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Gastronomic ethnobotany of traditional vegetables in Sewu Village, Surakarta, Central Java, Indonesia

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Abstract. *Hamid AT, Hafiffah AS, Agustina AT, Aulia AD, Safaraz BR, Setyawan AD. 2025. Gastronomic ethnobotany of traditional vegetables in Sewu Village, Surakarta, Central Java, Indonesia. Asian J Environ 1: 17-30.* The people of Sewu Village, Surakarta City, Central Java Province, Indonesia, use various types of plants to meet their daily needs, including food plants, namely vegetable plants. People process these plants as the main ingredient for cooking, drinks, cooking spices, and raw vegetables. This research aims to explain Traditional Ecological Knowledge (TEK) on various vegetable plants and the use and processing of vegetable plants for family needs in the Sewu Village, Jebres District, Surakarta City community. Intensive field research was conducted in December 2023 in Sewu Village, Jebres District, Surakarta City. This research uses mixed qualitative and quantitative methods with ethnobotanical and gastronomic approaches. The research results showed that from field surveys conducted directly and interviews with 65 respondents, there were 25 local vegetable species, representing 15 plant families commonly used by Javanese people in Sewu Village. The species *Amaranthus tricolor* (*bayam*) (RFC = 0.677), reflecting its significant cultural and ecological importance in the community. Also the species of *A. tricolor* (Bayam) had the highest Use Value (UV) of 0.062, indicating its central role in local cuisine, being used in various dishes like *sop* (soup) and *gudangan* (salad). These most used of plant parts are 32% leaves and 28% fruit. Cooked preparations predominated (88%), notably boiling and stir-frying for dishes such as sop, gudangan, and stir-fries; a smaller share were eaten fresh or used as condiments. Apart from that, most of the food processing carried out by the people of Sewu Village is processed by boiling.

Keywords: Central Java, homegarden, traditional ecological knowledge, use value

INTRODUCTION

The people of Sewu Village in Central Java, Indonesia, utilize various types of plants to meet their daily needs, particularly food plants, which include vegetables. These plants are processed into main ingredients for dishes, drinks, seasonings, and fresh vegetables. This research focuses on the Traditional Ecological Knowledge (TEK) of Sewu Village, Surakarta City, Central Java, Indonesia exploring the ethnobotanical use of vegetables and the gastronomic practices associated with them. The diversity of vegetable plants in the area is influenced by both environmental conditions and soil fertility, which are key components of gastronomic ethnobiology. Ethnobiology is the scientific study of the dynamic relationships among people, biota, and their environments (Kurniahu et al. 2021), while gastronomy involves not only food preparation but also how food is consumed in relation to local wisdom and plant welfare (Koufadakis and Manola 2020; Pakasi et al. 2023;).

In agricultural systems, the quality of vegetable crops can be affected by factors such as dehydration and drought, which cause crop yields to decrease or plants to perish. While proper planting methods, such as ensuring adequate water and fertile soil, are necessary for healthy crop yields, plant behavior may vary depending on species. The concept of quality in this context extends beyond productivity to include environmental sustainability and energy efficiency, contributing to sustainable food production (Sanchez et al. 2020). Vegetables are rich in fiber, vitamins, minerals, and various phytochemicals, all of which contribute to disease prevention, including digestive health, improved vision, and reduced risks of chronic diseases like cardiovascular disease, cancer, diabetes, and obesity (Dias 2019). Despite being categorized as traditional food, the consumption of vegetables remains essential in modern times due to their affordability, ease of preparation, and nutritional benefits, making them a valuable resource in contemporary lifestyles (Lopes et al. 2020).

The preservation of traditional knowledge regarding gastronomic ethnobotany is crucial to food sovereignty and security. Globalization and modernization are eroding traditional food practices, which can reduce younger generations' understanding of local food. Gastronomic ethnobotany not only sustains cultural practices but also strengthens the community's ties to its natural resources and supports sustainable living. Educating people, especially the younger generation, about this knowledge can help preserve these traditions for future generations (Nemeth et al. 2019). The more people understand gastronomic ethnobotany, the more they can incorporate these practices into daily life, supporting both personal

well-being and community sustainability. Such education will also help the community better appreciate the value of locally grown vegetables and their role in food security, contributing to long-term sustainability.

Gastronomic ethnobotany investigates how communities procure, select, and transform plants into everyday foods, weaving together local ecological knowledge, culinary practice, and nutrition. Across Indonesia and Southeast Asia, scholarship has extensively mapped medicinal ethnobotany and market ethnobiology; however, there remains a clear gap in village-scale studies that simultaneously integrate (i) procurement sources, (ii) plant parts used, (iii) preparation modes, and (iv) a quantitative metric of relative importance within a single analytic framework. This gap is particularly salient in urban–peri-urban Javanese contexts, where homegarden systems interface closely with market access and may shape routine culinary decisions. To address this gap without pre-empting the results, the present study is framed ex ante to document and analyze vegetable use in a single community through an integrated lens that links procurement, plant parts, preparation, and relative importance. The framing emphasizes conceptual and methodological clarity that enables a rigorous test of patterned culinary behavior grounded in local knowledge systems.

Based on the importance of preserving gastronomic ethnobo tanical knowledge, this study aims to explore the use, processing, and cultural significance of traditional vegetable crops in Sewu Village. The research will focus on identifying the types of vegetables used by the community and understanding their role in the daily lives of the villagers. By documenting this knowledge, the study aims to promote its preservation and highlight its potential benefits for the local community and beyond. Many of these plants are grown directly in the Homegardens of Sewu Village residents, contributing to the local food system and cultural identity. The research also seeks to shed light on how traditional practices can be integrated into modern sustainability efforts, fostering a deeper connection between the community and its agricultural heritage.

MATERIALS AND METHODS

Study area

Intensive field research was conducted in December 2023 in Sewu Village, Jebres Sub-district, Surakarta City, Central Java, Indonesia. Geographically, Sewu Village is located at 7°34'31.4 "S and 110°50'40.2 "E. It lies between 80-100 masl (meters above sea level). The Sewu Village covers an area of 48.5 hectares. The main source of income for the people of Sewu Village is traders, with other sectors involving civil servants and private employees. Sewu Village has a landscape of home gardens, rivers, and settlements along the Bengawan Solo River (Figure 1). It presents a site map that delineates village boundaries, the Bengawan Solo River corridor, and the distribution of residential blocks and homegarden clusters; the map includes a north arrow and scale bar for orientation.

Procedure

This study used a questionnaire to obtain information about the use of vegetable ingredients for food preparation and cooking within the Sewu Village community. Questionnaire-based data collection. A structured questionnaire was used to document four domains of household vegetable use namely (i) procurement source (homegarden, purchase), (ii) plant part used, (iii) preparation mode (e.g., cooked, fresh/condiment), and (iv) examples of dishes. Item types combined closed-ended questions (tick-box, multiple choice) and open-ended prompts for elaboration. The instrument was administered face-to-face in the local language by trained enumerators to ensure comprehension and completeness; a brief pretest was conducted to refine wording and flow. Participation was voluntary; respondents received an explanation of study aims, anonymity and confidentiality were assured, and community permission/ethical approval was obtained in accordance with institutional norms.

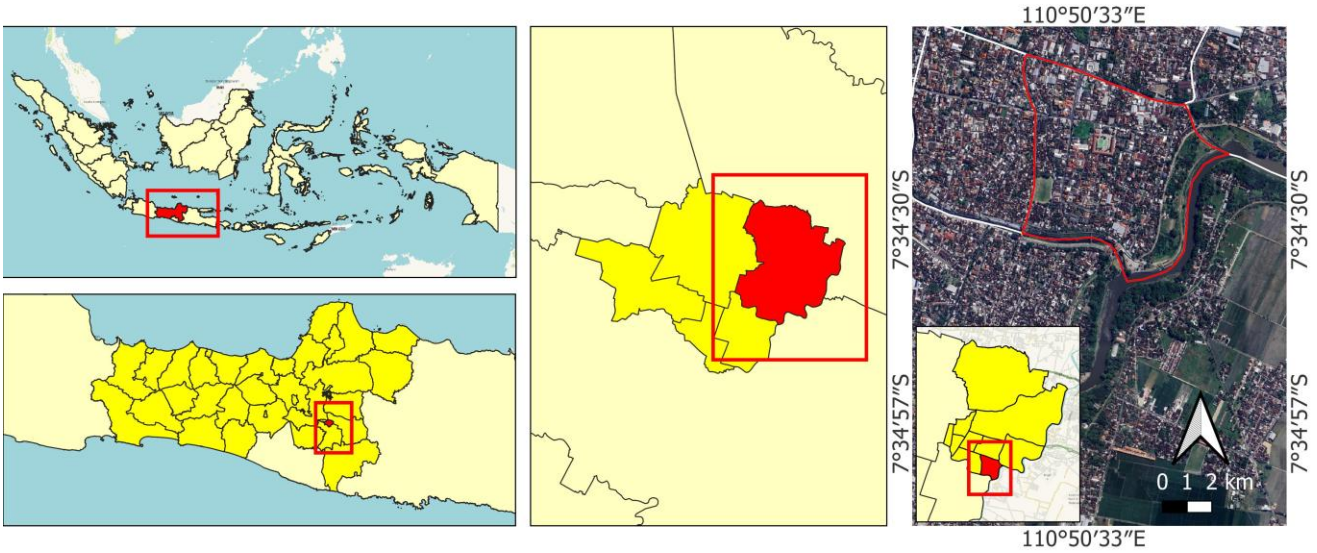

Figure 1. Location of Sewu Village, Jebres, Surakarta, Central Java, Indonesia

For sampling, we employed a random sampling technique, which involved selecting respondents without any predetermined criteria to ensure unbiased representation. This method helped capture a diverse range of perspectives across different demographic groups. Random sampling was specifically chosen to include a variety of individuals from various age groups and educational backgrounds, including both the younger generation and individuals unfamiliar with the culinary diversity of the Surakarta region. Operational definition of random sampling. Random sampling was implemented from a household sampling frame compiled from neighborhood (RT/RW) lists; households were selected using simple random procedures, and within each selected household, one adult respondent was randomly chosen using a Kish-grid style selection. This operationalization was adopted to avoid selection bias and to ensure representation across age groups and education levels present in Sewu Village.

This approach allowed us to gather a broad spectrum of information, ensuring that the sample accurately represented the overall patterns of vegetable use in the Sewu Village community. In total, 65 respondents participated, reflecting a wide range of ages and education levels. The goal of this broad sampling was to ensure that the findings accurately reflect the diversity of vegetable use and culinary practices within the community.

Data analysis

Ethnobotanical data analysis was conducted using two indices: Use Value (UV) and Relative Frequency of Citation (RFC). The UV index helps evaluate the benefits a species provides to local communities, while the RFC index assesses the local importance of each species.

Use Value

To estimate the measurement used to assess how valuable each species of vegetable plant as dishes for local people, Use Value (UV) was computed using the following formula (Bano et al. 2014):

$$UV = \frac{\sum U_i}{N}$$

Where:

UV : the use-value of a given species;

U : the number of uses of species mentioned by respondents, and

N : the number of informants who know the value per species. High UV indicates high-use reports for a plant important to the local community. Low UV indicates that there are few reports of its use (Torimbanu et al. 2024).

Relative Frequency Citation

RFC is used to assess the significance of a particular species in the daily uses of local communities, particularly in terms of its use for medicinal, nutritional, or ritual purposes. RFC was calculated with the following formula (Butt et al. 2015):

$$RFC = \frac{FC}{N}$$

Where:

FC : the number of informants who cite the species as having utility.

N : the total number of informants involved in the study.

RFC is calculated by dividing FC by N, yielding a value between 0 and 1. A value of 0 indicates that the species is not mentioned by any informants, while a value of 1 means that all informants acknowledge the species as useful. This index provides a clearer picture of the relative importance or dominance of a species in the local cultural and ecological context, and allows researchers to compare the relevance of different species within the studied community. The RFC index can also be used to identify species with high utility values within a community, and it aids in the management of natural resources by prioritizing species that hold significant cultural or economic importance.

RESULTS AND DISCUSSION

Local knowledge of vegetable crops

Vegetables consist of various plants cultivated or grown by the local community. In Sewu village, some people buy vegetable plants, and a small part is planted in their Homegarden. Survey results on 65 respondents from the Sewu Village community obtained results from many parts of vegetable plants consumed. From field surveys conducted directly and interviews with respondents, there are 25 vegetable species, representing 15 plant families commonly used by Javanese ethnic who live in Sewu Village. Based on the family, Brassicaceae is the family with the highest number of species (4), and Fabaceae (4), followed by Solanaceae (3), Apiaceae (2), Euphorbiaceae (2), then Caricaceae, Alliaceae, Amaranthaceae, Asteraceae, Cucurbitaceae, Convolvulaceae, Moringaceae, Lamiaceae, Pandanaceae, and Poaceae with one species each (Figure 2). The flowers, fruits, tubers, and leaves are used for cooking. In addition to being used as processed dishes, people also consume vegetable plants directly or use them as raw vegetables, such as basil (*Ocimum sanctum L.*), or just boiled to be used as a gudangan menu, such as *bayam* (*Amaranthus tricolor L. L.*), *gantung/pepaya* (*Carica papaya L.*), *kelor* (*Moringa oleifera Lam.*), *singkong* (*Manihot esculenta Crantz.*), and *kenikir* (*Cosmos caudatus Kunth.*). These vegetable plants can be harvested at any time and are very useful to be used as daily food ingredients. Vegetable plants are easy to maintain and require only less money to plant, and the most widely used by residents are *sawi* (*Brassica chinensis var. parachinensis L.*), kangkung (*Ipomoea reptans Poir.*), and bayam (*Amaranthus tricolor*).

The prominence of vegetable species from the Brassicaceae and Fabaceae families in Sewu Village is deeply intertwined with both the local habitat characteristics and cultural traditions. The Brassicaceae family, known for its leafy vegetables like mustard greens and cabbage, thrives in the temperate and fertile soils found in the gardens and fields surrounding Sewu Village. These vegetables are well-suited to the local microclimate, where

soil fertility and irrigation practices allow for year-round cultivation. The ease of growing these plants in home gardens aligns with the local cultural emphasis on self-sufficiency and sustainable living. In Javanese culture, the use of leafy vegetables in daily dishes is not only a nutritional practice but also a reflection of the community's longstanding agricultural traditions (Rahayu et al. 2024). These crops have become deeply embedded in local culinary customs, symbolizing values like resilience, prosperity, and health.

Similarly, species from the Fabaceae family, such as long beans and mung beans, are cultivated in the same fertile soils that support diverse agricultural practices in Sewu Village. Legumes are particularly valued for their nitrogen-fixing ability, which contributes to soil health and sustainability, making them an integral part of the agroecosystem (Gogoi et al. 2018). The cultural significance of legumes is reflected in their frequent use in traditional dishes such as Sops and stir-fries. These plants not only provide essential proteins but also reinforce cultural practices surrounding communal meals and shared family traditions, where food is often grown locally and prepared collectively.

In terms of habitat, both Brassicaceae and Fabaceae species thrive in the home garden agroforestry systems typical of Sewu Village. These systems mimic natural ecosystems by integrating diverse plant species that complement one another ecologically, fostering biodiversity. The village's reliance on home gardens for food production is a cultural practice rooted in the Javanese philosophy of harmony with nature, where agricultural practices are designed to maintain ecological balance. The growth of these plant families within this habitat reflects a deep understanding of local ecological systems, shaped by centuries of interaction between the community and its environment.

Thus, the high prevalence of Brassicaceae and Fabaceae species in Sewu Village is not only a reflection of the area's favorable agricultural conditions but also an expression of the local culture's enduring relationship with the land. These plants are emblematic of a sustainable food system that is both culturally significant and ecologically appropriate, deeply rooted in the village's traditions and the natural environment. The integration of these plants into the village's agroecosystem highlights the interconnectedness of habitat, culture, and agricultural knowledge, ensuring the continuity of local food practices while promoting environmental stewardship.

RFC (Relative Frequency Citation)

The Relative Frequency of Citation (RFC) values for the plants used in Sewu Village provide valuable insights into the cultural and ecological relevance of these species (Table 1). A close examination of the highest and lowest RFC values offers an understanding of which plants are deeply embedded in local culinary traditions, while also highlighting the ecological and cultural dynamics at play (Luo et al. 2024).

The plant species with the highest RFC values, such as *A. tricolor* (RFC = 0.677), *Brassica chinensis* (RFC = 0.538), and *B. oleracea var. capitata* (RFC = 0.462), are not only widely consumed in Sewu Village but also have global recognition for their nutritional benefits. *Amaranthus*, for instance, is globally valued for its rich protein, vitamins, and minerals, making it a common vegetable in many parts of the world (Jimoh et al. 2018). Its high RFC value in Sewu Village highlights its role as a staple crop, well-suited to local agroecosystems where it thrives in various soil types and climates. Similarly, *B. chinensis* and *B. oleracea* varieties are known for their cancer-preventing compounds and digestive health benefits, further aligning with global trends that emphasize the importance of these vegetables in promoting health and sustainability in diets (Xu 2018).

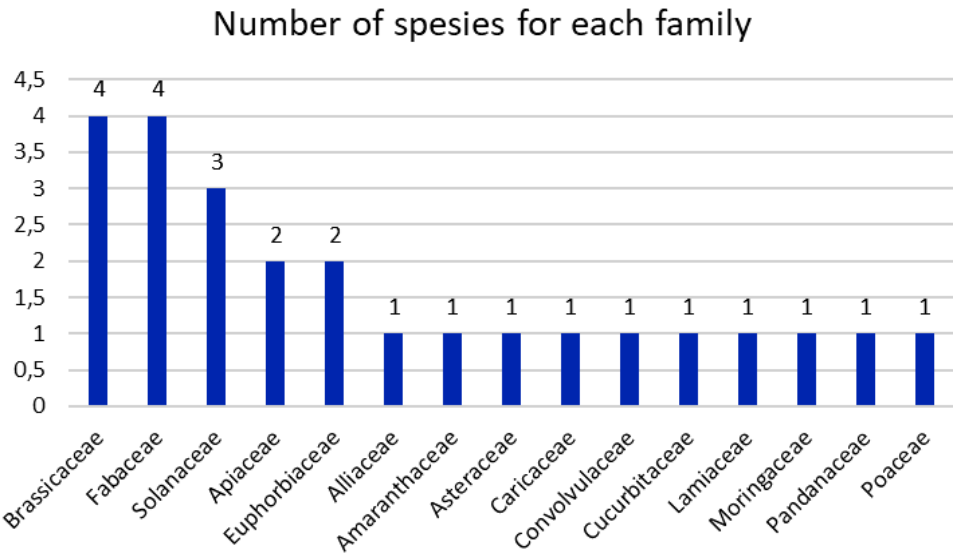

Figure 2. Number of vegetable species for each family findings

Table 1. List of plant species used as vegetables in Sewu Village, Surakarta

Family	Scientific Name	Local Name	Part Used	Main Use	Number of citation			RFC
					Purchase	Yard	Σ	
Alliaceae	*Allium fistulosum L.*	*Loncang*	Leaf, Stem	Cooked	0	1	1	0,015
Amaranthaceae	*Amaranthus spp. L.*	*Bayam*	Leaf, Stem	Cooked	39	5	44	0,677
Apiaceae	*Apium graveolens L.*	*Seledri*	Leaf, Stem	Cooked	2	1	3	0,046
Brassicaceae	*Brassica chinensis. var. parachinensis L.*	*Sawi*	Leaf	Cooked	35	0	35	0,538
Brassicaceae	*Brassica oleracea var. botrytis L.*	*Kembang kol*	Flower	Cooked, Fresh	3	0	3	0,046
Brassicaceae	*Brassica oleracea var. capitata L.*	*Kubis*	Leaf	Cooked	30	0	30	0,462
Brassicaceae	*Brassica oleracea var. italica L.*	*Brokoli*	Flower	Cooked	1	0	1	0,015
Solanaceae	*Capsicum frutescens L.*	*Cabai*	Fruit	Cooked	0	1	1	0,015
Caricaceae	*Carica papaya L.*	*Pepaya/gantung*	Leaf	Cooked	16	9	25	0,385
Euphorbiaceae	*Cnidoscolus aconitifolius (Mill.) I. M.Johnst.*	*Pepaya jepang*	Leaf	Cooked	5	9	14	0,215
Asteraceae	*Cosmos caudatus Kunth.*	*Kenikir*	Leaf	Cooked	14	0	14	0,215
Cucurbitaceae	*Cucumis sativus L.*	*Timun*	Fruit	Fresh	0	1	1	0,015
Apiaceae	*Daucus carota L.*	*Wortel*	Root	Cooked	25	0	25	0,385
Convolvulaceae	*Ipomoea reptans Poir.*	*Kangkung*	Leaf, Stem	Cooked	14	1	15	0,231
Euphorbiaceae	*Manihot esculenta Crantz.*	*Singkong*	Leaf, Tuber	Cooked	12	0	12	0,185
Moringaceae	*Moringa oleifera Lam.*	*Kelor*	Leaf	Cooked	8	9	17	0,262
Lamiaceae	*Ocimum sanctum L.*	*Kemangi*	Leaf	Cooked, Fresh	0	17	17	0,262
Pandanaceae	*Pandanus amaryllifolius Roxb.*	*Pandan*	Leaf	Cooked	0	1	1	0,015
Fabaceae	*Phaseolus vulgaris L.*	*Buncis*	Fruit	Cooked	3	0	3	0,046
Solanaceae	*Solanum lycopersicum L.*	*Tomat*	Fruit	Cooked	0	1	1	0,015
Solanaceae	*Solanum melongena L.*	*Terong*	Fruit	Cooked	23	0	23	0,354
Fabaceae	*Tamarindus indica L.*	*Asam*	Fruit	Cooked	0	1	1	0,015
Fabaceae	*Vigna radiata L.R. Wilczek*	*Toge/tokolan*	All parts	Cooked	1	0	1	0,015
Fabaceae	*Vigna unguiculata ssp. sesquipedalis*	*Kacang panjang*	Fruit, Stem	Cooked	2	0	2	0,031
Poaceae	*Zea mays L.*	*Jagung*	Fruit	Cooked	7	0	7	0,108

Ecologically, the widespread use of these species can be attributed to their adaptability to the local environment. *Amaranthus*, for example, thrives in disturbed lands, making it a resilient crop in both smallholder and home garden systems. Likewise, the versatility of *Brassica* species, which grow well in moderate climates, contributes to their regular inclusion in traditional meals (Francisco et al. 2017). The high RFC values of these species reflect the sustainability of local agricultural practices, where these plants provide both nutritional value and economic benefits to the community (Anwar et al. 2024).

In contrast, species with low RFC values, such as *Capsicum frutescens* (RFC = 0.015), *Cucumis sativus* (RFC = 0.015), and *Solanum lycopersicum* (RFC = 0.015), are used less frequently in the local diet. While these plants are globally recognized for their culinary popularity, their low RFC suggests that they are not as deeply integrated into Sewu Village's traditional food system. The limited use of chili (*Capsicum*), cucumber (*Cucumis*), and tomato (*Solanum lycopersicum*) may be attributed to local preferences for other ingredients or ecological factors such as water requirements. These plants may serve more as seasonal or complementary ingredients rather than staples in everyday meals.

From an ecological standpoint, these plants may face challenges in the local farming environment. For instance, chili peppers and tomatoes are both sensitive to temperature fluctuations and water availability, which could explain their limited cultivation in certain areas of Sewu Village (Abhayapala et al. 2018). Cucumber, similarly, requires adequate irrigation, and while it is widely grown globally (Rahil and Qanadillo 2015), its use in Sewu Village may be less frequent due to its secondary role in the local culinary tradition.

Culturally, the lower RFC values reflect a preference for locally abundant crops that are more suited to the local climate and traditional dishes. This is consistent with findings from other regions, where certain crops are more significant in global culinary traditions but are not as central in specific local contexts due to variations in agricultural practices and cultural preferences.

The RFC data from Sewu Village underscores the strong connection between local knowledge and the selection of plant species. The higher RFC values of *Amaranthus*, *Brassica*, and *Solanum* species reflect their cultural importance and adaptability to the environment, supporting the idea that traditional agricultural practices are crucial for food security and sustainability. Conversely, the low RFC values for certain species indicate a more niche role for these plants in the local diet, shaped by both ecological constraints and cultural choices. The comparison with global trends highlights how local food systems balance global knowledge and practices with region-specific needs and conditions.

UV (Use Value)

Based on the Use Value (UV) data of various vegetables used in Sewu Village, Surakarta, we can gain insights into the significance of these vegetables in local culinary practices, as well as their connections to cultural, social-economic, and ecological contexts (Table 2). The UV index indicates the frequency of use of each vegetable in local dishes, reflecting its importance in the daily life of the community.

Table 2. Use value from various vegetables commonly used for cooking ingredients

Local name	Scientific name	Name of dish	Number of use	UV
Loncang	*Allium fistulosum L.*	*Sop*	1	0,015
Bayam	*Amaranthus tricolor. L.*	*Sop, Gudangan, Oncom, Pecel*	4	0,062
Seledri	*Apium graveolens L.*	*Sop*	1	0,015
Sawi	*Brassica chinensis. var. parachinensis L.*	*Tumis sawi*	2	0,031
Kembang kol	*Brassica oleracea var. botrytis L.*	*Sop, tumis kol, capcay*	3	0,046
Kubis	*Brassica oleracea var. capitata L.*	*Sop*	1	0,015
Brokoli	*Brassica oleracea var. italica L.*	*Sop*	1	0,015
Cabai	*Capsicum frutescens L.*	*Bumbu sayur (spice), tumisan, sambal*	3	0,046
Pepaya/gantung	*Carica papaya L.*	*Tumis gantung, Gudangan*	2	0,031
Pepaya jepang	*Cnidoscolus aconitifolius (Mill.) I. M.Johnst.*	*Tumis dong (leaf) gantung*	1	0,015
Kenikir	*Cosmos caudatus Kunth.*	*Gudangan*	1	0,015
Timun	*Cucumis sativus L.*	*Tumis timun*	1	0,015
Wortel	*Daucus carota L.*	*Sop*	1	0,015
Kangkung	*Ipomoea reptans Poir.*	*Cah kangkung*	1	0,015
Singkong	*Manihot esculenta Crantz.*	*Gudangan, singkong godok*	2	0,031
Kelor	*Moringa oleifera Lam.*	*Gudangan*	1	0,015
Kemangi	*Ocimum sanctum L.*	*Lalapan*	1	0,015
Pandan	*Pandanus amaryllifolius Roxb.*	*Ager*	1	0,015
Buncis	*Phaseolus vulgaris L.*	*Tumis buncis*	1	0,015
Tomat	*Solanum lycopersicum L.*	*Sop, bumbu sayur (spice)*	2	0,031
Terong	*Solanum melongena L.*	*Terong balado*	1	0,015
Asam	*Tamarindus indica L.*	*Sop*	1	0,015
Toge/tokolan	*Vigna radiata L.R. Wilczek*	*Soto*	1	0,015
Kacang panjang	*Vigna unguiculata ssp. sesquipedalis*	*Tumis kacang panjang*	1	0,015
Jagung	*Zea mays L.*	*Sop, Jagung godok*	3	0,046

Amaranthus tricolor (*bayam*), with a UV of 0.062, is the vegetable with the highest value, used in multiple dishes such as sop, gudangan, oncom, and pecel. The high UV value of *bayam* signifies its central role in the local diet, due to its nutritional benefits, including vitamins, minerals, and antioxidants. This vegetable is integral to the local culinary tradition, as it is valued for its versatility and health-promoting properties, which are highly regarded in traditional Javanese cuisine.

On the other hand, *A. fistulosum* (*loncang*), with a UV of 0.015, has the lowest value, being used primarily in *sop*. The low UV value indicates that *loncang* plays a more peripheral role in daily meals, typically used as a garnish or flavor enhancer rather than as a core ingredient in various dishes. Despite its lower frequency of use, *loncang* still holds cultural significance in enhancing the taste of traditional dishes.

From a global perspective, many of the vegetables with high UV values in Sewu Village, such as *bayam* and *C. frutescens* (*cabai*), are widely recognized for their health benefits. *A. tricolor* (*bayam*) is well-known in America, Africa, and Asia for its nutritional richness and has recently gained attention in global efforts to combat malnutrition (Ruth et al. 2021). According to the Perumal et al. (2023), *A. tricolor* has the potential to contribute significantly to global food security, given its resilience to drought and ability to grow in poor soils.

Similarly, *C. frutescens* (e.g., *cabai*) is an essential part of the culinary traditions of tropical countries such as Indonesia, India, and Mexico. It is widely used in sambal, spices, and other dishes. Globally, capsaicin, the active compound in chili peppers, is linked to several health benefits, including anti-inflammatory properties and enhanced metabolism. Research has shown that capsaicin may play a role in weight management and digestive health, making Cabai a valuable component of healthy diets worldwide.

In contrast, vegetables with low UV values, such as *A. fistulosum* (*loncang*) and *V. radiata* (*toge*/*thokolan*), while less frequent in daily meals, still play essential roles in various global culinary traditions. For example, *V. radiata* is widely used in South and Southeast Asia in salads or as a garnish, adding both nutritional value and texture (Lim 2011). *A. fistulosum*, although used more sparingly, is a staple in East Asian cuisines, particularly in China, Korea, and Japan, where it enhances the flavor of soups and other dishes (McLean 2015).

Globally, while Use Value (UV) is not always calculated in the same way as in Sewu Village, several studies show the prevalence and popularity of vegetables with high UV values. For instance, ethnobotanical studies in India, Nigeria, and Brazil highlight the frequent use of *Amaranthus, Brassica,* and *Capsicum* species in local diets (Sahu et al. 2020), aligning with findings from Sewu Village. The high-UV vegetables are often recognized for their nutritional density and sustainability. These vegetables are commonly promoted in public health campaigns and are considered essential in plant-based diets due to their ability to combat chronic diseases and promote overall health.

A notable example is Broccoli, a close relative of *kembang kol* (cauliflower), which is widely recognized in Western countries for its high levels of vitamin C and antioxidants. In countries like the United States and Canada, Broccoli is often recommended as part of a healthy diet and has a high UV in these regions (Manchali et al. 2012), where plant-based eating is increasingly emphasized for its health benefits.

Ecologically, high-UV vegetables like *bayam* and *kubis* are well-suited to sustainable farming systems (Sati 2024). In Sewu Village, small-scale, organic farming practices support biodiversity and minimize dependence on chemical inputs. Moringa (*Kelor*), another widely used vegetable, is particularly valued for its resilience to poor soils and drought conditions. It plays a crucial role in local sustainable agriculture, as it can improve soil quality and reduce erosion, making it an ideal plant for promoting environmental sustainability (Lal 2008).

Globally, Moringa has gained significant attention as a superfood, recognized for its nutritional value and ecological benefits. It is being promoted in India and Africa as a means to combat malnutrition, improve food security, and promote sustainable agriculture. The widespread adoption of Moringa in tropical regions underscores its potential as a key player in global sustainability and food systems (Srivastava et al. 2023).

The Use Value (UV) data from Sewu Village offers valuable insights into the significance of vegetables in local diets. Vegetables with high UV values, such as Bayam and Kubis bunga, are essential to daily meals and contribute significantly to health and nutritional diversity. These vegetables align with global trends promoting plant-based diets and sustainable agriculture, as seen in the growing recognition of *Amaranthus*, *Capsicum*, and *Moringa* worldwide. On the other hand, vegetables with low UV values, such as Daun bawang, may have a more specialized role, often linked to cultural practices, rituals, or specific culinary traditions. While they are less frequently used, they still contribute to local food systems and have important cultural and medicinal significance. The global recognition of these vegetables for their health benefits and the growing shift towards plant-based eating reflects a shared interest in nutritional sustainability that transcends local and regional boundaries. The trends observed in Sewu Village echo broader global movements towards healthy eating and sustainable food systems, where the consumption of nutrient-rich vegetables plays a crucial role in both local cultures and global food security.

Vegetable resources

In Sewu Village, vegetables are obtained through two routine pathways homegardens (agricultural) and purchases (non-agricultural) that together structure household cooking. Respondents describe homegardens as a convenient, low-cost source for small, frequent harvests, especially of leafy vegetables that can be clipped repeatedly. This steady supply helps explain the predominance of cooked preparations (88%): cooking is cited for safety (removing dirt and reducing perceived contaminants from yard harvests), digestibility (softening

fibrous leaves), and taste standardization when leaves differ in age or tenderness. The higher use of leaves (32%) compared with fruits (28%) is likewise consistent with cut-and-come-again availability, which encourages incorporation into daily soups, stir-fries, and blanched salads (*gudangan/pecel*). Purchases complement homegarden output by providing items that are seasonal, not commonly grown, or needed in larger quantities for specific dishes; informants note that such items are added when menu variety or volume is required (e.g., preparing food for guests). Where a vegetable is accessible both from the yard and the market, respondents report it is more likely to appear across multiple meals because shortages in one channel can be offset by the other

These interpretations derive from a single urban–peri-urban village and should be read within that scope. The observed homegarden–market complementarity, cooking predominance, and leaf-forward profile are most likely to generalize to urban and peri-urban Javanese contexts with similar plot sizes and market access. Patterns may differ in rural areas with larger landholdings (potentially greater fruit/seed use) or in dense urban neighborhoods with limited homegarden space. Future multi-site comparisons and seasonal follow-ups would clarify how strongly these access and preparation logics persist across settings and time.

Homegarden

Homegardens have traditionally cultivated a variety of vegetable gardens around their homes. These Homegardens are areas of land enclosing the house with specific boundaries, planted with various annual and perennial crops, including vegetable crops. The diversity of vegetation, ranging from trees, shrubs, and herbs, is closely linked to the crops grown and the livestock component, such as chickens. With these characteristics, traditional homesteads can be classified as agroforestry, a land use system that mimics the structure of a forest and provides both ecological and socio-economic functions. Ecological functions involve various aspects such as gene banks, hydrological control, carbon sequestration, soil fertilization, and providing habitat for birds and insects (Suwartapradja 2023). Meanwhile, the Homegarden's socio-economic and cultural functions include providing foodstuffs, fruits, vegetables, traditional medicine, industry, crafts, and medicines, which are used to fulfill daily needs and improve food security and nutrition. These products, such as fruit, can be sold for additional income, making maintenance easier and less costly and increasing vegetable consumption, dietary diversity, and public health, especially in rural environments (Gerny et al. 2021).

Purchase

Purchases of vegetables in Sewu Village involve several diverse distribution channels, including traditional markets, mobile vegetable vendors, warungs, and sellers of processed vegetables. People generally seek out certain vegetables that may not be widely available in their Homegardens or vegetable gardens. Documented data illustrates that the people of Sewu Village have access to various sources of vegetables for their daily consumption needs, both from the internal and external rural ecosystem. In addition, people from outside the village can also obtain vegetables by purchasing from local village stalls, traveling vegetable vendors, and nearby traditional markets. Along with the increasing demand for vegetables in rural and urban environments, vegetable produce is commonly traded in traditional markets in Central Java, in line with previous research findings (Iskandar et al. 2018; 2023).

Parts of plants used for consumption

Plants have a multitude of benefits for human life. Apart from providing oxygen, parts of plants can be consumed, which is even beneficial for health. Many people choose to use plants as food because they are easier to find and plant. Depending on the plant type, many plant parts are used for consumption, including the leaves, flowers, fruit, stems, and tubers (roots). The flower parts of plants are often consumed because they are beneficial for human health, follow tradition, taste good, and are easy to find because they are collected wild and used as vegetable supplements (Shi et al. 2021). Examples of vegetables whose flowers are used are broccoli and cauliflower. Several vegetables whose fruit are used are beans, chilies, eggplant, tomatoes, chayote, cucumbers, and bitter melon, and others were mostly from plants consumed, not from perennial plants (Walhowe 2022). The stem is the axis of the plant where all other organs rest and grow; in this section, the nodes and segments will grow to form the leaves and stems; some vegetables whose stems are used, such as sugar cane, bamboo shoots, asparagus, and others. The roots or tubers are the lowest part of vegetable plants, which usually do not have joints or nodes (Binti et al. 2020); several vegetables whose roots and tubers are used are carrots, turnips, potatoes, radishes, and onions. The leaves are the part most consumed and are mostly prepared by boiling (Figure 3). The more vegetables we consume, the greater our intake of vitamins, minerals, and other phytonutrients from those vegetables. Brightly colored vegetables are the best source of antioxidants that keep brain cells strong and healthy (Fathurrahman 2021).

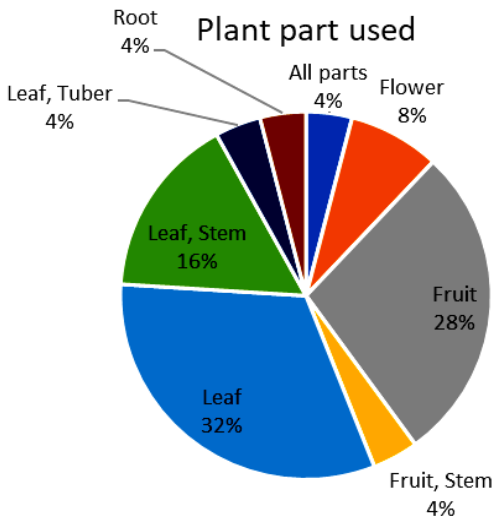

Figure 3. Parts of plants consumed by community

Based on interviews that have been conducted, several plant parts are used for food, including leaves, flowers, fruit, stems, seeds, roots, and all parts. Based on the observation diagram above, section The part that is often used as a food ingredient by the community is the leaf part with a percentage of 32% (Figure 3), the part that is used as a whole part at the same time is rarely used as a cooking ingredient by the community at 4% is sprouts. People process the leaves into vegetables such as spinach, kale, and cabbage; many types of dishes that use leaves make people use leaves more often. Apart from that, the process of cooking the leaves is easier to process because the contents of the leaves are rich in vitamins, fiber, antioxidant compounds, and phytonutrients which are good for health (Mitharwal et al. 2022). Apart from that, 28% of plant parts such as fruit.

The high utilization of leaves is largely due to their rich nutritional profile and versatility in traditional Javanese cuisine. Leafy vegetables such as *Amaranthus tricolor*., *Ipomoea reptans* (*kangkung*), and Brassica chinensis (*sawi*) are frequently used in local dishes like gudangan (vegetable salad), Sops, and stir-fries. These vegetables are valued for their high content of essential vitamins, particularly vitamin A, vitamin C, and iron, which are critical for maintaining health and preventing malnutrition. In Sewu Village, where access to diverse food sources may be limited, leafy greens are an easily accessible and reliable source of these nutrients. Their frequent consumption reflects the community's reliance on homegrown produce, which is often harvested directly from backHomegarden gardens. This aligns with global nutritional recommendations, which emphasize the importance of leafy vegetables in maintaining a balanced diet. Around the world, particularly in regions facing food insecurity, leafy vegetables are recognized as key sources of micronutrients that support immune function and prevent nutrient deficiencies, which are common in low-income communities (Lopes et al. 2020).

Similarly, the high use of fruits, which account for 28% of the plant parts utilized, further highlights the community's focus on nutrition and flavor. Fruits such as cucumbers (C. sativus), tomatoes (*S. lycopersicum*), and chili peppers (*C. frutescens*) are integral to traditional dishes, contributing both hydration and essential vitamins like vitamin C. The presence of fruits in the daily diet not only adds freshness and flavor but also boosts immune function and promotes overall health. This pattern of fruit consumption mirrors global trends, where fruits are increasingly recognized for their health benefits, particularly in combating diseases related to poor diet, such as cardiovascular disease and diabetes (Dias 2019). The high consumption of fruits in Sewu Village underscores the importance of local, readily available foods in ensuring that nutritional needs are met while supporting the community's dietary preferences.

The reliance on leaves and fruits in Sewu Village also speaks to broader agricultural and environmental concerns. These plant parts are commonly grown in home gardens, which are integral to the village's agroecological system. By cultivating plants that provide both food and nutritional value, the villagers not only ensure food security but also promote sustainable agricultural practices. This aligns with global issues surrounding sustainable agriculture and the need for climate-resilient crops. Vegetables like *Amaranthus* and *Ipomoea* are known for their adaptability to varying environmental conditions and are seen as potential solutions to global food insecurity, particularly in regions facing climate change and soil degradation (Meldrum and Padulosi 2017).

In conclusion, the utilization of leaves and fruits in Sewu Village is not only a reflection of local dietary habits and cultural preferences but also a response to broader global challenges related to nutrition, food security, and sustainable agriculture. The high percentage of leaves (32%) and fruits (28%) in the local diet underscores their importance in providing essential nutrients and supporting the cultural and ecological balance of the community. These consumption patterns are consistent with global trends that highlight the need for accessible, nutritious, and climate-resilient food systems to address pressing health and environmental concerns worldwide.

Utilization and processed vegetable plant

The preference for cooked vegetables over raw vegetables in Sewu Village, where 88% of vegetable consumption is cooked (Figure 4), it can be understood through cultural, nutritional, and practical factors. Cooking plays a central role in local culinary practices, as many traditional Javanese dishes, such as gudangan (vegetable salad), Sop, and stir-fries, are based on cooked vegetables. These dishes are not only staples in the daily diet but also part of the community's social fabric, where preparing and sharing meals is a cultural tradition. Cooking vegetables enhances their flavor and texture, making them more enjoyable and easier to digest, which explains why cooked vegetables are preferred over raw ones in the community.

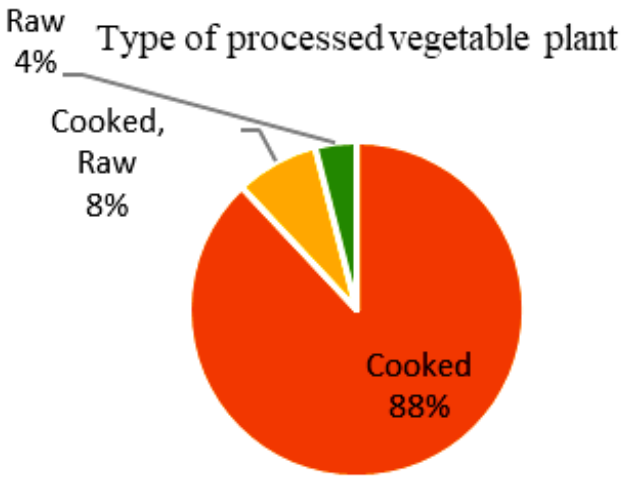

Figure 4. Type of processed vegetable plant

From a nutritional perspective, cooking vegetables like *A. tricolor*., *I. reptans*, and *B. chinensis* offers several benefits. Heat from cooking can break down plant fibers, making it easier for the body to absorb essential nutrients such as vitamins, minerals, and antioxidants. For instance, cooking helps increase the bioavailability of iron and calcium, which are vital for preventing nutritional deficiencies, especially in rural communities where access to diverse foods may be limited. In addition, cooking can reduce the presence of naturally occurring compounds like oxalates, which can inhibit the absorption of certain nutrients in raw vegetables.

Furthermore, cooking also serves a practical purpose in terms of food safety and preservation. Raw vegetables can harbor bacteria or pathogens that are harmful to health, especially in environments where refrigeration is not always available. Cooking effectively kills these pathogens, making the vegetables safe to eat. In areas like Sewu Village, where food storage facilities may be limited, cooking also helps preserve vegetables by extending their shelf life, thus reducing waste and ensuring a steady food supply. This reliance on cooking for safety and preservation is a common practice in many rural areas, both locally and globally.

This preference for cooking aligns with broader global trends, where cooking is often seen as essential not only for enhancing the nutritional profile of vegetables but also for ensuring food safety. Around the world, it is well-documented that cooking can improve the digestibility and nutrient absorption of various vegetables, making them healthier and safer to consume. This is particularly important in regions facing food security challenges, where the method of preparation plays a crucial role in meeting the community's nutritional needs.

The widespread use of cooked vegetables in Sewu Village reflects a combination of cultural practices, nutritional needs, and practical considerations. Cooking enhances the flavor, safety, and nutritional value of vegetables, making it the preferred method of food preparation in the community. This pattern mirrors global practices where cooking vegetables is essential for maximizing their health benefits, ensuring food safety, and supporting sustainable agricultural practices.

Most of the processing of vegetable crops is carried out in the homegarden, which is useful for optimizing the management of the homegarden for developing vegetable cultivation businesses. This vegetable plant is traditionally consumed as a raw and cooked vegetable. Apart from that, most of the food processing carried out by the people of Sewu Village is boiled.

Most of the vegetable crops grown in Sewu Village, particularly those listed in Table 3, are traditionally consumed either as raw vegetables, cooked raw, or as cooked form of Sops and stir-fries. The consumption of cooked vegetables is particularly common, and boiling is the most prevalent processing method. Boiling vegetables, such as *A. tricolor* (bayam), *B. chinensis* (*sawi*), and *S. lycopersicum* (*tomat*), not only enhances their taste but also increases the bioavailability of certain nutrients. For instance, cooking vegetables like tomatoes and carrots has been shown to improve the absorption of beneficial compounds such as lycopene and beta-carotene (Dias 2019), which are vital for immune function and disease prevention. This practice is aligned with global trends where cooking vegetables is recognized for enhancing the nutritional value, particularly by increasing the concentration of antioxidants and other bioactive compounds.

In Sewu Village, the processing of vegetables is predominantly carried out in the Homegarden, which serves not only as a cultivation space but also as a site for initial food preparation. Quantitative observations from Table 2 indicate that leafy vegetables, such as Amaranthus tricolor. (bayam) and *B. chinensis* (sawi), are most frequently used in soups (sop) and mixed salads (gudangan), while tubers like *M. esculenta* (cassava) are commonly boiled or steamed. Fruits, such as *S. lycopersicum* (tomatoes) and *C. frutescens* (chilies), are used both in soups and as spices, illustrating the integration of different plant parts into diverse dishes. Overall, soups account for the highest number of preparations, followed by stir-fries and traditional salads, reflecting the community's culinary preferences.

The preference for cooked vegetables, particularly boiling, is closely linked to the characteristics of the plant parts and their nutritional properties. Leafy vegetables such as *A. tricolor*. and *I. reptans* are boiled or stir-fried to soften fibrous tissues, reduce bitterness, and enhance digestibility, which improves the absorption of essential nutrients such as iron, calcium, and beta-carotene (Alegbejo 2013; Dias 2019). Tubers like *M. esculenta* are boiled to neutralize naturally occurring toxins, such as cyanogenic glycosides, ensuring food safety (Zekarias et al. 2019). Fruits such as S. lycopersicum (tomatoes) are incorporated into soups, sauces, or spice mixtures, allowing the bioactive compounds, including lycopene and antioxidants, to be more available for absorption. This demonstrates the community's empirical knowledge in selecting appropriate processing methods to maximize nutritional benefits while ensuring safety.

Cultural factors also strongly influence the methods of processing. In Javanese cuisine, dishes such as gudangan, stir-fries, and sop are central to daily meals and social gatherings, emphasizing communal preparation and shared consumption. Boiling and stir-frying have become traditional techniques because they align with taste preferences, facilitate the incorporation of local spices such as *C. frutescens* and *O. sanctum*, and preserve the functional properties of these vegetables. For example, chili peppers provide antibacterial and anti-inflammatory properties (Koffi-Nevry et al. 2012), while kenikir leaves (Cosmos caudatus) are traditionally used to improve circulation and support digestive health (Bunawan et al. 2014). These practices illustrate the seamless integration of nutrition, functionality, and cultural tradition in the community's dietary habits.

Table 3. Various vegetables of the Sewu Village community and based on scientific views

Species	Scientific view	References
Allium fistulosum	*Loncang*/leaf onions have antifungal and antioxidant properties because they have high nutritional value and contain fatty acid compounds, sulfur, and flavonoids.	Vlase et al. (2013)
Amaranthus spp.	*Bayam*/spinach is anti-inflammatory and is considered to have a high vitamin & mineral content, such as iron, calcium, and phosphorus. Spinach can be cooked alone, in Sops, or mixed with other dishes.	Alegbejo (2013)
Apium graveolens	*Seledri*/celery is a plant that can be used to eliminate free radicals and is an antioxidant in the body. This is because celery contains tannins, ferulic acid, kaempferol, and apigenin.	Kooti and Daraei (2017)
Brassica chinensis var. parachinensis	*Sawi*/green mustard is classified as a vegetable that is widely consumed by the Indonesian population because it has high nutritional value. In its cultivation, mustard greens require microclimate suitability such as nutrients, light, and temperature for optimal growth.	Telaumbanua et al. (2016)
Brassica oleracea var. botrytis	*Kembang kol*/cauliflower contains phenolic compounds, especially flavonoids, which are anti-inflammatory, antimicrobial, and anti-carcinogenic and ~~can~~ reduce the risk of cardiovascular disease.	Koss-Mikołajczyk et al. (2019)
Brassica oleracea var. capitata	*Kubis*/cabbage contains bioactive phytochemicals contained in cabbage are excellent stimulators of phase II detoxification enzymes. This ability is often used as a biomarker of the chemopreventive potential of the tested sample.	Koss-Mikołajczyk et al. (2019)
Brassica oleracea var. italica	*Brokoli*/broccoli is a source of nutrients containing minerals, vitamins, phytochemical compounds, and dietary fiber, making it good for health when consumed. Broccoli contributes to the prevention of COVID-19 symptoms.	Li et al. (2022)
Capsicum frutescens	*Cabai*/chili peppers can be a natural source of antibacterials in food and medicinal systems because they have active compounds such as sterols, polyphenols, flavonoids, and alkaloids.	Koffi-Nevry et al. (2012)
Carica papaya	*Gantung*/papaya leaves are used empirically for consumption or as medicine for diseases such as hypertension, diarrhea, dysentery, kidney stones, and menstruation. They contain the enzyme papain, sucrose, glycosides, saponins, and pseudocarpain.	Hasimun and Ernasari (2014)
Cnidoscolus aconitifolius	*Pepaya jepang*/Japan papaya In South America, the Japanese papaya plant is widely used as a traditional medicinal and has even shown nutraceutical benefits such as antimicrobial, hepatoprotective, and antidiabetic.	Panghal et al. (2021)
Cosmos caudatus	*Kenikir*/cosmos extract can decrease bone mineral density, reduce high blood pressure, and improve blood circulation. Traditionally, its stems and leaves are used by Malays to cure infectious diseases.	Bunawan et al. (2014)
Cucumis sativus	*Timun*/cucumber widely consumed as a salad and vegetable, cucumber has health benefits as an antifungal, anticytotoxic, and antibacterial, and is consumed to help wound healing.	Sahu and Sahu. (2015)
Daucus carota	*Wortel*/carrots are a root vegetables rich in nutrients and natural bioactive compounds. Carrots have 4 phytochemicals, including ascorbic acid, phenolics, polyacetylenes, and carotenoids. These phytochemicals can reduce the risk of cardiovascular disease and cancer.	Ahmad et al. (2019)
Ipomoea reptans	*Kangkung*/water spinach is a popular food source in many Asian countries. It has health benefits as an antidiabetic, antioxidants, and can have potential as an anti-obesity.	Kurniawan et al. (2020)
Manihot esculenta	*Singkong*/cassava widely cultivates cassava plants for their tubers, which will later be used as food products with health benefits to treat digestive problems. However, cassava can produce toxins if not cooked properly.	Zekarias et al. (2019)
Moringa oleifera	*Kelor*/Moringa parts of the Moringa whole plant are considered a source of nutrition and traditional medicine. Its properties act as anti-tumor, antioxidant, anti-biocidal, and anti-inflammatory.	Dhakad et al. (2019)
Ocimum sanctum	*Kemangi*/Basil contains bioactive compounds and various nutrients to treat colds, coughs, and malaise symptoms. It contains various chemical compounds, such as oleanolic acid, caryophyllene, and linalool.	Kumar et al. (2022)
Pandanus amaryllifolius	Pandan leaves are commonly used in Southeast Asia to complement bakery products and home cooking preparations. The leaves can also treat fever, headaches, arthritis, and food preservatives.	Bhuyan and Sonowal (2021)
Phaseolus vulgaris	*Buncis*/Chickpeas are a group of legumes humans can consume because they have various health benefits. Chickpeas are a source of vegetable protein, antioxidants, minerals, and bioactive compounds important for the human body.	Karavidas et al. (2022)

Solanum lycopersicum	*Tomat*/Tomatoes can be processed into various food preparations, such as sauce, dry powder, juice, and puree. It contains various molecules that can improve health, including phytochemicals, proteins, vitamins, polysaccharides, and carotenoids.	Kumar et al. (2021)
Solanum melongena	*Terong*/Eggplant is a plant that contains alkaloids and phenolic compounds, which have various pharmacological effects, including antihypertension, antidiabetes, antihyperlipidemia, and antioxidants.	Yarmohammadi et al. (2021)
Tamarindus indica	*Asam*/Tamarind is a plant that has many properties. The content of chemical compounds contained in one of them is Quercetin. Quercetin is a flavonoid compound that can be used as an anti-inflammatory.	Yunita et al. (2019)
Vigna radiata	*Thokolan*/Mung beans are a functional food that is used to improve health. It contains various bioactive compounds such as polysaccharides, peptides, and polyphenols.	Hou et al. (2019)
Vigna unguiculata ssp. *sesquipedalis*	*Kacang panjang*/Broad beans are high in nutrients, minerals, and vitamins that can lower cholesterol, source iron, increase insulin production, and improve gallbladder function.	Duraipandian et al. (2022)
Zea mays	*Jagung*/Corn has potential functional phenolic compounds that can improve the health of the body. These compounds can cure cardiovascular diseases, hyperglycemia, diabetes, and obesity.	Lao et al. (2017)

Globally, the preference for boiling and stir-frying vegetables in Sewu Village aligns with recent research on sustainable and nutrient-preserving food preparation methods in low-resource settings. Studies have shown that cooking vegetables can increase nutrient bioavailability, reduce anti-nutritional compounds, and ensure food safety, particularly where refrigeration is limited (Samtiya et al. 2020). Moreover, Homegarden-based cultivation combined with local processing practices reduces post-harvest losses and supports dietary diversity, a critical aspect of both local food security and global nutrition initiatives. Research from Southeast Asia indicates that home-based vegetable processing enhances the intake of micronutrients and bioactive compounds, especially when combined with traditional culinary techniques such as boiling and stir-frying (Perveen et al. 2024).

The utilization and processing of vegetables in Sewu Village reflect a sophisticated understanding of plant characteristics, nutritional needs, food safety, and cultural practices. Leafy vegetables are predominantly used in soups and mixed salads, tubers are boiled or steamed, and fruits are incorporated into soups, stir-fries, or spice mixtures. The preference for cooking, especially boiling, ensures digestibility, nutrient availability, and safety while maintaining cultural culinary practices. These processing patterns align with global trends emphasizing nutrient retention, safe food preparation, and sustainable household food systems, illustrating how traditional knowledge in Sewu Village supports both community health and culturally rooted culinary heritage.

In conclusion a total of 25 vegetable species from 15 plant families were identified, with the taxonomic composition dominated by Fabaceae and Brassicaceae. The species *Amaranthus tricolor* (Bayam) had the highest Use Value (UV) of 0.062, indicating its central role in local cuisine, being used in various dishes like *sop* (soup) and *gudangan* (salad). The species *Amaranthus tricolor*, *B. chinensis* (Sawi), and *B. oleracea* var. *capitata* (kubis) also had high Relative Frequency of Citation (RFC) values, particularly *A. tricolor* (RFC = 0.677), reflecting its significant cultural and ecological importance in the community. The most frequently used plant parts were leaves (32%) and fruits (28%), and the predominant main-use category was cooked preparations (88%). These patterns reflect everyday culinary preferences that are simple, time-efficient, and adaptive, while leveraging readily available fresh produce to support dietary quality. Functionally, the findings integrate local ecological knowledge, taste preferences, and homegarden cultivation into a coherent household food system; accordingly, interventions that promote homegarden diversification, nutrition education, and the consumption of local vegetables may enhance food security, sustain biocultural practices, and reinforce Sewu's culinary identity. These findings underscore the critical role of these vegetables in supporting both local food security and cultural traditions, while aligning with global trends emphasizing nutrition and sustainability.

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