

**CHILD NUTRITION:  
CAUSES OF INTER-STATE VARIATION**

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\* Any views expressed in the paper are those of the author and do not necessarily reflect those of the Planning Commission. The author thanks Dr N. K. Sethi, for comments on an earlier version of this paper.

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# 1 INTRODUCTION

In 2004-5 the all India poverty rate was 21.8 or 27.5 using the Mixed (30-365 day) and Uniform (30 day) recall period respectively. Malnutrition in children under 3 years of age as measured by the National Family health survey 2005-6 (NFHS 3) was much higher. Stunted and Underweight children constituted 38.4% and 45.9% respectively of children under 3. The cross State correlation between poverty rates and malnutrition rates was around 0.7 (using either MRP or URP based estimates). At least 30% of this cross-State variation in nutritional status of children was therefore totally un-correlated with the variation of poverty rates across States. The malnutrition results are based on norms derived from a US sample and these norms are being revised based on samples from Asia, Latin America and Africa. It is expected that the malnutrition rates resulting from these new norms would be slightly lower. The broad picture outlined above is not however likely to change significantly.

The improvement in the nutrition status of children has also been disappointing. Over the seven years between 1998-9 and 2005-6 malnutrition has declined by only 1.1 per cent points while stunting has declined by 7.1 per cent points. This compares with a 4.3 per cent point decline in the poverty rate between 1999-2000 and 2004-5 (MRP). Though the stunting has declined at a marginally faster annual rate (1.0%) than poverty (0.9%), the decline in percentage of underweight children is minuscule. This implies that the existing policies and programs are not making a significant dent on malnutrition and need to be improved. To do this, however, we need to first find out what are the important factors responsible for malnutrition.

## 2 POTENTIAL CAUSES

There are three broad aspects of malnutrition that must be kept in mind when devising strategies for dealing with it.

- 1) Household/family knowledge and information about good nutrition. This includes knowledge about the locally available foods that are good from the nutrition perspective. This can be based either on traditional age old knowledge or ability to read coupled with availability of appropriate reading material on nutrition, or access to media such as radio coupled with propagation of such information on the radio. Besides direct indicators of education, media access etc, nutritional status of

Women may be a summary measure of the effective knowledge about nutrition.

- 2) The ability to access such food items. This depends on household income or ability to sustain certain levels of consumption. Poverty rate is one possible indicator. Others could include electricity, type of housing or other assets.
- 3) State of health. Even if the right kind of food and nutrition is available a child may not be able to consume and/or absorb it properly due to ill health or sickness. For instance a child suffering from diarrhea much of the time is unlikely to be able to ingest much good and healthy food and absorb the nutrition, even if it is freely available and provided to the child by the mother/parents. Historically it has been demonstrated across many countries that public health measures like clean drinking water, sanitation, sewerage, control of communicable and epidemic diseases and public health education play an important role in reducing mortality rates at every age and across gender. In the Indian environment access to water and toilets, breast feeding (to impart immunity in an unhealthy environment) and access to sound health advice/treatment are possible indicators.

### **3 EMPIRICAL RESULTS**

We have found that 78% of the inter State variation in the proportion of children (under 3) who are malnourished can be explained by access to electricity, access to toilet facilities, breast feeding within one hour of birth, the proportion of obese mothers (indicator of importance given to food/nutrition) and the proportion of children with diarrhea that are **not** sent to a health facility (indicating mistreatment at such facilities which aggravates health problems related to nutrition).

It is equally important to note the factors that are not statistically significant in explaining cross-State variation in malnutrition. These include educational variables (male and female), variables relating to women's marriage and fertility, maternity care received, child immunization, vitamin supplement and respiratory illness, media access and other variables (besides obesity) connected with nutritional status of ever-married women.