# List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table I.1</td>
<td>Types of nutrients for human nutrition</td>
<td>3</td>
</tr>
<tr>
<td>Table I.2</td>
<td>Relationship between nutrition and health</td>
<td>5</td>
</tr>
<tr>
<td>Table I.3</td>
<td>Significance of BMI values</td>
<td>6</td>
</tr>
<tr>
<td>Table I.4</td>
<td>Structure of flavonoids</td>
<td>16</td>
</tr>
<tr>
<td>Table I.5</td>
<td>Dietary fibre constituents and their sources</td>
<td>20</td>
</tr>
<tr>
<td>Table I.6</td>
<td>Important functions of dietary fibre and its benefits on human health</td>
<td>23</td>
</tr>
<tr>
<td>Table I.7</td>
<td>Classes of food carbohydrates and their likely fates in human gut</td>
<td>26</td>
</tr>
<tr>
<td>Table I.8</td>
<td>Classification of lipids</td>
<td>27</td>
</tr>
<tr>
<td>Table II.1</td>
<td>List of vegetables</td>
<td>43</td>
</tr>
<tr>
<td>Table II.2</td>
<td>Antioxidant activity of vegetables measured by DPPH assay expressed as IC\textsubscript{50} value</td>
<td>56</td>
</tr>
<tr>
<td>Table II.3</td>
<td>Antioxidant activity of the vegetables estimated by ABTS assay expressed as trolox equivalent antioxidant activity (TEAC)</td>
<td>64</td>
</tr>
<tr>
<td>Table II.4</td>
<td>Antioxidant activity of the vegetables estimated by FRAP assay expressed as FRAP (µM Fe(II)/g dw)</td>
<td>65</td>
</tr>
<tr>
<td>Table II.5</td>
<td>Effect of cooking on antioxidant activity (IC50 value) of the vegetables in the DPPH assay</td>
<td>66</td>
</tr>
<tr>
<td>Table II.6</td>
<td>Effect of cooking on antioxidant activity of the vegetables in the ABTS assay</td>
<td>67</td>
</tr>
<tr>
<td>Table II.7</td>
<td>Effect of cooking on antioxidant activity of the vegetables in the FRAP assay</td>
<td>86</td>
</tr>
<tr>
<td>Table III.1</td>
<td>Total phenolic content, total flavonoid content and the ascorbic acid content of the raw vegetables</td>
<td>85</td>
</tr>
<tr>
<td>Table III.2</td>
<td>Effect of cooking on total phenolic content</td>
<td>86</td>
</tr>
</tbody>
</table>
Table III.3 : Effect of cooking on total flavonoid content

Table III.4 : Effect of cooking on vitamin C content

Table IV.1 : Concentration of macro-element present in the raw vegetables (mg/100g)

Table IV.2 : Potassium/Sodium, Calcium/Phosphorus and Potassium/(Calcium+Magnesium) ratio of the vegetables

Table IV.3 : Concentration of micro-elements elements present in the raw vegetables (mg/100g)

Table IV.4 : Comparison of macro-elements in the raw and cooked vegetables (mg/100g)

Table IV.5 : Comparison of micro-elements in the raw and cooked vegetables (mg/100 g)

Table V.1 : IDF, SDF and TDF (g/100g DM) and IDF/SDF ratio of different vegetables

Table V.2 : Effect of cooking on IDF and SDF (values are in g/100 g of DW).

Table V.3 : Functional properties (water holding capacity, swelling capacity and fat adsorption capacity) of the IDF portion of the vegetables

Table V.4 : Proximate composition of vegetables showing in g/100g DM except for moisture which is shown in g/100g of fresh matter (calorific value is given in kcal/100g DM)
List of Schemes

Scheme I.1   :  Deprotonations of ascorbic acid and formation of enolate 18
Scheme I.2   :  Possible effect of dietary fibre in large intestine 22

List of Figures

Figure II.1  :  Lasiaspinosa (Sengmora) 44
Figure II.2  :  Polygonummicrocephalum (Madhusaleng) 44
Figure II.3  :  Amorphophalluspaconiiifolius (Olkasu) 45
Figure II.4  :  Talinumtriangulare (Piralipaleng) 45
Figure II.5  :  Ipomeaaquatica(Kolmou) 46
Figure II.6  :  Alternantherasesilis (Matikaduri) 46
Figure II.7  :  Centellaasiatica (Bormanimoni) 47
Figure II.8  :  Hydrocotylesibthopioides (Sarumaninoni) 47
Figure II.9  :  Paederiascandens (Vadailata) 48
Figure II.10 :  Achasmanigra(Tora) 48
Figure II.11 :  Ardisiacolorata (Noltenga) 49
Figure II.12 :  Enhydrafluctuans(Helachi) 49
Figure II.13 :  Houttuyniacordata (Masandari) 50
Figure II.14 :  Oxalis corniculata (SaruTengasi) 50
Figure II.15 :  Oxalis debilis (Bar Tengasi) 51
Figure II.16 :  DPPH radicals scavenging effect by an antioxidant (AH) 52
Figure II.17 :  Generation of ABTS**cation by oxidation of ABTS with 53
K$_2$S$_2$O$_8$

**Figure II.18** : Formation of a Fe$^{2+}$-TPTZ complex from Fe$^{3+}$-TPTZ complex by antioxidant

**Figure II.19** : Plot of % inhibition vs extract concentration of the of samples for calculation of IC$_{50}$ value

**Figure II.20** : Concentration-response curve for the absorbance at 743 nm for ABTS$^{•+}$ as a function of standard trolox solution.

**Figure II.21** : Effect of cooking on antioxidant activity (IC$_{50}$ value) of the vegetables measured by DPPH assay

**Figure II.22** : Effect of cooking on antioxidant activity (TEAE) of the vegetables measured my ABTS assay

**Figure II.23** : Effect of cooking on antioxidant activity of the vegetables measured by FRAP assay

**Figure III.1** : Effect of cooking on total phenolic content

**Figure III.2** : Effect of cooking on total flavonoid content

**Figure III.3** : Effect of cooking on vitamin C content

**Figure III.4** : Correlations between total phenolic content and DPPH antioxidant activities (1/IC50). Correlation coefficient R=0.80 and coefficient of determination R$^2$ = 0.639 (p < 0.05)

**Figure III.5** : Correlations between total phenolic content and ABTS antioxidant activity (TEAC). Correlation coefficient R=0.92 and coefficient of determination R$^2$ = 0.87 (p < 0.05)

**Figure III.6** : Correlations between total phenolic content and FRAP antioxidant activity. Correlation coefficient R=0.84 and coefficient of determination R$^2$ = 0.713 (p < 0.05)

**Figure III.7** : Correlations between total phenolic content and total flavonoid content. Correlation coefficient R=0.94 and coefficient of determination R$^2$ = 0.89 (p < 0.05)
Figure V.1 : Effect of cooking on IDF 132
Figure V.2 : Effect of cooking on SDF 132