This paper analyses levels of women’s malnutrition in India over the seven years between 1998-99 and 2005-06, based on the National Family Health Survey. During a period of higher growth and a reasonable pace of reduction in poverty, malnutrition especially iron-deficiency anaemia has increased among women from disadvantaged social and economic groups. The adverse influence of maternal malnutrition extends beyond maternal mortality to causing intrauterine growth retardation, child malnutrition and an increasing prevalence of chronic diseases.

Why has malnutrition been so high among women in India? The reasons are multiple and complex. Seemingly, the discriminatory practices associated with the rigid social norms and the excessive demands made on the time and energies of women join hands with the usual determinants in blighting women’s nutrition [Ramalingaswamy, Jonsson and Rohde 1996; Osmani and Bhargava 1998]. However, one of the usual determinants, namely poverty, seems equally important: not only is poverty one of the basic causes of malnutrition, but also malnutrition is considered to be both an outcome and a manifestation of poverty [ACC/SCN 1997, ch 3-5]. If so, then, the higher rates of economic growth during the past 10 years or more coupled with a reasonable reduction in poverty, especially between 1999-2000 and 2004-05, would normally imply a decline in women’s malnutrition. Thus, it is also important to assess whether such “good times” are good for women as well.

1 Significance of Women’s Nutrition

Nutrition embodies a central role in human well-being. It is both an essential element of, and also a critical input to other aspects of, well-being. Adequate nutritional attainment is essential equally for men and women. However, women’s nutrition assumes additional importance due to its critical but complex association with their well-being and the implication it has for human development. Yet, it is women’s nutrition — to that extent their well-being — which has often been subsumed under the umbrella of “family welfare” and ignored ostensibly due to “constraints from culture” in India and other south Asian countries. How is women’s nutrition important for their well-being? How does it impinge on aspects of human development?

Undernutrition would denote a deprivation of the basic aspect of well-being: the lack of freedom to lead a minimally healthy life. The implications that women’s malnutrition have for human development are multiple and cumulative. For instance, maternal malnutrition tends to increase the risk of maternal mortality.
Maternal short stature and iron deficiency anaemia, which increase the risk of death of the mother at delivery, account for at least 20 per cent of maternal mortality [Black et al 2008]. Additionally, maternal malnutrition impinges significantly on such important but interconnected aspects as intrauterine growth retardation, child malnutrition and rising emergence of chronic diseases, among others [Osmani and Sen 2003; Victora et al 2008]. Therefore, analysis of the nutritional attainment of women, which is the primary focus of the present paper, assumes significance and relevance.

The major questions the paper endeavours to examine are the following: what is the extent of women's malnutrition? How large are the spatial, social and economic disparities in women's malnutrition? Has women's malnutrition declined or increased over the years? We hope to address these questions by analysing the National Family Health Survey-3 (NFHS-3) data, 2005-06 and also through a comparative analysis between NFHS-3 and National Family Health Survey-2 (NFHS-2) data, 1998-99. It is important to state, at the outset, that the focus of the paper is limited in scope: it is not on issues of causation or on providing an explanation, but rather on presenting a preliminary factsheet on women's malnutrition in India.

2 Different Levels

Before getting on with the analysis, a note on the indicators of nutrition used here is in order. The body mass index (BMI), which measures the weight to squared height (w/h²), below 18.5 indicates undernutrition, referred to as chronic energy deficiency (CED). By contrast, BMI above 25.0 and 30.0 refer to overweight and obesity respectively, which are also indicative of poor nutrition. However, CED tends to indicate the absence of freedom to lead a minimally healthy life, and hence is structurally different from overweight and obesity, which relate also to, inter alia, an unhealthy, affluent lifestyle. Iron deficiency anaemia, one of the most widespread forms of women's malnutrition in developing countries, is indicated usually by 11.9 grams/decilitre of haemoglobin in the blood. Haemoglobin below 9.0 and 7.0 grams/decilitre denotes moderate and severe anaemia, respectively.

Table 1 presents the levels of malnutrition among women (15-49 years) in India during 2005-06. While more than one-third of women suffer from CED, around 10 per cent are overweight or obese. Thus, close to 50 per cent of women in India suffer from malnutrition of one form or the other. CED persists as the dominant form of malnutrition in rural India affecting around 40 per cent of women, which is about 15 percentage points larger than the incidence among urban women. On the contrary, overweight or obesity, from which nearly one-fourth of urban women suffer, is slowly emerging as an important nutritional problem in urban India. Again, about 50 per cent of women in both rural and urban India suffer from malnutrition, though its nature varies between rural and urban regions.

Equally, over half the women in the age group of 15-49 years suffer from iron deficiency anaemia. Unlike in CED where the gap between rural and urban regions is significantly large, the regional gap is relatively lower in anaemia. Thus, more than 50 per cent of women, irrespective of their place of residence, are anaemic, whether mild, moderate or severe. The last two, the serious forms of anaemia, afflict more than 15 per cent of women in both rural and urban India. The incidence of anaemia among pregnant women is even higher: nearly 59 per cent, of which moderate or severe forms of anaemia constitute more than half (33 per cent). The higher incidence of malnutrition among rural women would imply that a substantially large proportion of malnourished women – more than 77 per cent with CED and 70 per cent with any anaemia – live in rural India.

It is likely that a significant proportion of women who suffer from CED may also be anaemic. Hence, we have created yet another category combining both CED and anaemia so as to assess the combined incidence of both types of malnutrition. What proportion of women in India suffers from both CED and anaemia together? As is evident, the proportion is as high as 21 per cent; only about 31 per cent of women are free from both CED and anaemia. About one-fourth of rural women suffer from both CED and anaemia, which is 10 percentage points larger than the incidence in urban India. An equal measure of difference exists for those free from both CED and anaemia. Here too, 78 per cent of women with both CED and anaemia live in rural India.

Considering women of 15-49 years as a single group may lead to cloaking the variation in the incidence of malnutrition across age groups. Also, they may have different marital status. Given their economic or social disadvantages, for instance, it is likely that widows or separated women suffer from malnutrition more than others. It may be useful, therefore, to look at the levels of nutrition among women of different age groups and marital status. As far as the BMI is concerned, two contrasting patterns can be seen from Table 2 (p 63). The incidence of CED goes down with an increase in age and the reverse holds good for overweight or obesity. Surprisingly, nearly half of women in the younger age group (below 20 years) suffer from CED, which is closer to double the proportion of older women (40-49 years) in that category. Age appears to be no deterrent to anaemia: around 55 per cent of all women are anaemic in one form or another. What is more, the incidence of moderate or severe anaemia does not vary with age. Nevertheless, age seems to matter for the incidence of both CED and anaemia together: as high as 27 per cent of younger women as against 17 per cent of older women suffer from both. Thus, a difference of 10 percentage points is found between younger and older women on the incidence of both CED and anaemia.

Surprisingly, the incidence of CED is higher among never married women, which is 10 percentage points higher than the incidence among widowed women and also

---

**Table 1: Levels of Malnutrition among Women (15-49 Years) (2005-06)**

<table>
<thead>
<tr>
<th></th>
<th>All India</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMI</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CED</td>
<td>35.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight or obese</td>
<td>12.6</td>
<td>11,782</td>
<td>40.6</td>
</tr>
<tr>
<td>Anaemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any anaemia</td>
<td>55.3</td>
<td>11,685</td>
<td>57.4</td>
</tr>
<tr>
<td>Moderate and severe</td>
<td>16.8</td>
<td>17.5</td>
<td>79,888</td>
</tr>
<tr>
<td>CED and anaemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>21.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Either</td>
<td>47.5</td>
<td>1,094</td>
<td>47.7</td>
</tr>
<tr>
<td>Neither</td>
<td>30.9</td>
<td>27.3</td>
<td>47.1</td>
</tr>
</tbody>
</table>

*Excludes women who were either pregnant at the time of, or who gave birth within two months preceding the survey.

**Cautioned to 109,414 women for whom information on both BMI and anaemia is available. The previous note applies here as well.

Source: Computed from NFHS-3 data.
among divorced, separated or deserted women considered together. Even as it appears baffling, this is understandable given the fact that never married women constitute the bulk of younger women (70 per cent) among whom, as we just saw, the incidence of CED is relatively larger. The reverse is true for anaemia. However, the incidence of both CED and anaemia does not differ significantly: more than 20 per cent of women, irrespective of their marital status, suffer the double nutritional deprivation of CED and anaemia.

The regional disparity in women’s nutrition, noted above, induces us to look at other forms of disparities as well, mainly, social and economic. The results, reported in Table 3, seem to suggest the presence of huge socio-economic disparities in women’s malnutrition in India. A major gap is seen between social groups nearly 47 and 68 per cent of women (15–49 years) from the scheduled tribes (ST) suffer from CED and anaemia, respectively. What is more, more than one-third of them suffer from the double burden of CED and anaemia together. The incidence of malnutrition declines with the so-called rise in social status. By extension, such decline also means huge disparities between social groups: more than 15 percentage points difference is found between women from ST and others. Thus, the proportion of women suffering from CED and anaemia together among ST comes closer to double the proportion of the same among advantaged social groups.

Before discussing the disparity between wealth groups, a methodological note on the construction of wealth groups used for the analysis needs to be mentioned. Since NFHS-3 data do not contain information on income or expenditure, information related to household assets and durables were combined to create household wealth, based on which households were grouped into five quintiles with the help of the approach developed by Filmer and Pritchett (1998).1 As per this methodology, nearly 20 per cent of all households that form the bottom quintile would qualify as the poorest, followed by yet another 20 per cent of households as the second quintile or the poor. By contrast, 20 per cent of households constitute the upper quintile [IIPS and ORC Macro 2007].

More than 50 and 64 per cent of women from the poorest quintile suffer from CED and anaemia, respectively. Also, about one-third of them suffer from the double disadvantage of CED and anaemia. As we have observed among social groups, malnutrition among women goes down drastically with a rise in the household wealth status, creating equally large disparity between the wealth groups. The proportion of the poorest women suffering from CED and anaemia together comes around to more than three times that found in the highest quintile. It is also important to add here that the proportion of women suffering from anaemia is not low even within the richest quintile. This suggests that a substantially large proportion of women in India, irrespective of the household wealth status, suffer from iron deficiency anaemia.

### 3 Social and Economic Disparity

It appears from the above that a large proportion of women belonging to the bottom of the hierarchy, both social and economic, are at the receiving end of multiple forms of malnutrition. The huge disparity in women’s malnutrition between economic and social groups in India is a matter of serious concern, as the levels of nutritional attainment appear to be not only unequal but also unjust. Here, it may be worthwhile to probe into the relative importance of wealth over social groups or vice versa. Simply put, is it possible to identify what matters more for women’s nutrition: household assets or social status? Table 4 is the outcome of an attempt made towards this end.

At least two broad patterns emerge from Table 4. One, the incidence of malnutrition among women declines drastically along with a rise in the wealth status. This is clearly in consonance with the patterns we have observed above. Moreover, what is interesting is that such a decline is observable among all social groups, albeit the extent of decline varies. The decline is apparent in all the three aspects of malnutrition as well. Two, poor women not

<table>
<thead>
<tr>
<th>Wealth Groups</th>
<th>(in %)</th>
<th>ST</th>
<th>SC</th>
<th>OBC</th>
<th>OT</th>
<th>ST</th>
<th>SC</th>
<th>OBC</th>
<th>OT</th>
<th>ST</th>
<th>SC</th>
<th>OBC</th>
<th>OT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>53.4</td>
<td>54.2</td>
<td>48.1</td>
<td>52.0</td>
<td>73.8</td>
<td>63.9</td>
<td>59.3</td>
<td>61.3</td>
<td>40.2</td>
<td>35.4</td>
<td>29.3</td>
<td>32.9</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>48.0</td>
<td>48.2</td>
<td>44.7</td>
<td>47.0</td>
<td>68.7</td>
<td>60.7</td>
<td>58.0</td>
<td>59.9</td>
<td>33.4</td>
<td>30.5</td>
<td>26.2</td>
<td>30.3</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>43.0</td>
<td>38.8</td>
<td>38.7</td>
<td>36.6</td>
<td>61.9</td>
<td>56.7</td>
<td>55.9</td>
<td>54.4</td>
<td>28.2</td>
<td>23.3</td>
<td>22.9</td>
<td>21.4</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>31.6</td>
<td>29.8</td>
<td>29.0</td>
<td>28.4</td>
<td>61.8</td>
<td>55.2</td>
<td>51.9</td>
<td>50.7</td>
<td>22.0</td>
<td>18.2</td>
<td>16.5</td>
<td>15.2</td>
<td></td>
</tr>
<tr>
<td>Highest</td>
<td>22.6</td>
<td>23.1</td>
<td>19.4</td>
<td>16.6</td>
<td>52.8</td>
<td>49.6</td>
<td>46.7</td>
<td>45.0</td>
<td>14.8</td>
<td>12.4</td>
<td>10.0</td>
<td>8.4</td>
<td></td>
</tr>
</tbody>
</table>

| Low/high**    | 2.36  | 2.35 | 2.48 | 3.13 | 1.40 | 1.29 | 1.27 | 1.36 | 2.72 | 2.85 | 2.93 | 3.92 |

### Table 2: Women’s Malnutrition in India, 2005–06 – Age and Marital Status (in %)

<table>
<thead>
<tr>
<th>Age</th>
<th>CED and Anaemia</th>
<th>CED and Anaemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>15–19</td>
<td>46.8</td>
<td>2.4</td>
</tr>
<tr>
<td>20–29</td>
<td>38.1</td>
<td>8.2</td>
</tr>
<tr>
<td>30–39</td>
<td>31.0</td>
<td>17.4</td>
</tr>
<tr>
<td>40–49</td>
<td>26.4</td>
<td>23.7</td>
</tr>
</tbody>
</table>

### Table 3: Social and Economic Groups (in %)

<table>
<thead>
<tr>
<th>Social groups</th>
<th>CED and Anaemia</th>
<th>CED and Anaemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
<td>46.6</td>
<td>3.5</td>
</tr>
<tr>
<td>SC</td>
<td>41.1</td>
<td>8.9</td>
</tr>
<tr>
<td>OBC</td>
<td>35.7</td>
<td>11.6</td>
</tr>
<tr>
<td>Others</td>
<td>29.2</td>
<td>18.6</td>
</tr>
<tr>
<td>ST/others**</td>
<td>1.60</td>
<td>0.19</td>
</tr>
</tbody>
</table>

### Table 4: Economic Groups within Social Groups (in %)

<table>
<thead>
<tr>
<th>Wealth Groups</th>
<th>CED</th>
<th>CED and Anaemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
<td>53.4</td>
<td>54.2</td>
</tr>
<tr>
<td>SC</td>
<td>48.2</td>
<td>44.7</td>
</tr>
<tr>
<td>OBC</td>
<td>68.7</td>
<td>60.7</td>
</tr>
<tr>
<td>OT</td>
<td>33.4</td>
<td>30.5</td>
</tr>
<tr>
<td>ST</td>
<td>43.0</td>
<td>38.8</td>
</tr>
<tr>
<td>SC</td>
<td>38.7</td>
<td>36.6</td>
</tr>
<tr>
<td>OBC</td>
<td>61.9</td>
<td>56.7</td>
</tr>
<tr>
<td>OT</td>
<td>31.6</td>
<td>29.8</td>
</tr>
<tr>
<td>ST</td>
<td>22.6</td>
<td>23.1</td>
</tr>
<tr>
<td>SC</td>
<td>19.4</td>
<td>16.6</td>
</tr>
</tbody>
</table>

Source: Computed from NFHS-3 data.
only from the disadvantaged social groups, such as st and sc, but also from advantaged social groups suffer disproportionately from malnutrition. Indeed, the disparity found between wealth quintiles within the same social group is significantly larger than the disparity found between social groups at each wealth quintile. This would suggest that though economic and social disparities matter significantly and independently, the former seems to matter more, at least as far as women’s malnutrition is concerned, than the latter. However, if social and economic disadvantages are combined, the outcome is likely to be far more regressive. That is what we can see from the levels of malnutrition among poor st women.

4 State-wise Difference

How do major states in India perform as far as women’s nutrition is concerned? Table 5 provides levels of women’s malnutrition in 18 major states. To begin with, ced affects close to half of the

Table 5: Women’s Malnutrition across Major States in India (2005-06, in %)

<table>
<thead>
<tr>
<th>State</th>
<th>CED</th>
<th>Overweight or Obese</th>
<th>Moderate or Severe</th>
<th>Anaemia</th>
<th>Both</th>
<th>Either</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerala</td>
<td>18.0</td>
<td>28.1</td>
<td>7.1</td>
<td>32.8</td>
<td>7.6</td>
<td>35.5</td>
<td>56.9</td>
</tr>
<tr>
<td>Punjab</td>
<td>18.9</td>
<td>29.9</td>
<td>11.8</td>
<td>38.0</td>
<td>8.1</td>
<td>40.6</td>
<td>51.3</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>28.4</td>
<td>20.9</td>
<td>15.8</td>
<td>53.2</td>
<td>16.7</td>
<td>47.9</td>
<td>35.3</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>30.0</td>
<td>12.8</td>
<td>14.8</td>
<td>55.2</td>
<td>18.1</td>
<td>48.7</td>
<td>33.1</td>
</tr>
<tr>
<td>Haryana</td>
<td>31.3</td>
<td>17.4</td>
<td>18.5</td>
<td>56.1</td>
<td>18.5</td>
<td>49.6</td>
<td>31.9</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>33.5</td>
<td>15.6</td>
<td>23.9</td>
<td>62.9</td>
<td>22.5</td>
<td>51.3</td>
<td>26.2</td>
</tr>
<tr>
<td>Karnataka</td>
<td>35.5</td>
<td>15.3</td>
<td>17.1</td>
<td>51.5</td>
<td>19.8</td>
<td>48.9</td>
<td>33.3</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>36.0</td>
<td>9.2</td>
<td>14.7</td>
<td>49.9</td>
<td>18.9</td>
<td>47.6</td>
<td>33.5</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>36.2</td>
<td>14.5</td>
<td>15.6</td>
<td>48.4</td>
<td>19.0</td>
<td>46.1</td>
<td>34.9</td>
</tr>
<tr>
<td>Gujarat</td>
<td>36.3</td>
<td>16.7</td>
<td>19.1</td>
<td>55.3</td>
<td>22.8</td>
<td>45.5</td>
<td>31.7</td>
</tr>
<tr>
<td>Assam</td>
<td>36.5</td>
<td>7.8</td>
<td>24.7</td>
<td>69.5</td>
<td>26.2</td>
<td>53.3</td>
<td>20.5</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>36.7</td>
<td>8.9</td>
<td>17.9</td>
<td>53.1</td>
<td>20.2</td>
<td>48.5</td>
<td>31.2</td>
</tr>
<tr>
<td>West Bengal</td>
<td>39.1</td>
<td>11.3</td>
<td>17.4</td>
<td>63.2</td>
<td>27.1</td>
<td>48.2</td>
<td>24.7</td>
</tr>
<tr>
<td>Orissa</td>
<td>41.4</td>
<td>6.6</td>
<td>16.3</td>
<td>61.2</td>
<td>27.5</td>
<td>47.2</td>
<td>25.3</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>41.7</td>
<td>7.6</td>
<td>15.1</td>
<td>56.0</td>
<td>25.2</td>
<td>47.0</td>
<td>27.8</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>43.0</td>
<td>5.3</td>
<td>19.9</td>
<td>69.4</td>
<td>31.2</td>
<td>50.1</td>
<td>18.7</td>
</tr>
<tr>
<td>Chhattisgarh</td>
<td>43.4</td>
<td>5.6</td>
<td>17.6</td>
<td>57.5</td>
<td>26.5</td>
<td>47.3</td>
<td>26.2</td>
</tr>
<tr>
<td>Bihar</td>
<td>45.1</td>
<td>4.6</td>
<td>16.9</td>
<td>67.4</td>
<td>31.7</td>
<td>49.5</td>
<td>18.7</td>
</tr>
<tr>
<td>India</td>
<td>35.6</td>
<td>12.6</td>
<td>16.8</td>
<td>55.3</td>
<td>21.6</td>
<td>47.5</td>
<td>30.9</td>
</tr>
</tbody>
</table>

Source: Computed from NFHS-3 data.

women in Bihar (45 per cent), which is followed closely by Chhattisgarh, Jharkhand (43 per cent each), Madhya Pradesh and Orissa (41 per cent each). West Bengal, with an incidence of around 39 per cent, is not far from these states. These states tend to have more than double the proportion of undernourished women of states such as Kerala and Punjab, which are at the other end of the spectrum. Rather than ced, what seems to be an important issue in these two states is overweight or obesity: nearly 30 per cent of women suffer from both forms of anaemia, remain at the top among these states. Close on their heels come Bihar with 67 per cent, West Bengal, Andhra Pradesh and Orissa. In Assam and Andhra Pradesh, nearly one-fourth of women suffer from moderate and severe anaemia. Here too, Kerala and Punjab remain at the lower end: both in terms of overall incidence as well as moderate and severe anaemia. Thus, the incidence of anaemia in Assam is over two times more than that in Kerala. Over 30 per cent of women in both Bihar and Jharkhand suffer from ced and anaemia together, with Orissa and West Bengal (about 27 per cent each) as close followers. Again, Kerala and Punjab, with much lower proportions, remain at the other end.

It appears that, with a much higher incidence of malnutrition, the eastern states, mainly Bihar, Jharkhand, Orissa and West Bengal, emerge as the repository of women’s malnutrition in India. Though these four states account for 22 per cent of women considered for the analysis (1,09,414), 30 per cent of women suffering from ced and anaemia together live in these states. Do these higher levels of women’s malnutrition suggest that norms and discriminatory practices against women are more rigid and intense in these states? Or alternatively, do they relate to the levels of poverty and of human development? Or, do they simply reflect the food habits of the region, and the lack of adequate nutritive components in them? Only detailed analysis can cast light on why women’s malnutrition is so high in this region.

5 The ‘Good times’

The decline in women’s malnutrition in India during the period assessed here is based upon a comparative analysis of the NFHS-2 and NFHS-3. It needs to be mentioned that the NFHS-2 collected nutritional information only from ever-married women unlike the NFHS-3, which collected data from unmarried women as well. To ensure uniformity in comparison, the analysis in this section is confined to ever-married women only. Interestingly, the seven-year period covered by these two rounds, between 1998-99 and 2005-06, is also a period of significant and sustained surge in the economy, followed by an onset of significant reduction in poverty in India.2 It would, therefore, be interesting to examine the extent of progress on the levels of nutrition among women during the “good times”.

In keeping with the good times, the incidence of ced among ever-married women has come down in India during the period under consideration (Table 6). Though the extent of decline is marginal, it points towards a progressive phenomenon. Interestingly, the decline, though varying in size, has been registered in both rural and urban regions. By contrast, overweight or obesity among ever-married women has increased in both the regions leading to an overall increase in the all-India proportion as well. While the decline in the ced is about 3 percentage points, the rise in overweight or obesity is around 4 percentage points. Like ced where the decline is
marginally higher in urban India, the increase in overweight or obesity is also relatively higher in urban than in rural India.

The progressive phenomenon noted for CED does not extend to other aspects of malnutrition considered for the analysis. Instead, what we find is a reversal of the trend. The incidence of iron deficiency anaemia, for instance, among ever-married women has increased during the same period. The increase, around 4 percentage points, is evident in both rural and urban areas. Also, there is a marginal increase in the incidence of moderate and severe anaemia in the country, though it has declined in urban India. There is no noticeable change in the incidence of CED and anaemia together during the period. A marginal increase is found in rural India as against a negligible decline in urban India.

Thus, we find that there is no significant decline in anaemia and more importantly in the dual burden of CED and anaemia. Even the extent of decline in CED appears to be rather small (only 3 percentage points). Additionally, the levels of undernutrition continue to be high among ever-married women. While nearly one-third of them suffer from CED, more than half of them are anaemic. The proportion of women having both CED and anaemia is not low either: it is around 21 per cent. Taken together, these conflicting trends seem to indicate a regressive phenomenon of deteriorating nutritional levels during the period of higher growth and reduction in poverty. These trends call for a disaggregated analysis across age and marital status to assess who, among these women, lost and gained.

Table 7 shows that the incidence of CED has come down in almost all the age groups except the youngest age group (15-19 years); however, the size of decline appears to vary, between 2 and 4 percentage points, across age groups. Not only has the incidence of anaemia risen among ever-married women of all age groups, the increase is rather large among the youngest age group (7 percentage points). The trend arising from both CED and anaemia seems to be rather negative. Excepting among the oldest age group, ever-married women of the remaining age groups have witnessed an increase in the incidence of both CED and anaemia. The increase, though marginal, is largest among the youngest age group. Thus, there seems to be an overall increase in malnutrition among younger women in India.

As far as marital status is concerned, CED has declined among all the three groups of women. Oddly enough, the decline appears to be relatively large (around 7 percentage points) among women who are divorced, separated or deserted; they are followed by widowed women, with about 5 percentage points decline. On the contrary, all the three groups of women experienced an increase in the incidence of anaemia. In CED and anaemia together, although there is a marginal increase among currently married women, the incidence in this group is relatively lower than in the remaining groups. By contrast, the other two groups of women seemed to have experienced a marginal decline.

6 Disadvantaged Groups

Given these broad trends, it is important to look into the trends emerging from social and economic groups. Table 8 presents changes in ever-married women’s nutrition over time across social and economic groups. The incidence of CED has come down among women from all social groups. The extent of decline is rather large among the advantaged social groups (4 to 5 percentage points) and quite marginal among the ST women. Contrarily, women from all social groups seemed to have experienced an increase in both CED and anaemia. In both CED and anaemia, there has been an increase in the incidence among tribal women as against a decline, though negligible, among women from other social groups, especially the SC and OBC. Thus, the level of malnutrition, which were already higher, have increased further among tribal women in India. In fact, the disparity between social groups, especially between ST and others, has increased over time in CED as well as CED and anaemia together.

The trends emerging from the wealth groups correspond closely to those observed from the social groups. In all the three aspects of malnutrition considered for the analysis, ever-married women from poor households find themselves in a regressive state of deteriorating nutritional attainments. Again, women from the second quintile also have experienced an increase in anaemia as well as in both CED and anaemia. In CED, though there is a decline, the size of the decline is marginal indeed. Only among the other three quintiles in general and the last two quintiles in particular are there signs of progress. While CED has come down among women from these wealth groups, the reverse is true for anaemia. In both CED and anaemia, again, there is a decline over the years in the last two groups.

It appears, thus, that ever-married women, irrespective of their age or marital status and the economic or social groups they belong to, experienced an increase in the incidence of iron deficiency anaemia. Though there has been a decline, by and large, over the years in the incidence
of CED, it does not hold true for women from the poorest households. Does this then suggest that not only has the pace of progress in women's nutrition been slow and far from satisfactory, but also that there are women, not small in number, who have made no progress at all? Does the increase in women's malnutrition among poor households and disadvantaged social groups indicate that the benefits from sustained growth did not touch their lives and alleviate their suffering? Here we have to ask yet another question. Did all SR women experience deterioration in their nutrition? Or, alternatively, did all poor women, irrespective of their social identity, experience a negative trend in their nutrition? The results are reported in Table 9.

Table 9 conveys a couple of disquieting trends. To begin with, levels of malnutrition continue to remain quite high among poor women, irrespective of their social identity. As noted earlier, the disparity in nutritional attainments is much larger between wealth groups within the same or identical social group than between social groups with similar wealth status. The disparity in malnutrition between bottom and top wealth groups among SR is as high as that found between the wealth groups in other social groups. This implies that not only poor SR women, but also poor women from other social groups are endowed with deficient nutritional attainments. Stated differently, richer women not only from advantaged social groups but also from disadvantaged social groups, such as ST and SC, seem to have much better nutritional attainments.

The disparity between wealth groups seems to have increased in almost all social groups in both CED and CED and anaemia together. This is contrary to what is being observed in the case of anaemia. The decline in the disparity in anaemia is due to the overall increase rather than decline in the incidence, as shall be seen below. Such increasing disparity would tell us that not all women from within the same social group have had to face the increase in malnutrition equally. Not only have the richer women from all the social groups seemed to have benefited more than their poor sisters, but also the poor women from almost all the social groups (except OBC) found themselves at the receiving end of growing malnutrition. This, then, would mean that the decline in malnutrition seems to have come almost entirely from the non-poor women, and, hence, much of the poorer women do not seem to have benefited at all, at least as far as their nutritional attainment is concerned, from the surge in the economy.

The extent of increase in anaemia among ever-married women appears to be rather uneven across social groups and wealth groups within them. The increase is rather sharp among the bottom wealth groups among others and equally for the fourth quintile in ST and the highest quintile in OBC. That being the case, it is also clear from Table 9 that three-fourths of the poorest SR ever-married women suffer from anaemia. Add to this, more than 50 per cent of them suffer from CED and above 40 per cent are endowed with the double deprivation of both CED and anaemia. Juxtapose these with the levels of malnutrition among richer SR women. Here too, the relatively larger levels of malnutrition among poor SR women seem to suggest that if social disadvantage is combined with economic disadvantage, the outcome is likely to be far more regressive.

Table 10 presents changes in ever-married women's malnutrition across major states. As noted earlier, there has been a marginal decline in the incidence of CED. Except four states, namely Assam, Madhya Pradesh, Bihar and Haryana, other states registered a decline. The larger decline, more than 7 percentage points, is found in Orissa, followed closely by Karnataka and Maharashtra. Uttar Pradesh and Rajasthan, with less than a 3 percentage points decline, remain at the bottom. In contrast, Assam with an increase of over 9 percentage points remains at the top of the other end.

Contrary to undernutrition, the incidence of anaemia among ever-married women has risen in India. Also, compared to CED, the incidence of anaemia among women has come down only in four out of the 16 major Indian states considered here. Tamil Nadu is the state with the largest decline (about 3
suggest the role of rigid gender norms and discriminatory prac-
tices? Does higher incidence of malnutrition among younger 
women relate to lack of autonomy or to the higher nutritional 
requirements related to the physiological changes? Or, does it 
relate to the rising impression among younger women that “to 
become beautiful one must be slim” so as to provide a big boost to 
the emerging market for beauty? Does the higher incidence of 
malnutrition in the eastern region signify something common in 
these states which make them different from other states? These 
are one group of disparate but related questions that call for 
detailed and careful enquiry.

The trends emerging from the analysis raise yet another set of 
questions. Why has women’s malnutrition increased during the 
period of higher growth with a reasonable reduction in poverty? 
Does the increase in malnutrition convey the limits of the market 
in enhancing women’s well-being? Or, does it indicate the poor 
reach of welfare programmes in general and to the poor women 
in particular? Does the simultaneous increase in obesity and 
overweight as well as in anaemia indicate the changing food hab-
its and lack of adequate nutritive components in the foods? Do 
the rising levels of anaemia among women indicate that they are 
less cared for, or discriminated against, in food allocation? Only 
detailed empirical analysis will shed light on these questions.

The increase in malnutrition among women in India, whether 
it is due to the failure of the market or of the state or due to gen-
der inequality or because of changing food habits, does not augur 
well for various reasons. Malnutrition amounts to deprivation in 
one of the most elementary and central aspects of well-being. It 
also has implications for human development which are large 
and cumulative. For instance, the adverse influence of maternal 
malnutrition extends beyond maternal mortality to intrauterine 
growth retardation, child malnutrition and rising emergence of 
chronic diseases, among others [Osmani and Sen 2003; Victora 
et al 2008]. Therefore, it is important that women’s malnutrition 
be viewed as an important issue of human development, rather 
than as an isolated issue of health specific to women. Construing 
women’s malnutrition as an issue of human development would 
entail both immediate measures to address malnutrition as well as 
placing women’s well-being firmly on the development agenda.

NOTES
1 See IIPS and ORC Macro (2007) for details of as-
dsets and durables collected and weights assigned to each of those assets and durables. Based on this 
approach, Gwatkin et al (2000) examine the ex-
tent of disparities in health and nutrition between 
the wealth groups in India.

2 Though different estimates suggest varying pace of 
poverty reduction between 1999-2000 and 
2004-05, the broad trend is unmistakably posi-
tive. Compare, for instance, the estimates of Dev and Ravi (2007) and Himanshu (2007) with that of 
Sundaram (2007).

REFERENCES

Policy Discussion Paper No 16, United Nations – 
Administrative Committee on Coordination/Sub-
Committee on Nutrition, World Health Organisa-
tion, Geneva.

Black, Robert E, Lindsay H Allen, Zulfikar A Bhutta, 
Laura E Caulfield, Mercedes de Onis, Majid Ezza-
ti, Colin Mathers and Juan Rivera for the Mater-
‘Maternal and Child Undernutrition: Global and 
Regional Exposures and Health Consequences’, 
Lancet, published online January 17, DOI: 10.1016/ 
S0140-6736(07)61690-0.

Dev, Mahendra S and C Ravi (2007): ‘Poverty and 
Inequality: All-India and States’, 1983-2005, 
Economic & Political Weekly, February 10.

Wealth Effects without Expenditure Data or 
Tears: An Application to Educational Enrolments 
No 1994, Development Economics Research 
Group, The World Bank, Washington DC.

Gwatkin, Davidson R, Sheah Rustain, Kieran Johnson, 
Rohini P Pandey and Adam Wagstaff (2000): ‘Socio-
Economic Differences in Health, Nutrition, and 
Population in India’, World Bank, HNP/Poverty 
Thematic Group, The World Bank, Washington DC.

Himanshu (2007): ‘Recent Trends in Poverty and 
Inequality: Some Preliminary Results’, Economic 
& Political Weekly, February 10.

International Institute for Population Sciences (IIPS) 
and ORC Macro (2007): National Family Health 
— (2007a): Key Findings from National Family 
Health Survey-3, 2005-06: Various States of India, 
IIPS Mumbai.

Mason, John, Adams Bailes, Mary Beda-Andourou, 
Nancy Copeland, Teresa Curtis, Megan Deitchler, 
Leigh Foster, Marianna Hensley, Peter Horjus, 
Christine Johnson, Tina Lloren, Anna Mendez, 
Mary Menez, Jonathan Rivers and Gwyneth 
Vance (2000): ‘Recent Trends in Malnutrition in 
Developing Regions: Vitamin A Deficiency, 
Anaemia, Iodine Deficiency, and Child Under-
weight’, Food and Nutrition Bulletin, Vol 26, 
No 1, pp 59-162.

Osmani, Siddiq and Alok Bhargava (1998): ‘Health 
and Nutrition in Emerging Asia’, Asian Develop-

Penalties of Gender Inequality: Fatal Origi-
gins of Ill-health’, Economics and Human Biology, 
Vol 1, No 1, pp 105-21.

Ramalingaswami, Velmur, Urban Jonsson and Jon 
UNICEF, The Progress of Nations, pp 11-17, 
UNICEF, New York.

Sundaram, K (2007): ‘Employment and Poverty in India, 

Victora, Cesin G, Linda Adair, Caroline Fall, Pedro C 
Hallal, Reinaldo Martorell, Linda Richter and 
Harshpal Singh Sachdev for the Maternal and 
and Child Undernutrition: Conse-
quences for Adult Health and Human Capital’, 
Lancet, published online on January 17. 
DOI:10.1016/S0140-6736(07)61692-4.

Economic & Political weekly | 67 | AUGUST 16, 2008