

IDENTIFICATION OF TRADITIONAL FOOD RECIPES OF SRI LANKA

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ABSTRACT

Traditional food items are, made from locally available resources and culturally accepted. A study was conducted to identify traditional food recipes and their characteristics. Two hundred different traditional food recipes were identified by using a questionnaire. 139 different plant species and 7 animal species were used to prepare these recipes. Leaves (45%) and fruits (26%) were the commonly used plant parts in the recipes. Knowledge about 87% of the recipes had been obtained from relatives of the present and past generations. Out of 200 traditional food recipes 76 (38%) and 56 (28%) recipes belong to curries and "mallum" respectively. Highest percentage (56%) of traditional food recipes were consumed the same day. Special local preparations such as "Kurukkal", "Hathmaluwa", "Kayan hodda", "Panie gruel", "Kiri gruel" and "Thambum curry" were also identified as recipes, prepared for special cultural events, diseases, preservation and special persons. Recommended. Cost of a traditional meal to suite Dietary Allowances (RDA) energy, protein, Ca and P was Rs.87.23, Rs.16.63, Rs.109.25 and Rs.28.53, whereas for modern meal it was Rs.109.58, Rs.103.24, and Rs.101.88 Rs.54.58 per person respectively. The popularization of traditional food ensures a low cost balance diet with the supply of additional nutrients to humans.

Key words: Indigenous knowledge, natural resources, nutrition, traditional food items

INTRODUCTION

All humans and animal live on food. People have used large number of different foods and recipes since ancient times. It was clear that 32 traditional dishes of foods were used in alms giving for tooth relic in temple of tooth in Kandy.

Traditional food items (TFIs) can be defined as the food from a particular culture made from locally available resources and culturally accepted. It includes socio-cultural means, acquisition/processing techniques use composition and nutritional consequences for people using the food (Harriet *et al*, 2006). Those traditional food crops are easily found in forest, home gardens, marshy lands and seasonal tank bed areas as natural resource.

At present, Sri Lanka as well as many other countries has been faced food security problem. Real food security relies on the diversity of food crops. Out of 80000 edible plants explored by man since the beginning of civilization only about 150 species have so far been explored considerably. To day less than 30 plants species meet about 90% of the world food requirement (Mal, 1994). In Sri Lanka, Ministry of Agriculture has identified 21 vegetable varieties and 12 fruit varieties availability for food through out the year (Rajapaksha, 1998). In 2004, Sri Lanka had recorded 4.2 million undernourished people (FAO, 2004). The malnutrition is resulted from food insecurity at household level. TFIs rich in vitamins, minerals and fiber. There are important foods items which the villagers prepare with plants and leaves as part of the rituals of daily life. These include the taking of herbal gruel in the morning and herbal tea between meals. This traditional habit is said to have ensured the health of Sri Lankan in ancient times (Pilapitiya, 1995).

Traditional food varieties can be effectively used as low cost food sources for low income groups of under developed countries such as Sri Lanka. About 70% of Sri Lankan still lives in rural areas. TFIs play a very significant role of the livelihood of rural people in the dry zone of Sri Lanka. (Bandarathilaka, 1995). Traditional food varieties adapt well to unfavorable environment conditions and some of them can even be grown in marginal lands which have resist to pest and diseases. They can be used as plant genetic material to be used in future crop improvement programme.

There is valuable indigenous knowledge associated with cultivation, preparation, nutrition and storage of traditional food varieties. This knowledge has been passed generation to generation since ancient times. But today our TFIs faced in danger due to various reasons. Our traditional subsistence agriculture, farming systems, food systems and food culture were challenged for the first time during the British era, in the 19th centenary. As a result of promotion of plantation agriculture, traditional agriculture suffered.

The green revolution launched in the 1960s had as its motto the increase in productivity using high yielding varieties and high inputs. As a result of cultivation of selected varieties of a few cash or market oriented crops, thousand of food crops grown in farmers' fields have been seriously threatened. In 1900 Sri Lanka have 70% cover of forest land. But in year 2001 we have 22.4 % of forest cover (Anon, 2001). Deforestation has also a serious impact on plant genetic erosion and food security of the local people.

Therefore, this study was undertaken to collect information about TFIs and their recipes of Sri Lanka. As well as identification of conservation methods and sustainable management of this natural resource will be discussed and analyzed *via* this study. This workout the cost comparison of traditional meal and modern meal which fulfill the recommended dietary allowances. Conservation of TFIs and their recipes are also discussed to uplift the food security of Sri Lanka.

MATERIALS AND METHODS

A study was conducted to identify traditional food recipes and their characteristics. Two hundred different traditional food recipes were identified by using a questionnaire from Kandy, Matale, Nuwara Eliya, Kurunagala, Polonnaruwa, Monaragala, Gampaha and Ratnapura district. Purposive sampling method was used to identify relevant respondents. Meanwhile in depth discussions and some observations of preparing traditional food recipes were carried out with respondents. Current market prices were used to estimate costs of the typical traditional and modern meal. All cost calculations and charts were prepared by using MS-Excel. Secondary data such as nutritional values of both meals and recommended dietary allowances were obtained from books, journals and *via* internet.

RESULTS AND DISCUSSION

a) Characteristics of traditional food recipes

1. Different plant parts used for traditional food recipes

The study revealed that 139 plant species used for preparing traditional food recipes. Highest percentage (45%) of traditional food recipes were prepared by using green leaves. Being a tropical country Sri Lanka has large diversity of evergreen plants. People can harvest edible leaves from those plants throughout the year. As well as this plant part that leafy vegetables provide protective function in supplementary a variety of essential nutrients (Oomen and Grubben, 1977). Large numbers of leafy vegetables were collected to prepare salads, curries and *mallum* to add taste to rice dishes that eaten as main meals (Pathirana, 2004). Naturally grown edible leaves were harvested from home gardens, chena, stream banks, shrub jungles and fallow paddy fields.

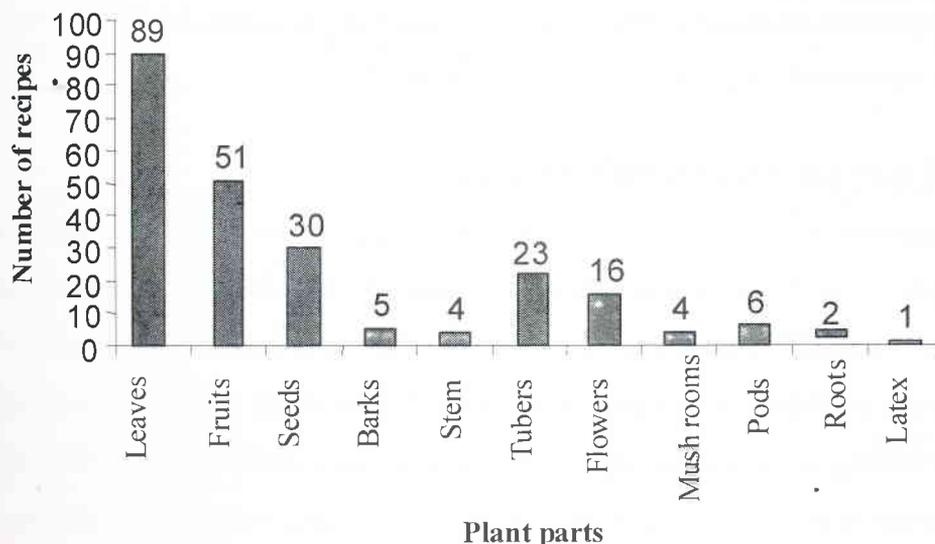


Figure 1: Different plants used for preparing traditional food recipes

2. Methods of obtaining traditional knowledge

Knowledge of preparation and their medicinal value of traditional food recipes were transferred from ancestors (87%). The knowledge which gained through books was 2%. The knowledge was being transmitted from elder people to younger people in the community. None of their experience has been based on scientific experience, but strengthened through trial and error (Wickramasinghe, 1993). This was enhanced the conservation of this valuable human capital for future generation.

3. Food storing time of traditional food recipes

Highest percentage (56%) of traditional food recipes were consumed on the same day. 20% and 10% of recipes were stored 1 day and 2 day respectively. Being majority of traditional food items were harvested from surrounding areas people did not want to store recipes. But some seasonal traditional food items were preserved and stored for future consumption. The closer vegetables and fruits are grown to the consumer, the more likely that local produce will be fresh and have higher nutrient content. During storage and transport, the level of Vitamin C is reduced (Anon, 2000 a).

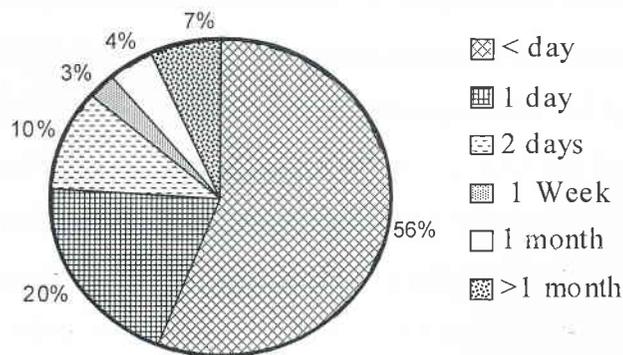


Figure 2. Food storing time of traditional food recipes

Wild meat, fish, different kind of seeds and flour were stored more than one month. Most common methods of food preservation were sun drying, smoking and dehydration.

4. Identified different types of traditional food recipes

Out of 200 traditional food recipes 76 (38%) and 56 (28%) recipes belong to curries and “*mallum*” respectively. Both type of traditional food recipes were consumed in main meals *i.e.* breakfast, lunch and dinner. “*Roti*”, “*Pittu*”, “*Thalapa*” and “*Dhohi*” were considered as whole food and consumed in breakfast and dinner. A same study carried out in Uva province of Sri Lanka, out of 192 traditional food recipes, 107 (56%) recipes were belong to curries and “*mallum*” (Aththanayaka, 2006). Herbal gruel is a kind of porridge made of cereals mainly raw rice, and coconut milk as the liquid, with leafy vegetables. It is not generally prescribed as a healing medicine, but it is considered an important part of the morning meal (Fernando, 1999). Wild meat, fish, some fruits and flour were preserved for future consumption.

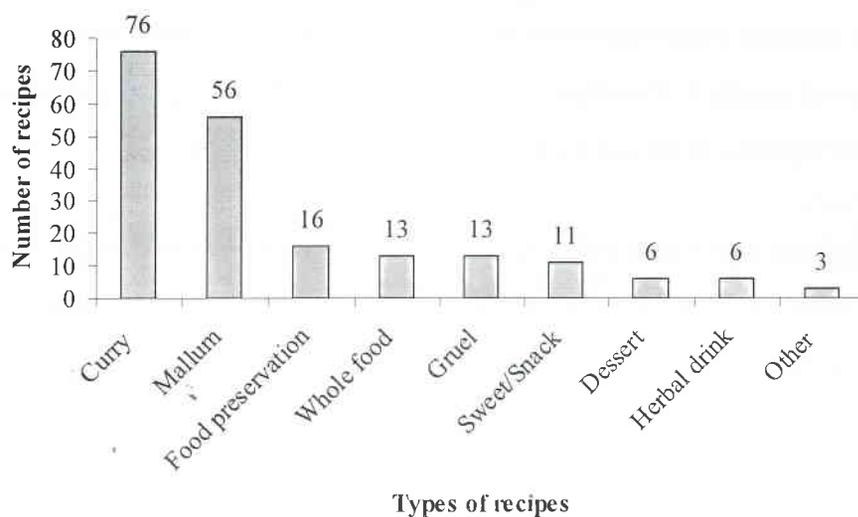


Figure 3. Identified different types of traditional food recipes

Cost comparison of a traditional meal and modern meal

The study worked out cost of energy and nutrients with respect to recommended dietary allowances for a traditional meal and modern meal. This typical traditional meal was included traditional food items such as rice (raw) Sesbenia leaves, immature jak fruit (*Polos*), green gram curry, jak seed (*Kalupol maluwa*) and one banana (*Amban*). Typical modern meal was consisted with rice (white), bean curry, carrot curry, potato curry, chicken and a glass of milk. Recommended dietary allowances for energy, protein, calcium and phosphorous were 2530 kcal, 57g, 750mg and 500mg per day respectively (Anon,2000: Anon,2002: Wickramanayake, 2002).

Table 1. Nutrient composition, Nutrients per unit cost and market prices of typical traditional meal and modern meal

Component	Typical traditional meal		Typical modern meal	
	Nutrient compositions	Nutrients per unit cost (Rs.)	Nutrient compositions	Nutrients per unit cost (Rs.)
Energy (kcal)	1439.7	29.0	1863.4	23.1
Protein (g)	170.15	3.4	44.56	0.6
Ca (mg)	340.77	6.9	594.17	7.4
P (mg)	870.1	17.5	739.4	9.2
Market price (Rs/meal)		49.64		80.71

Collective energy and nutrients values that given by each ingredient of the typical traditional meal and modern meal were showed in table 1. Calculated current market price for the typical traditional meal and the typical modern meal were Rs.49.64 and Rs.80.71 per person, respectively.

The cost of modern meal was higher than traditional meal to fulfill recommended dietary allowances for energy, protein and P (Table 2). To accomplish calcium requirement, cost of traditional meal was higher than modern meal by 7.23%. Glass of milk component in the typical modern meal was provided higher Ca amount.

3. Nutrient per unit cost

The traditional meal was provided higher energy, protein and phosphorus per rupee than modern meal (Table 1). The modern meal was supplied 7.23% more Ca per rupee than the traditional meal. The traditional meal was provided recommended dietary allowances with low cost with compared to modern meal. At present 58.7% of Sri Lankan house hold income is spent for foods and beverages (Anon, 2007). The ingredients of traditional meal were collected from the natural environment without any cost by the rural people. Therefore traditional meals can be reduced the household expenditure for foods. This enhances the reduction of malnutrition in household level of low income groups of underdevelopment countries such as Sri Lanka (Rajapaksha, 1998).

Table 2. Cost of meals for requiring recommended dietary allowances

Component	Traditional meal(Rs/person)	Modern meal(Rs/person)
Energy (kcal)	87.23	109.58
Protein (g)	16.63	103.24
Ca (mg)	109.25	101.88
P (mg)	28.53	54.58

a) Special local food preparations

Table 3. Special local food preparations

Name of preparation	Major food ingredients	Type of recipe
Kurukkal	Meat with fat	Preservation
Kayan hodda	Piper – (<i>Piper nigrum</i>)	Medicinal
	Goraka – (<i>Garcinia cambogia</i>)	spicy soup
	Garlic – (<i>Allium sativum</i>)	
	Cinamam – (<i>Cinnamomum zeylanicum</i>)	

Hathmaluwa	Kandy district -Ududhumbara	Curry
	Kiri ala - <i>Colocasia esculenta</i>	
	Papaya – <i>Carica papaya</i>	
	Pumkin – <i>Cucurbita moschata</i>	
	Tomato – <i>Lycopersicon esculentum</i>	
	Brinjol - <i>Solanum melongena</i>	
	Snake gourd - <i>Trichosanthes anguina</i>	
	Vigna- <i>Vigna cylindrical</i>	
Thambum	Goraka – <i>Garcinia cambogia</i>	Medicinal
hodda	Tamarind - <i>Tamarindus indica</i>	spicy soup
	Piper – <i>Piper nigrum</i>	
	Garlic - <i>Allium sativum</i>	
	Coriandrum- <i>Coriandrum sativum</i>	
	Ginger – <i>Zingiber officinale</i>	
	Coconut – <i>Cocos nucifera</i>	
Kiri kedha	Coconut - <i>Cocos nucifera</i>	Gruel
	Rice – <i>Oryza sativa</i>	
	Garlic - <i>Allium sativum</i>	
Pani kedha	Coconut - <i>Cocos nucifera</i>	Gruel
	Kithul trickle – <i>Caryota urens</i>	
	Rice – <i>Oryza sativa</i>	
Sap kanji	Iramusu – <i>Hemidesmus indicus</i>	Herbal gruel
	Hathawariya- <i>Asparagus racemosus</i>	
	Monarakudumbiya- <i>Vernonia linerea</i>	
	Gotukola- <i>Centella asiatica</i>	
	Ranawara- <i>Cassia auriculata</i>	
	Wal penela- <i>Cardiospermum microcarpum</i>	
	Polpa la – <i>Aerva lanata</i>	
Koon	Koon – <i>Schleichera oleosa</i>	Preservation
Anukaya		
Dhohi	Rice- <i>Oryza sativa</i>	Whole food
	Kurakkan – <i>Eleusine coracana</i>	
Kahipiththan jelly	Kahipiththan- <i>Cyclea peltata</i>	Dessert
Thal kiri	Palmyrah- <i>Borassus flabellifer</i>	Soft drink
	Coconut - <i>Cocos nucifera</i>	

Special local preparations were identified such as, "*Hathmaluwa*", "*Kayan hodda*" (medicinal spicy soup), "*Panie gruel*", "*Kiri gruel*" and "*Thambum*" curry (medicinal spicy soup). Those special local preparations were prepared for special cultural events, diseases, preservation and specific persons. "*Kayan hodda*" and "*Thambum*" curry were specially prepared for pregnant mothers and stomachache patients respectively. "*Hathmaluwa*" was prepared by using seven edible plant ingredients. Those plant ingredients used were different from place to place. It was obvious that Sri Lanka shows the diversity food recipes. Although "*Hathmaluwa*" was prepared during Sinhala new year, sometimes it was prepared for ritual ceremonies. The "*Hathmaluwa*" and rice were provided 24% of energy, 25% of protein, and 34% of calcium requirement of pregnant woman (Anon, 2000).

CONCLUSIONS

Most of traditional food recipes are prepared by using leaves. Different varieties of leaves are used as leafy vegetables and herbal gruels. Knowledge of traditional food recipes is transferred from generation to generation. Being majority of traditional food items were harvested from surrounding areas people did not want to store recipes. But some seasonal traditional food items were preserved and stored for future consumption. Curry and *mallum* were most frequently prepared recipes by using traditional food items. Recommended dietary allowances of energy, protein and phosphorus can be fulfilled from traditional foods with low cost than modern foods.

Although edible plants are available in the environment lack of knowledge of identification and preparation of traditional food items may be caused to underutilize this natural resource. Some social attitudes were negatively affected to the usage of traditional food items. To overcome those issues education and awareness programmes of exploitation and preparation of traditional food varieties are essential. The popularization of traditional food items should be needed to food security of nation and low cost balance diet for people while managing the natural resources.

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