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Foraged, Trapped and Hunted Foods in Valappur Nadu of Kolli Hills, Tamil Nadu

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Abstract. Wild foods found in and around farms, fallows and forests supplement foods and incomes of rural households and have co-evolved with other wild biodiversity. The present study was carried out using a structured questionnaire during February and March 2013 in two villages of Valappur Nadu in the Kolli Hills, Tamil Nadu, southern India, lying between 900 and 1100 m above mean sea level, covering a total sample of 40 tribal households. The diversity of wild food species across different food groups – greens, fruits, mushrooms, roots, tubers, birds, bats, rats and their seasonal availability and household consumption pattern were recorded. Greens are available predominantly during the rainy season and fruits mostly during the dry season. Women are mostly involved in foraging greens, mushrooms, vegetables, fruits, while men contribute to the food basket through trapping, fishing and hunting, and children are involved in both. Some of the surveyed households reported that they strongly believe that wild foods are nutritious and contribute to overall health and well-being apart from supplementing food security. The article concludes by viewing wild foods through the lens of food security in its four dimensions – access, availability, absorption and stability – and briefly touches upon some sociological aspects related to wild foods.

Introduction

Food security has come to depend on a small handful of widely cultivated species. About half of the world's daily requirement of proteins and calories comes from wheat, maize and rice (Jaenicke and Höschle-Zeledon, 2006); twelve species contribute to 80% of total dietary intake. In contrast, wild foods provide greater dietary diversity to those who rely on them. Ethnobotanical surveys of wild plants indicate

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that more than 7,000 species have been used as food at some stage in human history (Grivetti and Ogle, 2000; Hassan et al., 2005). Several of wild foods have co-evolved with other (wild) biodiversity in and around farms supplementing foods and earnings (Harris and Hillman, 1989; Scoones et al., 1992; Heywood, 1999; Grivetti and Ogle, 2000). It has been estimated by the Food and Agriculture Organization (FAO) that about 'one billion people use wild foods in their diet' (FAO, 2009a; Aberoumand, 2009). Some indigenous communities in India are known to use 600 plant species having food value (Rathore, 2009). Several of the wild food species are found within the fields themselves. Farmers in Thailand harvest wild herbs, insects, trees and vines from paddy fields, (Price, 1997; Halwart, 2008); in Bangladesh, people gather 102 species of greens and 69 species of fish; in the rainfed Deccan in south India, 79 species of uncultivated greens are used as foods along with uncultivated plants, including roots, tubers and fruits (Mazhar et al., 2007).

The recognition that nutritional security and biodiversity are linked is fundamental for enlisting policy support to secure wild food use and preserve habitats of wild edible species as one of the pathways for dealing with malnutrition among poor tribal communities. This is especially important for communities most vulnerable to malnutrition (Misra et al., 2008; Afolayan and Jimoh, 2009). Literature on vulnerability, food security and ecosystem services has tended to emphasize cultivated foods (Hassan et al., 2005; Ericksen et al., 2009). There is an underestimation of wild foods, neglecting the provisioning by ecosystems and the supportive role local knowledge systems play in sustaining food chains (Grivetti and Ogle, 2000; Mazhar et al., 2007; Pilgrim et al., 2008). Sourcing food from non-agricultural lands (uncultivated systems such as forests, wetlands, pastures, etc.) enables a systemic approach to food consumption; it allows rural and tribal communities to sustain for a whole year and steer clear of natural disasters and seasonal induced shortfalls of agricultural foods and act as a safety net (Choudhury and Sindhi, 2017).

Changes in land use, loss of forests, shrinking water resources, water pollution, expansion and intensification of agriculture, have significant implications for the availability of wild foods. Land-use change triggered by the commercialization of agriculture is leading to the decline of wild foods from many agricultural landscapes (Hassan et al., 2005) and implies a decreased reliance on wild foods (Treweek et al., 2006). The spread of agriculture and the homogenization of agricultural landscapes increasingly limit availability and use of wild foods of nutritional importance among agricultural communities and in particular the landless poor and other vulnerable groups (Scoones et al., 1992; Pretty, 2002). Current trends in land use, including expansion of intensive agriculture, limit the capacity of ecosystems to sustain food production and maintain habitats of wild food species (Foley et al., 2005).

The present study was developed as a part of the research project' Alleviating Poverty and Malnutrition (APM) in Agro-biodiversity Hotspots', being implemented in three states of India, Tamil Nadu, Kerala and Odisha, and aimed at addressing malnutrition through agronomic interventions and expanding the food basket of tribal and rural households by promoting kitchen gardens. To enhance understanding of current patterns in the Kolli Hills, Tamil Nadu, two villages from Valappur Nadu – Manjalpatti and Keelsengadu – were chosen for the study with the following research objectives:

- To explore the diversity of wild food species used – greens, vegetables, fruits and animals (including birds and fishes) – and the locations in which they are foraged, gathered, hunted or trapped; their seasonal availability and season-

wise household level consumption patterns.

- To ascertain the roles played by women, men and children in wild food foraging, trapping and hunting and some sociological aspects of wild foods.

Methodology

Background

Kolli Hills is part of the Eastern Ghats, located in Namakkal District of Tamil Nadu in southern India (Figure 1). The elevation of the central region of the hills ranges from 1,000 to 1,300 m above mean sea level and covers an area of approximately 280 km². The maximum temperature ranges from 20ºC to 30ºC, while the minimum lies between 10ºC and 20ºC. Average annual precipitation in the region is about 1,440 mm, which also exceeds the state average (Rengalakshmi and Balasubramanian, 2002, pp. 19–45; Kumaran, 2004) and 41% of this is received during the southwest monsoon. Kolli Hills itself can be divided into two main physical components: the periphery and the central part. The periphery is covered with uninhabited reserve forests lying on more or less steep slopes and it largely contributes to the rich biological diversity of the region. Four types of forests can be found in the Kolli Hills: semi-evergreen forests on top, deciduous forest at the middle elevation, southern thorn and *Euphorbia* scrub forests at the foothill (Jaya Kumar et al., 2002). The central region of the Kolli Hills is inhabited and the predominant land use is either agriculture or agro-forestry. More than 95% of the inhabitants belong to a single tribal community known as the Malayalis or the people inhabiting the hills (Rengalakshmi and

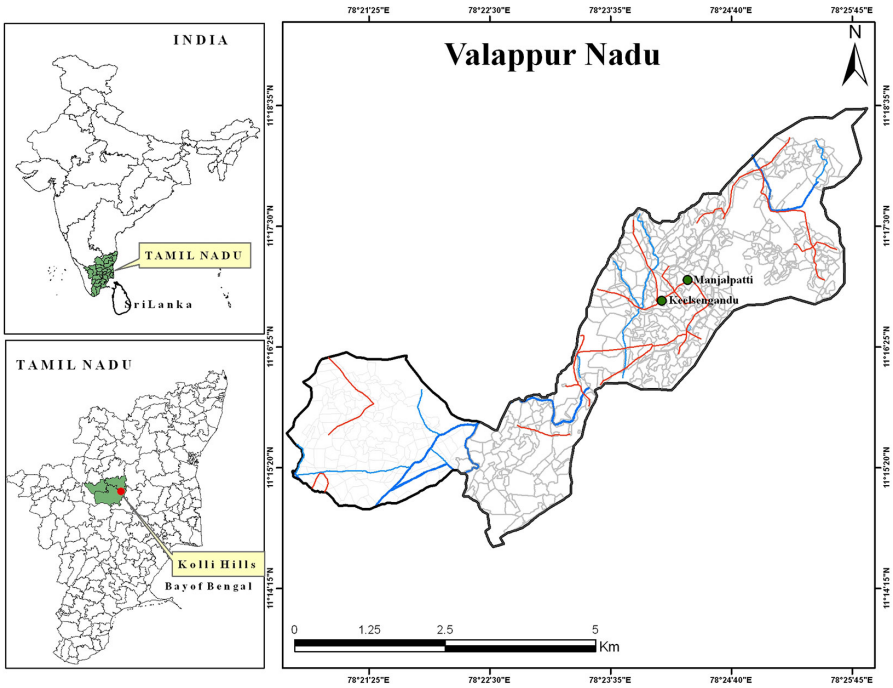

Figure 1. Map of Valappur Nadu (highlighting the two villages).

Balasubramanian, 2002, pp. 19–45). The total population of the Kolli Hills is 40479 (male: 20862 and female: 19617) consisting of 10910 households and the average density is 119 persons per km^2. The Kolli hills are spread over an area of 26600 ha, of which forests constitute 5,168 ha (19.4%), area under non-agricultural uses is 4,176 ha (15.7%), barren and uncultivable lands 945 ha (3.6%), permanent pastures and other grazing lands 945 ha (3.6%), land under miscellaneous tree crops 603 ha (2.3%), and culturable wasteland 1,405 ha (5.3%). Fallow lands cover an area of 2,031 ha (7.6%) and current fallows spread over an area of 1,924 ha (7.2%). The net sown area is 9,669 ha (36.6%) of which 807 ha is irrigated (3%) and 8,863 ha unirrigated (33%) (RGOffice, 2017). The tribal population is mostly dependent on rainfed agriculture, consisting chiefly of tubers, cereals including millets, pulses, oil seeds, fruits and vegetables. The cropping systems includes monocropping, a range of mixed-cropping systems coupled with relay and sequential cropping systems suited to different family and labour conditions and land types (Rengalakshmi and Balasubramanian, 2002, pp. 19–45; Anil Kumar et al., 2015). The study site is known for its rich agro-biodiversity, which has been declining since 1980s due to the introduction of commercial crop cassava and is estimated to represent about 75% of the total dry lands in the Kolli Hills (Pradeep and Rajasekeran, 2006), resulting in the shrinkage of acreage under minor millets (King et al., 2009). Food security/dietary diversity issues in the Kolli Hills are connected with at least two factors: changing rainfall patterns and a shift away from subsistence agriculture to cash cropping, understood in terms of changes in the physical and the social or cultural environments, and the manner in which preferences, priorities and practices change over time within households and communities and on larger scales (Elizabeth Finnis, personal communication, 30 March 2004). Over the last two decades, the tribal population in the Kolli Hills has experienced a decrease in dietary variety and an increased reliance on market systems linked to cassava cash cropping (Huang et al., 2017).

Data Collection

A survey questionnaire consisting of general household information, farming information, collection and consumption of wild food across different seasons (rainy, cool and dry), and knowledge and other information associated with wild foods was prepared, pretested and modified before the commencement of the actual survey.

The term 'wild food' as described in this article comprises all plant and animal resources that are foraged, harvested, trapped and hunted from forests, cultivated agricultural lands, field bunds, roadside storm-water drains, edges of stream banks and other common lands in the village. The surveyed households were initially briefed about the study before gathering information. A postgraduate student from the Department of Life Sciences was trained to collect data, sent to the field and consistently monitored by the investigators of the project. The survey was carried out during February and March 2013, covering approximately 70.1% of both Manjalpatti (20 of 20 households) and Keelsengadu (20 of 37 households).

Results and Discussions

Wild Food Species Diversity and Seasonal Household Consumption Patterns

This section describes different groups of wild foods foraged, trapped and hunted

in the study area across three seasons: (i) rainy season (June–October), (ii) cool season (November–February) and (iii) dry season (March–May). The total number of species and percentage of households consuming different wild food groups is presented in Figure 2 (rainy season) and Figure 3 (cool and dry seasons). The consumption of wild food in this section refers to households consuming at least one species belonging to a particular food group. During the rainy season, 28 species of greens (leaf vegetables) are reported to be available. Greens (leafy vegetables), mushrooms, vegetables, fruits, roots and tubers are collected or foraged either from farm lands or from forest lands. All the surveyed households consume at least one green. In contrast, during the dry season, only five species of greens are available and 68% of households consume those during the season. During the cool season, eight species are available and 73% of households consume them. Six species of vegetable are available during the rainy season and 85% household consume them; four species of vegetables are available during the dry and cool seasons, but only 3% of households consume them during this season. Mushrooms (seven species consumed by 58% households) and roots and tubers (five species consumed by 43% households) are available only during the rainy season, while fruits (12 species) are available only during the dry season and 80% of households consume them. Men and children are mostly involved in trapping and hunting only during the rainy season. With regard to trapped and hunted animals, the respondents listed a total of 12 species of birds, four species each of fish and rats and one species each of crab, squirrel and mongoose.

Responding to a question on the periodicity of consumption of wild foods by the household over the previous 12 months, only 4% reported that they consumed wild foods regularly, while close to 20% of households reported consumption to a moderate extent, about once a month, and 55% of them consumed little, about once in three months.

Patterns during the Rainy Season

The diversity of wild food species available during the rainy season, the percentage of households consuming them, the source of collection, the part used, method of cooking and the frequency of consumption are presented in Table A1. It is evident from the survey that the rainy season is significant in terms of the number of foraged wild food species belonging to different food groups such as greens, vegetables, mushrooms, roots and tubers, as well as hunted and trapped wild foods such as birds, fish, rats, crabs, etc.

There are 28 greens available during the rainy season; the major source of greens is farm land followed by forest. The surveyed households consume the leafy part of the greens either in boiled or roasted form, regularly during the rainy season. The major greens consumed by the surveyed households are *Manathakali* (*Solanum nigrum*), *Vallarai* (*Centella asiatica*), *Pannakkeerai* (*Celosia argentea*), *Kuppakkeerai* (*Amaranthus viridis*), *Pulachaikkeerai* (*Hidiscus sabdariffa*) and *Ponnanganni* (*Alternanthera sessilis*). Of the households sampled, 25–68% consumed nine species of greens and less than 10% of households consumed 13 other species of greens. Six species of vegetables are consumed occasionally during the rainy season, foraged from nearby farm land, forest, ponds and road sides. *Sundakkai* (*Solanum torvum*) is consumed by 85% of households after removing the seeds and boiling the immature fruit skin. The second most consumed vegetable is tomato (*Siruthakkali*), which is consumed by

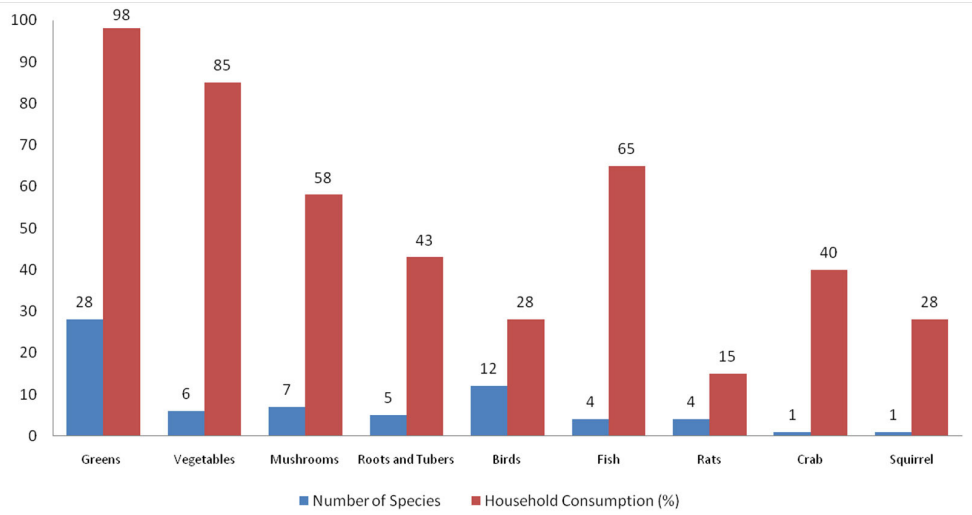

Figure 2. Patterns during the rainy season.

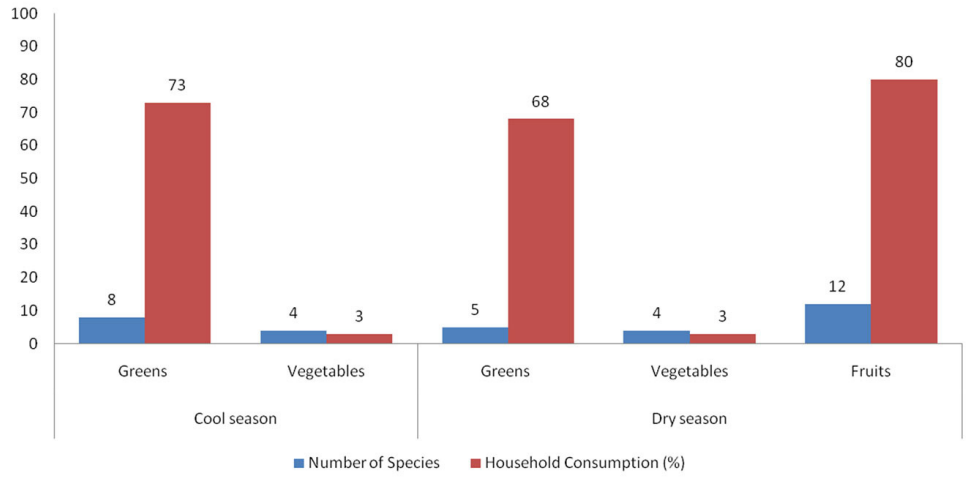

Figure 3. Patterns during the dry and cool season.
Note: Data of the cool and dry seasons have been combined into a single figure since the number of species was very low.

65% of households. More than 50% of households consumed two out of six species of mushrooms foraged from nearby farmlands and forest. Roots and tubers (five species) are available only during the rainy season and are occasionally consumed by households by boiling and peeling the skin. *Malangizhangu* is a major tuber collected from forests and is consumed by 43% of households. The trapped and hunted wild food species in the study area are birds, fish, rats, crab, squirrel and mongoose and mostly men and children are involved in their trapping and hunting. Twelve bird species are occasionally trapped and hunted mostly from farms and forest and consumed by the households. *Puluthiyanguruvi* (*Upupa epops*) is the most common one

and consumed by 28% of households. Two out of four fish species; *Kuravalai Meen* and *Paratai Meen* are consumed by 65% and 45% of households respectively. Crab is consumed by 40% of the surveyed households. Four species of rats and one species of mongoose are also consumed by a few households. Women are mostly involved in the foraging of wild food, which includes greens (leafy vegetables), mushrooms, vegetables and fruits. Roots and tubers are collected jointly, while men are mostly associated with trapped and hunted wild food, which includes fish, crabs, rats, birds, squirrels and mongoose. It was also reported that children played a role in hunting and trapping animals and birds. They use specially designed bows from which they aim small stones for hunting and killing birds and other small animals.

Patterns during the Cool and Dry Season

In contrast to the rainy season, approximately one-third and one-fifth (see Table A1) of the greens are available during the cool and dry seasons respectively. The most dominant greens during cool and dry seasons are *Vallarai* (*Centella asiatica*), consumed on an average by 70% of the households. Green *Ponanganni* (*Alternanthera sessilis*) is consumed by 28–33% of the households in both cool and dry seasons. *Manathakali* (*Solanum nigrum*) and *Pulichakeerai* (*Oxalis corniculata*) are consumed by 5–10% of households, while the other six green species are consumed by only 3% of the households. Four vegetable species are available and consumed during both the cool and dry seasons. Twelve fruit species are commonly consumed by the surveyed households and collected near farms and forests. Three fruit species: *Nava pazham* (*Syzigium cumini*), *Nellikaai* (*Phyllanthus* sp.) and *Kunni pazham* (*Salvadora persica*) are mostly consumed by 50–80% of the households.

Locations of Collections, Trapping and Hunting

Locations of foraging, trapping and hunting are critical since they have a strong access dimension and are subjected to unwritten norms, institutionalized rules and their social interpretations. There are 11 food groups being consumed by the surveyed households. More than 80% of the greens, vegetables, mushrooms and rats are primarily collected from farmlands and the remaining from forests. Fruits (84%), roots and tubers (100%) are mostly collected from the forests. Birds are mostly trapped in forests (75%). Squirrels and mongooses are either trapped in forests and crabs are collected from farmlands.

Other Factors Influencing Consumption of Wild Foods

Knowledge forms an important component of wild foods in terms of identification, processing and cooking. When questioned about the source of knowledge related to wild foods, 62% of the respondents answered that they learnt about wild foods from their parents and close relatives, while 38% reported horizontal transmission involving peers, mostly friends and neighbours. Children learnt about wild foods mostly from their parents while going out to collect wild foods, a process very critical for knowledge transmission across generations. Most of the greens were identified using the shapes of leaves, while mushrooms were identified based on colour, shape, size and stalk. Knowledge about identification and cooking of greens among wom-

en is mostly learnt from mothers, sisters-in-law or mothers-in-law and additionally from friends and close relatives.

When asked about the reasons for the consumption of wild foods, 52% of respondents interviewed reported that the primary reason for consumption of wild foods was the belief that they were nutritious, while 48% reported that they consumed wild foods as a habit that has been handed over generations. One of the respondents mentioned that parents visiting children staying in hostels for tribal children in the plains during weekends carry dishes of wild foods relished by them, indicating their preference among the younger generation. Some of the reasons cited by respondents for the non-consumption of wild foods include distance required to cover for collection, gathering, foraging, trapping and hunting of wild foods and lack of time due to preoccupation with work. A few of the respondents reported that the forests were the locations in which tubers were found in sufficient quantities during the respective seasons but restrictions by personnel of the Forest Department acted as a deterrent to its collection and thereby its use.

Conclusion

The present study provides a bird's eye view of wild food species foraged, trapped and hunted by tribal households in Valappur Nadu of Kolli Hills. In order to draw some broad inferences based on the study, the authors felt that the framework of food security in its four dimensions – access, availability, utilization and stability (FAO, 2009b) – would be appropriate.

The access dimension of wild foods includes foods foraged, gathered, trapped or hunted from commons and seasonal commons (forests, water courses, roadsides, private lands, seasonal fallows and field edges). Such commons are important sources of food security for indigenous people in many countries and they hedge them from extreme food scarcity. Rules and norms of access to agricultural fields, forests, wastelands and water are therefore critical for the collection of wild foods. Based on the responses, access in the commons and seasonal commons, where the bulk of the greens are found, is mostly open access, but restrictions to forest lands where most of the tubers are found is a bottleneck for wild food collectors and users.

Availability of wild foods is largely a biophysical dimension subject to weather and climatic conditions. Many of respondents were of the opinion that there was a gradual decline in the availability of different species of wild foods. Further biophysical studies on the availability and quantities are required to assess if a declining local wild food resource is associated with a shrinking area, the implications of changes in land use, notably the cropping pattern, leading to changes in availability of species that can be used as food. Another aspect that also emerged from respondents is that women chose to use alternatives found in vegetable shops in the locality instead of wild foods that require time and effort collecting and preparing.

The absorption dimension of wild foods seems to be largely sociocultural. Three aspects that surfaced during interactions include taste preference, erosion or lack of knowledge related to wild foods and the view that wild or gathered foods are inferior to cultivated foods. Children exposed to wild foods are likely to consume them when they grow up. Those not exposed are not likely to consume them due to lack of familiarity. Hence this logically leads to the aspect of knowledge about its uses and practice of using them. From a utilization perspective, species rich in micronutrients are likely to make an important contribution to household nutrition security.

Open-ended answers provided by some households indicate that there is a strong belief that wild foods are nutritious and contribute to overall health and well-being. One of the examples include a response regarding consumption of pork, which is believed to improve immunity and popular with a section of the younger generation.

The authors are of the view that the stability dimension is deeply entrenched in the three dimensions discussed above and a host of individual, household and community-level factors clubbed together with local, state and national policies. Women generally plucked leaves of different species of greens and ensured that at least a part of the plant was left behind to mature and reproduce, a fundamental process linked to sustainability. The locations in which some of these plants are found are visited by households whenever required. Some households cited lack of time and interest to forage, trap or hunt as one of the major constrains, while others cited lack of a peer group in foraging, trapping or hunting leading to a decline.

Appropriate interventions such as the introduction of some of the wild species into home gardens or farmland will ensure that they would continue to contribute to the household food basket and dietary diversity. Special efforts are required to educate the younger generation about the value of wild foods and their contribution to nutrition and well-being. In addition, favourable government policies may be explored to improve access to wild food diversity found in commons and seasonal commons as a means of supplementing household nutrition.

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Appendix

Table A1. Details of wild foods used by the Malayali tribe in the study area.

Food group	Vernacular name	Scientific name	% of HH consumption			Sources	Part used	Cooking method	Frequency
			Rainy	Cool	Dry				
Greens	Manathakali	*Solanum nigrum*	98.0	15.0	10.0	Farm land	Leaf and Fruit	Boiled and roasted	Regular
	Vallaari	*Centella asiatica*	93.0	72.5	67.5	Farm land	Leaf	Raw, boiled and roasted	Regular
	Pannakkeerai	*Digera muricata*	93.0			Farm land	Leaf	Boiled and roasted	Regular
	Kuppakkeerai	*Amaranthus viridis*	85.0		2.5	Farm land	Leaf	Boiled and roasted	Regular
	Pulachaikkeerai	*Oxalis corniculata*	80.0	7.5	5.0	Farm land	Leaf	Boiled	Regular
	Ponnanganni	*Alternanthera sessilis*	75.0	27.5	32.5	Farm land	Leaf	Boiled and roasted	Regular
	Sengeerai	*Amaranthus cruentus*	68.0	2.5		Farm land	Leaf	Boiled and roasted	Regular
	Eengilkkeerai	*Acacia pennata*	45.0	5.0		Farm land and forest	Leaf	Boiled and roasted	Regular
	Avulari	*Indigofera tinctoria*	43.0	2.5		Farm land and forest	Leaf	Boiled and roasted	Regular
	Munna keerai	*Premna integrifolia*	40.0			Farm land, forest and road side	Leaf	Boiled and roasted	Regular
	Kendipulichan	*Hibiscus sabdariffa*	30.0			Farm land	Leaf	Boiled and roasted	Regular
	Sirukeerai	*Amaranthus polygonoides*	28.0			Farm land	Leaf	Boiled and roasted	Regular
	Thagarakkeerai	*Cassia tora*	28.0			Farm land and forest	Leaf	Boiled and roasted	Regular
	Kattamanakkukeerai	*Jatropha curcas*	8.0			Farm land and forest	Leaf	Boiled	Regular
	Thandukkeerai	*Amaranthus caudatus*	5.0			Farm land	Leaf	Boiled	Regular
	Thumbakkeerai	*Leucas aspera*	5.0			Farm land	Leaf	Boiled and roasted	Regular
	Agathikkeerai	*Sesbania grandiflora*	5.0			Farm land and forest	Leaf	Boiled and roasted	Regular
	Kannupoola	*Aerva lanata*	3.0			Farm land	Leaf	Roasted	Regular
	Mullukkeerai	*Amaranthus spinosus*	3.0			Farm land	Leaf	Boiled	Regular

Table A1 *cont.*

Food group	Vernacular name	Scientific name	% of HH consumption			Sources	Part used	Cooking method	Frequency
	Aivirali or Aiveli	*Bryonia laciniosa*	3.0			Farm land	Leaf	Boiled	Regular
	Mudakathaan	*Cardiospermum halicacabum*	3.0			Farm land	Leaf	Boiled	Regular
	Velacheri keerai	*Cleome gynandra*	3.0			Farm land	Leaf	Boiled	Regular
	Karisalanganni	*Eclipta prostrata*	3.0			Farm land	Leaf	Boiled	Regular
	Karandipooti	Not identified		2.5		Forest	Leaf	Boiled	Seasonal
Vegetables	Sundakkai	*Solanum erianthum*	85.0	2.5	2.5	Farm land, forest, pond and road side	After removing seed	Boiled	Occasional
	Siruthakkali	*Physalis minima*	65.0	2.5	2.5	Farm land and pond	Full	Boiled	Occasional
	Seenimelakkai	*Capsicum annuum*	48.0	2.5	2.5	Farm land and road side	Full	Boiled	Occasional
	Mullukathiri	*Solanum melongena*	33.0	2.5	2.5	Farm land	After removing skin	Boiled and roasted	Occasional
	Kunnikkaai	*Solanum nigrum*	8.0			Farm land	Full	Boiled	Occasional
Fruits	Naval pazham	*Syzygium cumini*			80.0	Forest	Fruit		Seasonal
	Nelikaai	*Phyllanthus emblica*			62.5	Forest	Fruit		Seasonal
	Kunni pazham	*Salvadora persica*			50.0	Farm land	Fruit		Seasonal
	Yerumaikanni	*Rubus ellipticus*			35.0	Forest and farm land	Fruit		Seasonal
	Kaayalakka pazham	*Memecylon umbellatum*			27.5	Forest	Fruit		Seasonal
	Kotta pazham	*Ziziphus xylopyrus*			25.0	Forest	Fruit		Seasonal
	Kovappazham	*Coccinia grandis*			15.0	Forest	Fruit		Seasonal
	Magulam pazham	*Mimusops elengi*			12.5	Forest	Fruit		Seasonal
	Kuliri pazham	*Ottelia alismoides*			7.5	Forest	Fruit		Seasonal

	Thatbootpalam	*Passiflora calcarata*		5.0	Forest	Fruit		Seasonal
	Eecham pazham	*Phoenix sylvestris*		2.5	Forest	Fruit		Seasonal
Mushrooms	Vadamakkaalaan	Not identified	58.0		Farm land and road side	Full	Boiled and roasted	Occasional
	Pookkaalaan	Not identified	53.0		Forest	Full	Boiled and roasted	Occasional
	Puthukkaalaan	Not identified	30.0		Farm land	Full	Boiled and roasted	Occasional
	Maathikatta kaalaan	Not identified	18.0		Farm land and forest	Full	Boiled and roasted	Occasional
	Kaattukkotakaal-aan	Not identified	8.0		Farm land	Full	Boiled and roasted	Occasional
	Varagankaalaan	Not identified	5.0		Farm land	Full	Boiled and roasted	Occasional
	Elisulikkikaalaan	Not identified	3.0		Farm land	Full	Boiled	Occasional
Roots and Tubers	Malangizkangu	*Amorphophallus campanulatus*	43.0		Forest	After remov-ing skin	Boiled	Occasional
	Mullankizhangu	*Dioscorea alata*	13.0		Forest	After remov-ing skin	Boiled	Occasional
	Aattukkaal kizhangu	*Drynaria quercifolia*	5.0		Forest	After remov-ing skin	Boiled	Occasional
	Mullanmuradu	*Dioscorea cayennensis*	3.0		Forest	After remov-ing skin	Boiled	Occasional
	Maravalli kizhangu	*Manihot utilissima*	3.0		Forest	After remov-ing skin	Boiled	Occasional
Birds	Puluthiyanguruvi	*Upupa epops*	28.0		Farm land and forest	Full	Boiled and roasted	Occasional
	Kolakkozhi	*Pelecanus philippensis*	10.0		Farm land	Full	Boiled	Occasional
	Chittu kuruvi	*Passer domesticus*	8.0		Forest	Full	Roasted	Occasional
	Kondiliyan	*Pycnonotus haemor-rhous*	8.0		Farm land and forest	Full	Roasted	Occasional
	Vavvaal	*Pteropus livingstonii*	5.0		Forest	Full	Roasted	Occasional
	Kokku	*Grus grus*	5.0		Farm land	Full	Roasted	Occasional
	Pura	*Columba livia domes-tica*	3.0		Forest	Full	Roasted	Occasional

Table A1 *cont.*

Food group	Vernacular name	Scientific name	% of HH consumption	Sources	Part used	Cooking method	Frequency
	Sembothu	*Centropus sinensis*	3.0	Farm Land and Forest	Full	Boiled and Roasted	Occasional
	Kuyil	*Eudynamys scolopaceus*	3.0	Forest	Full	Roasted	Occasional
	Kaudhari	*Perdix perdix*	3.0	Forest	Full	Roasted	Occasional
Fish	Kuravalai Meen	*Channa punctatus*	65.0	Farm Land and River/Pond	Full	Boiled and Roasted	Occasional
	Parattai Meen	*Trachurus trachurus*	45.0	River/Pond	Full	Roasted	Occasional
	Vilongu	*Anguilla bengalensis bengalensis*	3.0	River/Pond	Full	Roasted	Occasional
	Aara Meen	*Ophidium aculeatum*	3.0	Farm Land and River/Pond	Full	Boiled and Roasted	Occasional
Rats	Alageli	Not identified	15.0	Farm Land	Full	Boiled and Roasted	Occasional
	Konthukaal eli	Not identified	10.0	Farm Land	Full	Boiled and Roasted	Occasional
	Sundai eli	Not identified	8.0	Farm Land and Forest	Full	Roasted	Seasonal
	Velleli	Not identified	3.0	Farm Land	Full	Boiled and Roasted	Occasional
Crab	Nandu	Not identified	40.0	Farm Land	Full	Boiled and Roasted	Occasional
Squirrel	Anil	*Funambulus palmarum*	28.0	Farm Land and Forest	After removing shell	Boiled and Roasted	Occasional
Mongoose	Keeri	*Herpestes javanicus*	3.0	Farm Land	Full	Roasted	Occasional