

RESEARCH ARTICLE



Ethnobotanical Knowledge on Vegetable Plants Among Traders in Ujungberung Market, Bandung, West Java

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Article Info:

Received 22 June 2023

Revised 23 August 2023

Accepted 08 September 2023

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Abstract

Various edible plants, including vegetables, are commonly traded in traditional markets of Indonesian cities. Three main objectives of this study: firstly, the elaborate local knowledge of traders on species and landraces of vegetable plants that are traded in the traditional market; secondly the origin supply of vegetable plants that are traded in the traditional market; and thirdly, the utilization of various vegetable plants that are traditionally used as the dietary diversity of the households. The research site was located in the Ujungberung traditional market, Bandung City, West Java. The mixed method of qualitative and quantitative with an ethnobotanical approach was applied in this research. The results of the study showed that based on local knowledge of the vegetable traders, it was documented that a total of 62 species and landraces representing 18 families of the vegetable plants were commonly traded. While based on a botanical taxonomy, it revealed 48 species representing 18 families. Of the 48 species, 9 species have landraces that are used as vegetables. Various vegetable plants that are commonly traded in the market come from Bandung and surrounding areas. Traditionally, various vegetable plants are generally used as fresh vegetables and processed into special dishes. The benefit of this research is to develop ethnobotany science aspects, including the influence of human culture on edible plants traded in the traditional market of the cities.

Keyword: economic botany, folk-taxonomy, local knowledge, Sundanese, traditional market

1. Introduction

Based on ecological history or environmental history, the existence of traditional markets in Indonesia has been recorded for a very long time, before the colonial period [1]. Today, although many supermarkets have been established in cities in Indonesia, many traditional markets in Indonesia are still able to survive. In general, there are still many people in Indonesia who prefer to shop at traditional markets. This is due to various considerations. For example, many edible food plants, including vegetables and fruits sold in traditional markets are still relatively fresh because they have just been directly supplied from rural areas, including various rural areas close to traditional market locations. In addition, the price of traded commodities is relatively cheap and negotiable [1–3].

The traditional market has also an important function for socio-economic culture, for a meeting place for buyers and traders, so that the market becomes a place for social interaction, sharing various information, and transmission of local knowledge or traditional knowledge [4,5]. The traditional ecological knowledge may be defined "as a cumulative body of knowledge, practice, and belief, evolving by adaptive process and handed down through generations by cultural transmission, about the relationship of living beings, including humans with one another and with their environment" [6].

Traditionally, many of the local traders, they trade results from inheritance from their parents. From their youth they were involved in trading with their parents, and finally they were able to continue their parents' trading business. In addition, local traders also have kinship or friendship relations between them [1]. In general, the local traders have also a

variety of local knowledge on biodiversity that can be passed on to their children and also spread among their friends [2,5] The local knowledge of the local traders on biodiversity is transmitted orally using their mother tongue. Therefore, species of edible food plants, such as vegetables and fruits traded in traditional markets form a biocultural system, consisting of biological, cultural and linguistic diversity in traditional markets [2,7].

Since the demand of vegetables has been high for daily home consumption which is consumed as fresh vegetable (*lalaban*) as well as cooked; therefore, various vegetables are predominantly traded in the traditional markets in West Java [1,3,8]. The traditional markets of West Java have an important role for meeting places for traders and sellers, as well as exchanging information, and being a place and media for spreading local knowledge or traditional ecological knowledge about botany and zoology [1–3,5,9].

Some studies on various vegetable plants traded in traditional markets in Indonesia have been undertaken by researchers [10–12], including from agronomical [13,14] and ethnobotanical perspective [15]. However, studies on the local knowledge of traders regarding the various species of vegetable traded in the traditional markets in West Java are still rarely undertaken. This study aims to elaborate the local knowledge of traders on the species and landraces of vegetable plants, supply origin, and utilization of various vegetable plants commonly traded in the Ujungberung traditional market, Bandung, West Java.

2. Research Methodology

This study was conducted in the traditional market of Ujungberung, Bandung city, West Java. Field observation in the traditional market of Ujungberung was undertaken in March 2011 and updated in July 2017.

Geographically, the traditional market of Ujungberung is located 668 m above sea level. It is situated in the eastern part of Bandung city. The distance from central Bandung city to the traditional market of Ujungberung market is approximately 12 km. The total size of the traditional market of Ujungberung is recorded at 8,515 m² for buildings for parking area. The traditional market of Ujungberung can be divided in two areas, namely the inside part and outside part of the market. The inside part consists of 450 kiosks (*kios*) and 250 table stalls (*lapak meja*) as places for trading various everyday goods of the traders. Based on operating hours, the Ujungberung traditional market can be divided into two types, namely the inner market or the main market which is active around 08:00-17:00 and the second is the outer market or dawn market which ranges from 02:00-07:00 in the morning. The inner market or daytime market has a selling area in the market in the form of stalls, while the outer market or dawn market is around the market building and usually merchandise is sold on tarpaulins (*lapak*) [3].

Method used in this study was mixed method, qualitative and quantitative with ethnobotanical approach [1,16]. Several techniques, including the field observation, survey of the vegetable plants traded in the outer and the inner market of the traditional of Ujungberung, Bandung, and semi- structural interviews were applied in this study. The field observations were conducted to observe the general environmental condition of Ujungberung traditional market and traders' activities in the outer part and the inner part of the market. A survey of various vegetable plants traded in the outer part and the inner part of the market was recorded by the researcher visiting several times a month and directly recording the various species of plants traded by each vegetable trader. Surveys of species of vegetable plants was undertaken to 20 vegetable traders who traded various vegetables in the outer part of the market were carried out between 02:00-07:00 AM, as well as in the inner part of market between 08:00 AM to 05:00 PM. Various species of vegetable plants that are traded by 20 vegetable traders in the Ujungberung traditional market were documented. To identify the scientific names of vegetable species traded, a book on vegetable species was used.

Meanwhile, to study the local knowledge of species and landraces of various vegetable plants traded in the traditional market of Ujungberung, the semi-structure interview was conducted with competent informants which are purposively selected [17]. The semi-structure or deep

interviews were undertaken by researchers for 20 traders who are selling various vegetable plants in outer parts and inner part of Ujungberung market. Informants gave extensive responses to a series of specific questions concerning on vernacular name of species and landraces of vegetable plants; supply origin; and utilization of various vegetable plants commonly traded. Some questions have been prepared in advance and some of which arose naturally during the course of the conversation.

3. Results and Discussion

3.1. Local knowledge on vegetable plants

Based on the results of deep interviews with informants of vegetable traders of Ujungberung market, the term vegetable is usually called '*lalab*' or fresh vegetables. Moreover, based on informant (*emic* categories), it was documented 62 species and landraces of vegetable plants that are commonly traded in Ujungberung market. However, in terms of botanical taxonomy (*etic* categories) there were 48 species representing 18 families. Of the 48 species, 9 species, namely *Amaranthus hybridus*, *Archidendron pauciflorum*, *Brasica juncea*, *Brassica rapa*, *Cucumis sativus*, *Momordica charantia*, *Vigna umbellata*, and *Pisum sativum* L have landraces that are used as vegetable, and part of plants are predominantly utilized as fruits and leaf (Table 1 and Figure 1). Landrace term, which has some synonyms, including race, local variety, and farmer variety, may be defined as a variety with a high capacity to tolerate biotic and abiotic stress, resulting in a high yield stability and an intermediate yield level under a low input agricultural system [18]. Thus, in this context, a landrace is a local category for grouping the vegetable plants according to the characteristics reflected in specific vernacular names. It is mainly based on morphological characteristics instead of genetic variations according to Western taxonomic sense or botanical taxonomy [16].

On the basis of local knowledge of vegetable traders, some landraces are classified based on morphological characteristics, culinary characteristics, and the form of consumption. Based on morphological and culinary characteristic, for example, *Archidendron pauciflorum* may be defined into two landraces, namely *jengkol Jepara* and *jengkol Sumatera*. *Jengkol Jepara* has fruit skin is lighter brown, and taste is fluffier, tastier, and not too smelly. While *Jengkol Sumatera* has the fruit is more blackish skin color and harder fruit texture, and taste is not fluffier, tastier, and smells more pungent. In addition, based on the form of consumption, both landraces are consumed by both cooked and fresh vegetable (Table 1).

The folk classification of vegetable plants based on the vegetable traders of Ujungberung market, like the general local knowledge of Sundanese communities, such as Rancakalong community, Sumedang, West Java, on local rice landraces. For example, according to Rancakalong community, the local rice landraces can be classified based on morphology such as size, shape, and color, and culinary properties such as fragrant and delicious and non-fragrant and delicious [19].

Regarding plant diversity, the total number of species of vegetable plants recorded in the Ujungberung market (48 species representing 18 families) is category as very high diversity compared to the species of vegetable plants traded in other traditional markets. For example, in the traditional markets of Kediri Regency and City, East Java, total 28 species of vegetable plants belonging to 16 families have been recorded [10]. The results of other studies, the species of vegetable plants in six Yogyakarta traditional markets, were recorded between 39 species and 47 species) [11], and in the Beringharjo market, Yogyakarta, recorded 49 species of vegetables [20]. In addition, based on study in Martapura market, South Kalimantan, it revealed 6 species belonging to 6 families of vegetable plants were traded in the Martapura market [12].

Table 1. The list of plant species used as vegetables

No	Scientific name	Family	No.	Vernacular name	Part used	Consumption method
1	<i>Allium ramosum</i> L.	Amaryllidaceae	1	<i>Kucai</i>	Leaf	Cooked
2	<i>Amaranthus hybridus</i> L.	Amaranthaceae	2	<i>Bayem</i>	Leaf	Cooked
3	<i>Amaranthus hybridus</i> L.	Amaranthaceae	3	<i>Bayem beureum</i>	Leaf	Cooked
4	<i>Archidendron pauciflorum</i> (Benth.) I.C. Nielsen	Fabaceae	4	<i>Jéngkol jepara</i>	Fruit	Cooked, fresh
5	<i>Archidendron pauciflorum</i> (Benth.) IC Nielsen	Fabaceae	5	<i>Jéngkol Sumatra</i>	Fruit	Cooked, fresh
6	<i>Brassica juncea</i> (L.) Czern	Brassicaceae	6	<i>Sawi héjo</i>	Leaf	Cooked
	<i>Brassica juncea</i> (L.) Czern	Brassicaceae	7	<i>Sawi bodas</i>	Leaf	Cooked
	<i>Brassica juncea</i> (L.) Czern	Brassicaceae	8	<i>Sawi daging</i>	Leaf	Cooked
	<i>Brassica juncea</i> (L.) Czern	Brassicaceae	9	<i>Sosin</i>	Leaf	Cooked
7	<i>Brassica oleracea</i> var. <i>capitata</i>	Brassicaceae	10	<i>Engkol</i>	Leaf	Cooked, fresh
	<i>Brassica oleracea</i> var. <i>capitata</i>	Brassicaceae	11	<i>Engkol gépéng</i>	Leaf	Cooked, fresh
	<i>Brassica oleracea</i> var. <i>capitata</i>	Brassicaceae	12	<i>Engkol ungu</i>	Leaf	Cooked
	<i>Brassica oleracea</i> var. <i>capitata</i>	Brassicaceae	13	<i>Kiciwis</i>	Leaf	Cooked
	<i>Brassica oleracea</i> var. <i>italica</i>	Brassicaceae	14	<i>Brokoli</i>	Flower	Cooked
	<i>Brassica oleracea</i> var. <i>italica</i>	Brassicaceae	15	<i>Brungkol</i>	Flower	Cooked
	<i>Brassica oleracea</i> var. <i>italica</i>	Brassicaceae	16	<i>Brungkol ungu</i>	Flower	Cooked
8	<i>Brassica rapa</i> var. <i>parachinensis</i>	Brassicaceae	17	<i>Pakcoy</i>	Leaf	Cooked, fresh
9	<i>Cajanus cajan</i> L.	Fabaceae	18	<i>Hiris</i>	Fruit	Fresh
10	<i>Capsicum annuum</i> L.	Solanaceae	19	<i>Cabé</i>	Fruit	Fresh, cooked
11	<i>Carica papaya</i> L.	Caricaceae	20	<i>Gedang</i>	Fruit	Cooked
12	<i>Cosmos caudatus</i> Kunth.	Asteraceae	21	<i>Kenikir</i>	Leaf	Cooked
13	<i>Cucumis melo</i> L.	Cucurbitaceae	22	<i>Mélon</i>	Fruit	Cooked
14	<i>Cucumis sativus</i> L.	Cucurbitaceae	23	<i>Bonténg</i>	Fruit	Fresh
	<i>Cucumis sativus</i> L.	Cucurbitaceae	24	<i>Bonténg jepang</i>	Fruit	Cooked
	<i>Cucumis sativus</i> L.	Cucurbitaceae	25	<i>Bonténg suri</i>	Fruit	Fresh
15	<i>Cucurbita moschata</i> Duchesne	Cucurbitaceae	26	<i>Waluh</i>	Fruit	Cooked
16	<i>Daucus carota</i> L.	Apiaceae	27	<i>Wortel</i>	Tuber	Cooked
17	<i>Diplazium esculentum</i> (Retz.) Sw.	Aspleniaceae	28	<i>Pakis daun</i>	Leaf	Cooked
18	<i>Etingera elatior</i> (Jack) R.M.Sm.	Zingiberaceae	29	<i>Honjé</i>	Flower	Fresh
19	<i>Erythrina fusca</i> Lour.	Fabaceae	30	<i>Cangkring</i>	Fruit	Cooked
20	<i>Glycine max</i> (L.) Merr.	Fabaceae	31	<i>Kadelé</i>	Fruit	Cooked
21	<i>Gnetum gnemon</i> L.	Gnetaceae	32	<i>Tangkil</i>	Fruit	Cooked
22	<i>Ipomoea aquatica</i> Forssk.	Convolvulaceae	33	<i>Kangkung</i>	Leaf	Cooked
23	<i>Lablab purpureus</i> L.	Fabaceae	34	<i>Roay</i>	Fruit	Cooked
24	<i>Lactuca sativa</i> L.	Brassicaceae	35	<i>Salad bokor</i>	Leaf	Fresh
25	<i>Lagenaria siceraria</i> (Molina) Standl.	Cucurbitaceae	36	<i>Kukuk</i>	Fruit	Cooked
26	<i>Lathyrus oleraceus</i> Lam.	Fabaceae	37	<i>Kacang ércis</i>	Fruit	Cooked
	<i>Lathyrus oleraceus</i> Lam.	Fabaceae	38	<i>Kapri</i>	Fruit	Cooked
27	<i>Leucaena</i> [18] <i>leucocephala</i> (Lam.) de Wit	Fabaceae	39	<i>Peuteuy sélong</i>	Fruit	Fresh, cooked
28	<i>Limnocharis flava</i> (L.) Buchenau	Alismataceae	40	<i>Génjér</i>	Leaf	Cooked
29	<i>Luffa acutangula</i> (L.) Roxb.	Cucurbitaceae	41	<i>Oyong</i>	Fruit	Cooked
30	<i>Lycopersicon esculentum</i> Mill.	Solanaceae	42	<i>Tomat</i>	Fruit	Fresh
31	<i>Manihot esculenta</i> Crantz	Euphorbiaceae	43	<i>Sampeu</i>	Leaf	Cooked
32	<i>Momordica charantia</i> L.	Cucurbitaceae	44	<i>Paria local</i>	Fruit	Cooked
	<i>Momordica charantia</i> L.	Cucurbitaceae	45	<i>Paria Jakarta</i>	Fruit	Cooked
33	<i>Monocharia vaginalis</i> (Burm.f.) Persl.	Pontederiaceae	46	<i>Écéng pare</i>	Leaf	Cooked
34	<i>Nasturtium officinale</i> R.Br.	Brassicaceae	47	<i>Salada</i>	Leaf	Fresh
35	<i>Ocimum basilicum</i> L.	Lamiaceae	48	<i>Surawung</i>	Leaf	Fresh
36	<i>Oenanthe javanica</i> (Blume) DC	Apiaceae	49	<i>Téspong</i>	Leaf	Fresh
37	<i>Parkia speciosa</i> Hassk.	Fabaceae	50	<i>Peuteuy</i>	Fruit	Fresh, cooked

No	Scientific name	Family	No.	Vernacular name	Part used	Consumption method
38	<i>Phaseolus vulgaris</i> L.	Fabaceae	51	<i>Buncis</i>	Fruit	Cooked
	<i>Phaseolus vulgaris</i> L.	Fabaceae	52	<i>Kacang beureum</i>	Fruit	Cooked
39	<i>Psophocarpus tetragonolobus</i> (L.) DC	Fabaceae	53	<i>Ja'at</i>	Fruit	Cooked, fresh
40	<i>Rhapanus sativus</i> L.	Brassicaceae	54	<i>Lobak</i>	Tuber	Cooked
41	<i>Sauropus androgynous</i> (L.) Merr.	Phyllanthaceae	55	<i>Katuk</i>	Leaf	Cooked
42	<i>Sechium edule</i> (Jacq.) Swartz	Cucurbitaceae	56	<i>Waluh siem</i>	Fruit	Cooked
43	<i>Solanum americanum</i> L.	Solanaceae	57	<i>Leunca</i>	Fruit	Fresh, cooked
44	<i>Solanum melongena</i> var. <i>esculentum</i>	Solanaceae	58	<i>Térong</i>	Fruit	Fresh, cooked
45	<i>Solanum torvum</i> Sw.	Solanaceae	59	<i>Takokak</i>	Fruit	Cooked
46	<i>Vigna radiata</i> (L.) R.Wilczek	Fabaceae	60	<i>Kacang héjo</i>	Fruit	Cooked
47	<i>Vigna umbellata</i> (Thunb.) Ohwi & H. Ohashi	Fabaceae	61	<i>Kacang uci</i>	Fruit	Cooked
48	<i>Vigna unguiculata sesquipedalis</i> (L.) Verdc.	Fabaceae	62	<i>Kacang Panjang</i>	Fruit	Fresh, cooked
49	<i>Voandzeia subterranea</i> (L.) Verdc.	Fabaceae	63	<i>Kacang bogor</i>	Fruit	Cooked

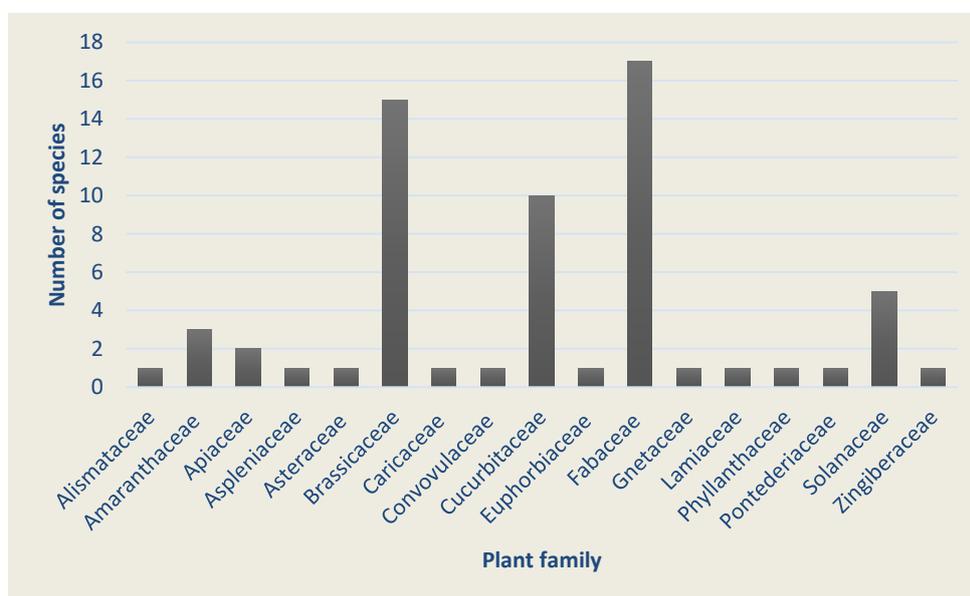


Figure 1. Distribution of number of species in plant families used as vegetable.

Various species of vegetable plants traded in Ujungberung market are categorized as in the high diversity. It is caused by many factors, including local cultural and local biophysical or ecosystem factors. The local cultural, for example, traditionally the Sundanese people in West Java have a tradition that in their daily diet in the households they usually consume various vegetables, including in the form of fresh vegetables (*lalaban*) [21–23]. They like to consume various vegetables, besides being influenced by local culture from generation to generation [23]; and also, are supported by local ecosystem conditions, such as fertile soil, lots of water, the weather is cold, so it is conducive for rural farmers to practice the vegetable farming system [1, 7, 23].

Based on a total of 48 species of vegetable plants commonly traded in the Ujungberung market, it was recorded that some species of vegetable plants were categorized as typical vegetable plants of West Java, such as *Momordica charantia*, *Luffa acutangula*, *Sauropus androgynous*, *Solanum americanum*, *Lablab purpureus*, *Nasturium officinale*, *Solanum torvum*, *Sechium edule*, and *Cosmos caudatus* [25].

Out of a total of 62 species and landraces of vegetable plants, 4 families had a high number of species namely *Fabaceae* (27.41 %), *Brassicaceae* (24.19 %), *Cucurbitaceae* (16.12 %), and *Solanaceae* (9.67 %) (Figure 1). These results are somewhat the same as the species of vegetable plants traded in the Beringharjo traditional market, Yogyakarta, the vegetable

plant families that have high numbers, namely *Fabaceae*, *Brassicaceae*, and *Cucurbitaceae* [20].

3.2. Supply Origin of Vegetables

Based on deep interviews with informants, the percentage of the total of vegetable plants that are commonly traded at the Ujungberung market come from the Bandung region (73.55%) and only 26.45% from outside Bandung region. From the Bandung region, most vegetable come from Palintang (22.89%), Lembang (18.07%), and Pangalengan (12.41%) which are the center of vegetable production.

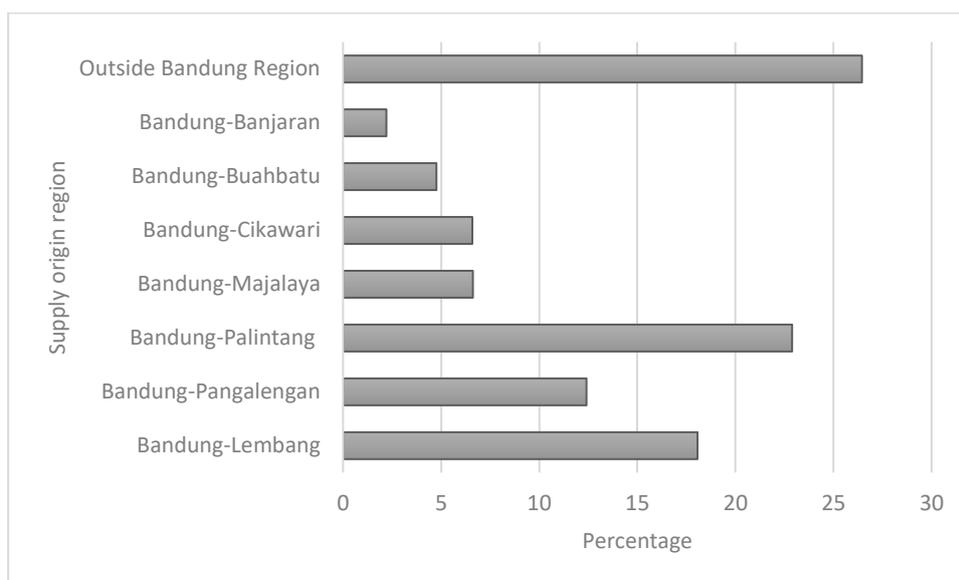


Figure 2. Supply origin of vegetable plant species and landraces traded in Ujungberung market.

Figure 2 shows that the species and landraces of vegetables traded in the Ujungberung market originate from several vegetable cultivation centers in Bandung and its surroundings, including Palintang. This area is a mountainous area in Bandung Regency, which is located about 8 km to the north of the Ujungberung market. The people of Palintang primarily farm vegetable crops on Perhutani land [26]. Considering that the location of Palintang is not far from the Ujungberung traditional market, various vegetable production products are usually sold to the Ujungberung market.

In addition, various species and landraces of vegetable plants traded in the Ujungberung market are also widely supplied from Lembang, North Bandung and Pangalengan, South Bandung. This is because the Lembang and Pangalengan areas are also mountainous areas, which are known as centers of vegetable cultivation in the West Java region and are also not too far from Ujungberung. Ecologically, those areas are very conducive for vegetable cultivation, as the soil is fertile, and the climate and temperature are cold, suitable for vegetable cultivation [7].

3.3. Utilization of Vegetable Plants

Based on the results of deep interviews with informants, vegetable traders at the Ujungberung traditional market, Bandung, it can be seen that these species of vegetable plants are traditionally utilized as a distinctive Sundanese food menu, such as various fresh vegetables (*lalaban*), including *bonteng*, *terong*, *leunca*, and *surawung*, or processed into special Sundanese foods, such as *lotek*, *karedok*; and various 'tumis' or 'oseng'.

The perception of vegetable traders is similar to that of the Sundanese rural communities of Cijambu Village, Tanjungsari Sub-district, Sumedang District West Java. According to rural communities of Cijambu village, it revealed at least 64 species representing 30 families of vegetable plants that are cultivated by rural people. The vegetables are traditionally

consumed in the households as fresh vegetable (*lalaban*), and cooked as boiled to be made species food menus, including 'tumis', 'urab', 'karedok', 'lotek'. ', and various Sundanese vegetables soups.

In addition, based on the human ecology study, it can be inferred that traditionally Sundanese people of West Java, every day meal consists of cooked rice (*sangu*) and various side dishes (*rencangna*), including vegetables, chili sauce, and salted fishes. Some vegetables including bean soup (*angeun kacang*), fresh leunca fruits (*lalab buah leunca*) and fresh leunca leaf (*lalab daun leunca*), fruit of leucaena (*buah peuteuy selong*), boiled spinach leaf (*seupan bayem*), cucumber fruit (*buah bonteng*), boiled papaya leaf (*seupan daun gedang*), boiled genjer (*seupan genjer*), fresh jaat (*lalab jaat*), fresh jengkol (*lalab jengkol*), fresh of boiled petsai (*seupan petsai*), fresh bean leaf (*lalab daun kacang*), boiled kangkung (*seupan kangkung*), lobak soup (*angeun lobak*), fresh teromg (*lalab teromg*), boiled cassava leaf (*seupan daun singkong*), soup of cabbage (*angeun kol*), bean soup (*angeun kacang*), kangkung soup (*angeun kangkung*), leunca soup (*angeun leunca*), and roay soup (*angeun roay*) were predominantly consumed by the Sundanese people of Salamungkal hamlet, Majalaya, West Java [27].

Traditionally, the Sundanese people of West Java consuming various vegetables, both fresh and cooked vegetables, has an important function for human health because various vegetable plants contain lots of vitamins and minerals, and even play an important role as traditional medicine (Iskandar et al., 2020; Mulyanto et al., 2018). For example, stir fry of momordica (*tumis paria*) is very good for health. The reason is, according to informants (*emic view*), paria (*Momodica charantia* L) is important as a traditional medicine for diabetes or diabetes, and worms. Meanwhile, based on a scientific view (*ethical view*), that paria can be efficacious for treating diabetes, dyslipidemia, and microbial infections, containing bioactive alkaloids, monordicin, and charantin, chorine, and monocharine [28].

The novelty of this study, among other things, from this study can understand that the diversity of plants, including various vegetable plants traded in traditional markets are influenced by various local agricultural production and local ecosystems, so this study reveals the biocultural system in the trade of edible plant species traded in the traditional markets. The benefits of this study are better understanding of local or traditional knowledge and can be integrated with the Western scientific knowledge in the quest for new solutions for achieving both conservation and sustainable use of various edible plants that are commonly traded in the traditional markets.

4. Conclusion

Based on this study it can be concluded that based on local knowledge of the vegetable traders of Ujungberung market, it was documented that it was documented that total 62 species and landraces representing 18 families of the vegetable plants were commonly traded in Ujungberung market. While based on a botanical taxonomy, it revealed 48 species representing 18 families. Of the 48 species, 9 species have landraces that are used as vegetable. On the basis of supply origin, various vegetable plants that are commonly traded in the Ujungberung market come from the Bandung and surrounding areas which are known as centers of the vegetable farming. Traditionally, various vegetable plants traded in the Ujungberung traditional market are generally used as fresh vegetables and processed into special dishes of the household consumption of Sundanese people.

Based on this research, it can contribute to science, particularly to ethnobotanical aspects. For example, it may understand the local knowledge of vegetable traders on diversity of species and landraces of vegetable plants, and the dietary diversity of the people's household of Sundanese in relation with diversity of vegetable plants traded in the traditional market.

Since the traditional function as hallmarks of a particular culture or society by reproducing, on small scale, the cultural and biological diversity of a region, we suggest further studies on biocultural systems, such as local knowledge on various indigenous vegetable plants produced from various local agroecosystems and natural ecosystems, which are traded in traditional markets, and to be used as a distinctive local consumption menu by specific region

community. In addition, since vegetable production in the rural agroecosystem as main supply of the vegetable plants is affected by changes in the rainy and dry seasons, therefore further research on various vegetables traded in traditional markets is influenced by seasonal changes.

Author Contributions

BIS: Conceptualized, designed, and supervision the research; **DM:** did in-depth interviews and collecting specimens, conceptualize and write the original draft of the manuscript; **Jl:** did in-depth interviews and collecting specimens, writing the original draft of the manuscript; **TY:** Software & Editing.

Conflicts of interest

There are no conflicts of interest to declare.

Acknowledgements

The research on which this article is would not been possible without the funding support of the Academic Leadership Grant (ALG) Program of the University of Padjadjaran, therefore, we would like to thank Rector of UNPAD for supporting the ALG Program. We would also like to thank all informants, plant vegetable traders, who patiently and generously shared their local knowledge on plant vegetable with us.

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