APPENDIX 1

1. List of crops which have been taken for calculating fodder from their residue

CEREAL CROPS:

(a) Rice  (e) Ragi
(b) Jowar  (f) Wheat
(c) Bajra  (g) Barley
(d) Maize  (h) Small millets

PULSES:

(A) Gram
(b) Tur (Arhar)
(c) Other Pulses

OIL SEEDS:

(a) Groundnut
(b) Seasamum
(c) Repe Seed & Mustard
(d) Linseed
(e) Castor Seed

COMMERCIAL CROPS:

(a) Sugarcane
(b) Cotton
APPENDIX II

ESTIMATE OF FEED AVAILABILITY

1. The estimate relate to straw, bran and husk of food grains, whole grain and oil cakes used in animal feed.

2. The estimates are derived from the official data on output of major food grains and oilseeds, using the best available information regarding:
   (a) The ratio of straw to grain for each grain.
   (b) The average yield of bran and husk for unit weight of grain.
   (c) The proportion of output of each grain used as animal feed.
   (d) The yield of oil-cakes per unit weight of different oilseeds.

3. The values of the various parameters and their bases are given here.
   
   Paddy Straw = 1.21 tonnes per ton of Rice.
   Wheat and Barely = 1.28 tonnes per ton of grain.
   Jowar Stalks = 2.4 tonnes per ton of grain.
   Bajra Stalks = 2.17 tonnes per ton of grain.
   Maize Stalks = 1.78 tonnes per ton of grain.
   Ragi Stalks = 1.51 tonnes per ton of grain.
   Sugarcane Stuff = 0.33 of the cane output.

The ratios represent a simple average of the two alternative estimates for each grain quoted by A.V. Desai (1979) except Sugarcane which is provided by Dr. M.H. Qureshi from his survey.
BRAN AND HUSK

Five percent of rice output and 15 percent each of wheat and pulses are assumed to be bran and husk. These estimates are taken from Harbans Singh and Y.M. Pranekar (1966) (Basic facts about cattle wealth and allied matters, central council of Gosamvardhan, New Delhi, 1966, p. 96.

Whole grain fed to animals is uniformly taken at 5 percent of output for all the above mentioned grains. This is the figure assumed by the CSO for purposes of national income estimates.

OIL CAKE:

groundnut = output of nuts in shell x 0.7 x 0.55
rape & mustard = seed output x 0.67
sesamum = seed output x 0.57
cotton seed = lint output x 2 x 0.84

The cake content of each category of oilseed is equal to used weight less its oil content.
APPENDIX III

The TDN and DCP content of each of the by-products is taken from N.C. Sen (1976). These norms are applied to the calculated output of the respective by-products and the results aggregated over all the by-products to obtain the total availability of TDN and DCP in each state.

<table>
<thead>
<tr>
<th>Feeding Stuff</th>
<th>Nutrients per 100 units of feeding Stuff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DCP</td>
</tr>
<tr>
<td>Jowar, bajara, maize &amp; ragi</td>
<td>1.0</td>
</tr>
<tr>
<td>straw from rice, wheat &amp; barley</td>
<td>0.0</td>
</tr>
<tr>
<td>rice bran</td>
<td>6.0</td>
</tr>
<tr>
<td>wheat &amp; barley bran</td>
<td>11.0</td>
</tr>
<tr>
<td>pulses bran</td>
<td>0.0</td>
</tr>
<tr>
<td>whole grain</td>
<td>4.5</td>
</tr>
<tr>
<td>oil cake</td>
<td>41.0</td>
</tr>
<tr>
<td>cotton seed cake</td>
<td>17.0</td>
</tr>
</tbody>
</table>

Fodder and grazing is estimated, on an average by taking the area under fodder crops, pastures, cultivable waste and fallows taken together yield fodder and grass equivalent to half the average straw yield of rice, jowar, bajra, maize, ragi, wheat and barley in the districts.