APPENDICES
Appendix - i

SURVEY SCHEDULE

SCHEDULE FOR GENERAL INFORMATION

1. Village and Location:

1a. Institutionalised/Non-Institutionalised/Day Care Centre:

2. Personal data
   a) Name of the Respondent:
   b) Age:
   c) Sex: Male/Female
   d) Caste:
   e) Mother tongue:

3. Family data:
   Type of family: Joint/Nuclear/Extended.
   b) Income of the Family:
      Cash or kind:

<table>
<thead>
<tr>
<th>Member of the family</th>
<th>Per day</th>
<th>Per month</th>
<th>Per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head of the family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other member</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Physical Activity
   a) Sedentary
   b) Moderate
   c) Heavy

5. Information on heredity factors
   a) Are you aware of the hereditary diseases like diabetes, hypertension - CHD, Arthritis, Asthma etc.
   b) Did your parents or grand parents suffer with any of the above diseases.
   c) Do you think the above diseases have a connection with food too.
   d) If so, what are the measures/precautions taken by you to prevent them.
SCHEDULE FOR DIETARY INTAKE

1. Are you a vegetarian, ovo, lacto, non-vegetarian

2. If a vegetarian what are the foods consumed:

<table>
<thead>
<tr>
<th>Daily</th>
<th>Once in two days</th>
<th>Twice in a week</th>
<th>Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green leafy vegetables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ragi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locally available fruits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhals &amp; legumes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk &amp; Milk products</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If a non-vegetarian how often you consume

1. Eggs :  
2. Meat :  
3. Seafoods : Fish/Dry fish/Prawns  
4. Poultry :  
5. Pork/beef

   a. Have you noticed any change in your sense of taste and smell as you have grown older?

   b. Have you noticed any change in your preference for foods as you have grown older
c. What are your favourite foods? What are your least favourite foods?

Meals

Vegetables

Fruits

Dairy

Grains

Any Another

d. Do you like food that is crunchy? If yes which foods ________________

e. Do you like food that is smoother? If yes which foods ________________

f. Do you like food that tastes salty, sour, spicy, sweet, bitter, blend.

g. What foods have an adour that is pleasing to you

h. What foods have on odour that you dislike ________________

i. How do you like your foods cooked

   a) Boiled   b) Steamed   c) Fried   d) Roasted

j. How do you take your meals ____________________________

   a) Hurriedly  b) Relaxed          c) Both

h. Are you in the habit of How often

   a) Chewing betelnuts

   b) Tobacco/Smoking

   c) Alcoholic beverages
## Food Consumption Patterns

<table>
<thead>
<tr>
<th>Name of the food stuff</th>
<th>Twice a day</th>
<th>Once a day</th>
<th>Once in 2 days</th>
<th>Twice a week</th>
<th>Weekly</th>
<th>Fortnightly</th>
<th>Monthly</th>
</tr>
</thead>
</table>

### CEREALS
- Rice
- Ragi
- Wheat
- Jowar

### PULSES
- Red gram
- Black gram
- Green gram
- Cowpeas/Lentils

### OILS & FATS
- Ghee
- Butter
- Groundnut oil
- Dalda

### FRUITS
- Milk and
- Milk products
- Sugar & Jaggery
A. Foods consumed
(The amount of foods consumed by the subjects as recorded through 3-day weighment method during breakfast, lunch and dinner)

<table>
<thead>
<tr>
<th>No. of days</th>
<th>Day of the week</th>
<th>Name of the Recipe</th>
<th>Ingredients used</th>
<th>Raw weight of Ingredient used</th>
<th>Total cooked weight of the Recipe prepared for the family</th>
<th>Total cooked weight of the recipe prepared for the respondents</th>
<th>Actual raw weight of the Ingredient consumed</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of days</td>
<td>Day of the week</td>
<td>Name of the Recipe</td>
<td>Ingredients used</td>
<td>Raw weight of Ingredient used gms</td>
<td>Total cooked weight of the Recipe prepared for the family gms</td>
<td>Total cooked weight of the recipe prepared for the respondents gms</td>
<td>Actual raw weight of the Ingredient consumed gms</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
</tbody>
</table>

LUNCH
### DINNER

<table>
<thead>
<tr>
<th>No. of days</th>
<th>Name of the week</th>
<th>Name of the Recipe</th>
<th>Ingredients used</th>
<th>Raw weight of Ingredient used</th>
<th>Total cooked weight of the Recipe prepared for the family</th>
<th>Total cooked weight of the recipe prepared for the respondents</th>
<th>Actual raw weight of the Ingredient consumed</th>
</tr>
</thead>
</table>
Appendix - ii

SCHEDULE FOR ANTHROPOMETRIC MEASUREMENTS & NUTRITIONAL DEFICIENCY SYMPTOMS

A. General Appearance

Posture

1. Straight and well built
   
2. Bent and emaciated
   
3. Normal/lean/obese
   
B. Physical stature of the ed through certain anthropometric measurements

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Height (cms)</th>
<th>Weight (kgs)</th>
<th>BMI</th>
<th>Skin fold measurements</th>
</tr>
</thead>
</table>

C. Clinical Status

1. Protein deficiency
   a) Sparse, dispigmented, lack of lustre of hair
   b) Muscle wastage
   c) Oedema of face and ankle
   d) Beaded ribs and
   e) Dermatitis
2. Vitamin A deficiency
   a) Bitot's spots
   b) Conjunctival xerosis
   c) Night blindness
   d) Corneal xerosis
   e) Dispigmentation of skin

D. Complex vitamin deficiency
   a) Angular stomatitis
   b) Angular scars

Vitamin C deficiency
   a) Loose teeth and bleeding gums

3. Anaemic symptoms
   a) Pale skin
   b) Pale eyes
   c) Tired look
   d) Funowied tongue
   e) Koilonychia
   f) Chest pain
   g) Pale pink lips

Any other symptoms
   a) Mottled teeth
   b) Thyroid enlargement
   c) Parotid enlargement
   d) Knock knees and bow legs
General Health Status

1. General healthy
2. Frequently ill
3. Blood pressure of the Respondent
4. Present health condition Good/Poor
5. Complaints, if any
   a) Joint pains
   b) Swelling of ankle and face
   c) Difficulty in breathing
   d) Sleeplessness
   e) Get tired easily
   f) Any other
6. a) Are you able to eat well?
   b) Do you feel hungry?
   c) Are you able to digest the food well?
7. Do you take any appetizers for proper digestion. If so what are they.
8. What are the common symptoms shown during indigestion?

9. Are you constipated. If so what do you do get over it.

10.

Exercise

1. Do you think exercise keeps you in a healthy condition. If yes,

2. What types of exercise you prefer
   
   a) Walking,   b) Trekking hills,   c) Gardening
   d) Household work,  e) Any other.

3. For how long do you exercise (duration) -

4. How do you feel after doing exercise?
   a) Exhausted,  b) tired  c) Relaxed,  d) Any other.
Appendix - iii

ESTIMATION OF TOTAL PROTEINS AND ALBUMINS

Reagents:

1. Sulphate-Sulphite Solution: Place 208 g of Sodium Sulphate and 70 g of Sodium Sulphite in 1000 ml, heat resistant volumetric flask. Add 2 ml of concentrated \( \text{H}_2\text{SO}_4 \) to 900 ml of water in a second container. Transfer the acidified water without delay to the flask containing the salts stirring until the solution has occurred. Dilute to the mark, and store in glass stoppered bottles above 25°C.

2. Biuret Stock: Dissolve 4 g sodium potassium tartrate in approximately 400 ml of 0.2 N \( \text{NaOH} \) solution and add 15 g copper sulphate and continuous stirring the until this was completely dissolved. Add 5 g of potassium iodide and dilute to 1000 ml with 0.2 N \( \text{NaOH} \).

3. Working Biuret Standard: Dissolve 200 ml of the stock reagent to the litre with 0.2 N \( \text{NaOH} \) which contains 5 g of potassium iodide per litre.

4. Standard Protein: Standard Protein can be obtained from Anmour and Co Ltd.

Estimation of Haemoglobin

Cyanomethaemoglobin Method:

Reagent: Drabkin solution: Dissolve 0.05 g of KCN, 0.20 g of Potassium ferricyanide and 1.0 g of sodium bicarbonate in one litre of distilled water.

Determination of Zinc in Plasma by AAS

Reagents and Materials: All the reagents used for zinc estimation are estimated to continuous quality control programme same as to iron.
Glycerine (Certified ACS 99.6% Fisher Scientific Co, Silver Spring Maryland 20910) was used to prepare a 0.5% (V/V) glycerol solution in deionised water. The deionized water had a specific resistance of at least 108 ohms at 25°C.

2 (a) Stock Standard:

For the primary zinc standard (1000 ppm - zinc), dissolve 1000 mg of zinc metal (zinc powder - 200 mesh, Alfa inorganics, Beverly, Mass0 in 500 ml of diluted (1+4) HNO₃ eutrox nitric acid, I.T. Baker Chemical & Co) and further dilute to 1 litre with 5% glycerol.

b) Secondary Standard: The Secondary standard (100 ppm zinc) was Fisher Scientific Standard. Deliver 100 ml of stock into a 100 ml of volumetric flask with deionised water. This constitutes 100 mg/ml zinc standard.

c) Intermediate Standard: Deliver 100 ml of 100 mg/ml zinc standard into 100 ml volumetric flask and dilute to 100 ml with the glycerol to get 10 mg/ml zinc standard. Mix the solution by inversion.
Annexure - iv

IDENTIFICATION OF PRIMARY TASTES

<table>
<thead>
<tr>
<th>Solution No.</th>
<th>Taste quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Series</td>
</tr>
</tbody>
</table>

1.
2.
3.
4.
5.

RETESTING IS NOT ALLOWED

Threshold Tests:

You are given four series (A B C D) of solutions. Each contains 5 different concentrations of any one of the four primary tastes (Sweet, salt, sour and bitter) and also distilled water. For each series identify the taste quality and give the intensity scores as described below:

**Stimulus Threshold - (S.T.)**

0 - None or pure water taste
1 - Different from water but taste quality not identifiable.

**Identify Threshold (I.T.)**

2 - Weak taste
3 - Medium
4 - Strong
5 - Very strong
<table>
<thead>
<tr>
<th>Solution No.</th>
<th>Description of taste quality and taste scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
</tbody>
</table>