar, Chapati, paratha etc. Fresh leaf juice mixed with masalas and curry was made (Bast saru) and eaten with Rggi mudde (Ball)	Rich in iron, high in vitamin A, good calcium content, antioxidants, high fiber, boosts immunity etc.
Methi/ Mentye soppu	Fresh Methi leaves used in Methi sabzi/curry, Methi paratha, Dal methi, Methi pulao. Dried leaves used in paneer butter masala and dal.	Helps to control blood sugar, good for heart health, aids digestion, anti-inflammatory, properties, rich in nutrients and other benefits.
Honagonne soppu	Fresh leaves mixed with moogdal or sprouts and eaten with roti and chapatis. Fresh leaf juice mixed with masalas and curry was made (Bast saru) and eaten with Rggi mudde (Ball)	The leaves are abundant in polyphenols, flavonoids, and vitamin C, (Beta-carotene) Vitamin A, and Vitamin E. Source calcium, phosphorus, iron, magnesium and fibers.
Dill/Sabaske soppu	Dill leaf curry used in soppu palya /bhaji, dill dal, dill paratha/ roti, rice dishes, soups etc. Fresh leaf juice mixed with masalas and curry was made (Bast saru) and eaten with Rggi mudde (Ball)	Rich in calcium, supports heart health, good for digestion, antioxidant properties, contains essential nutrients etc.
Spinach/Palak soppu	Used in Palak curry/sabzi, palak paneer, dal palak, palak paratha, soups and smoothies etc.	High in iron, rich in vitamin A, boosts immunity, good for bones, heart health, high fiber etc.
Moringa leaves (Nugge soppu)	Moringa leaves are highly used in Indian cooking. It is used in making dal, sambar, palya, paratha, soup, chutney, pakora and in powders dry leaves etc. Fresh leaf juice mixed with masalas and curry was made (Bast saru) and eaten with Rggi mudde (Ball)	It is rich in vitamins such as vit A, C, E, high in minerals (calcium, iron, potassium), good source of protein, powerful antioxidants, boosts immunity, supports digestion and to control blood sugar etc.
Green Amaranthus	Used in tempering (Tadka), curry leaf chutney, curry leaf rice, curry leaf powder, soups and herbal drinks etc.	Rich in iron, antioxidant properties, improves digestion, supports heart health, good for hair and skin, contains vitamins (A, B, C and E) etc.
Cabbage/Yelekosu	Used in stir fries (palya/poriyal), cabbage paratha, cabbage	Rich in vitamin C, high in fiber, supports heart health,

	curry, soups, salads and coleslaw, snacks etc. Fresh leaf juice mixed with masalas and curry was made (Bast saru) and eaten with Rggi mudde (Ball)	good for weight loss, contains vitamin K, antioxidants etc.
Broccoli	It can be used in many everyday dishes such as salads, stir fry dishes, curries, soups, Pasta and noodles, Fried rice, paratha/fritters, Casseroles/ baked dishes etc.	Rich in vitamins (vit C, K, A), High in minerals such as calcium, iron, potassium. Good source of dietary fiber, powerful antioxidants, supports heart health, helps in weight management, boosts immunity, supports bone health and may help in disease prevention.
Coriander/Kottambari soppu	Fresh coriander leaves used in Garnishing, chutney, salads, soups and juices (used or aroma and taste).	Rich in antioxidants, aids digestion, supports heart health, helps in detoxification, good for skin and eyes, contains essential minerals etc.
Mint /Pudina soppu	Used in chutney, mint rice, biriyani and pulao, drinks, salads and raita, soups etc.	Aids digestion, cooling effect, boosts immunity, relieves nausea, freshens breath, contains nutrients etc.
Lettuce/Lettuce soppu	Mostly used in salads due to its crisp texture, acting as a crunchy, low carb vehicle for wraps, a fresh topping for burgers and tacos, or a nutrient dense addition to smoothies and soups etc.	Lettuce is highly hydrating (95% water), low calorie leafy green rich in vitamins A, K and folate, which support bone health, immune function, and vision. It aids in weight management, improves digestion due to fiber, and provides antioxidants that promote heart health and reduce inflammation.

**Table 2:** List of leafy vegetables Shivamogga

S. No	Plant Name	Scientific Name	Family	Uses
1	Red Amaranthus	<i>Amaranthus caudatus</i>	Amaranthaceae	Leaves help in boosting digestion.
2	Methi/Mentye soppu	<i>Trigonella foenum</i>	Fabaceae	Leaves used in curries, paratha. Seeds used as spice.
3	Honagonne soppu	<i>Alternanthera sps</i>	Amaranthaceae	Leaves used in curries
4	Moringa leaves	<i>Moringa oleifera</i>	Moringaceae	Used in sambar, curries etc.
5	Dill/Sabaske soppu	<i>Anethum graveolens</i>	Apiaceae	Used in soups, curries, helps in digestion.
6	Spinach/Palak soppu	<i>Spinacia oleracea</i>	Amaranthaceae	Used in palak dishes, soups, rich in iron and vitamins.
7	Green Amaranthus	<i>Amaranthus dubius</i>	Amaranthaceae	Used as leafy vegetable.
8	Cabbage Yelekosu	<i>Brassica oleracea var. capitata</i>	Brassicaceae	Used in salads, curries etc.
9	Broccoli	<i>Brassica oleracea var. acephala</i>	Brassicaceae	Used in salads, good for digestion.
10	Coriander Kotambari soppu	<i>Coriandrum sativum</i>	Apiaceae	Leaves used for garnishing and chutney; seeds used as spice.
11	Mint/Pudina soppu	<i>Mentha arevensis</i>	Lamiaceae	Used in chutneys, drinks.
12	Lettuce	<i>Lactuca sativa</i>	Asteraceae	Used in salads, burgers etc.



**Fig 1:** Moringa Dal



**Fig 2:** Alternanthera curry



**Fig 3:** Cabbage curry



**Fig 4:** Red Amaranthus curry



**Fig 5:** Green Amaranthus curry



**Fig 6:** Dill curry



**Fig 7:** Brocoli curry



**Fig 8:** Spinach pulav.

## Conclusion

The study highlights that leafy vegetables play a vital role in maintaining good health and overall well-being. They are rich in essential nutrients like vitamins, minerals, and dietary fiber, which help in improving immunity, digestion, and preventing various deficiencies. Regular inclusion of leafy vegetables in the daily diet supports proper growth and reduces the risk of chronic diseases. Therefore, promoting the consumption of a variety of leafy vegetables is important for a balanced and nutritious diet, especially in everyday meals.

The regular consumption of leafy vegetables contributes significantly to improved digestion, better immunity and overall wellbeing. Iron rich leafy vegetables help in preventing anemia, especially among women and children. Similarly, calcium content supports bone health, while fiber aids in proper digestion and prevents constipation. Leafy vegetables play a vital role in maintaining a balanced diet and improving health. Encouraging their regular consumption can help address malnutrition and support a healthier lifestyle

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