



## Speaker Summary Note

**Session:** Learning from Country Case Studies

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**Title:** **India: Learning from the Experiences of Linkages between Agriculture, Health, and Nutrition**

This brief examines the linkages between agriculture, health and nutrition in India. It also offers measures needed for strengthening of these linkages.

Indian economy has done well in terms of economic growth in the post-reform period which started in 1991. The average rate of growth in GDP in the last two decades has been more than 6 per cent per annum. GDP growth was around 8 to 9 per cent per annum in the period 2004–05 to 2007–08. India is now 1.3 trillion dollar economy. Even during the financial crisis, India's growth rate was between 6 to 7 per cent and it is expected to be 8.5 per cent in the year 2010–11. By all accounts, thus, India is considered as one of the fastest growing economies in the world. Income poverty also declined significantly in the post-reform period although progress should have been much better.

However, the reduction in malnutrition among children has been very slow as compared to the rapid economic growth in the post-reform period. For example, the percentage of underweight children declined only marginally from 52% in 1992–93 to 46% in 2005–06 in spite of 6% economic growth. International studies have shown that the rate of decline of child undernutrition tends to be around half the rate of growth of per capita GDP (Haddad et al 2003).

In India's case, the per capita GDP of about 4.2 per cent during 1990 and 2005 is expected to reduce malnutrition by about 2.1 per cent per annum or 27 per cent during this period. As compared to this, the decline in malnutrition among children is only 10% (Gillespie and Kadiyala, 2011). In fact, the rate of change in the percentage of underweight children has been negligible during 1998–99 to 2005–06. This percentage declined only marginally from 47% to 46% during this period. Due to this result, Indian Prime Minister called undernutrition 'a curse that we must remove' (see Haddad, 2009). It may be noted that **India is home to one-third of the world's undernourished children.** This puzzle of higher economic growth and lower decline in malnutrition shows that many other factors like inequalities across regions and social groups, access to adequate health services, clean drinking water, hygiene, women's empowerment, caring capacity and practice, intra-household food security, governance etc. determine the changes in nutritional status.

**One part of the above puzzle relates to the role of agricultural sector** (Gillespie and Kadiyala, 2011). Although the share of agriculture in GDP has declined significantly to around 15% in 2008, the share

of employment is still high at 56% in 2004–05. In other words, food security and livelihoods of majority of households in India depends on the performance of agriculture sector.

Basic pathways from agriculture to nutrition are: income effect, price effect, diversification, micronutrients and fortification effect, women empowerment effect. Negative effects are: women spend less time on care of children, pesticide use, fertilizers have harmful health effects, some crops also have adverse impact on climate change etc. In India, the linkage between agriculture and nutrition is less explored area as compared to other subjects. TANDI (Tackling Agriculture-Nutrition Disconnect in India) initiative of IFPRI with funding from the Bill Gates Foundation tries to fill this gap (more on this see Gillespie and Kadiyala, 2011).

Agriculture growth in India has been much less than those of industry and services. But, there is potential for higher agricultural growth and this can reduce malnutrition. As mentioned by TANDI project, **“agricultural initiatives alone cannot solve the nutrition crisis in India but they can play much bigger role toward that end than they have done thus far”**.

One link between agriculture and malnutrition is that the malnutrition is more concentrated in rural areas. The proportion of underweight children was 36% higher in rural as compared to urban India in 2005-06. Similarly, the proportion of stunted children was 32% higher in rural compared to urban areas. The importance of agriculture in rural areas is obvious. If you want to reduce malnutrition in rural areas, agricultural growth and health facilities are important.

As mentioned above, overall GDP growth has been higher in India but agriculture growth is low. Thus, improving agricultural growth, *ceteris paribus*, can raise nutrition levels.

It is known that one has to go beyond income to explain variations in malnutrition. It does not mean that income growth cannot have impact on reducing malnutrition. National Family Health Survey NFHS -3 data shows that undernutrition for lowest and highest wealth categories respectively was 56.6% and 19.7% in 2005–06. It shows that with increase in wealth (proxy for income) undernutrition can be reduced. One can say that income growth is necessary but not sufficient as other factors are also important.

In a vast country like India, one has to look at disaggregate level. The evidence on the relationship between agricultural growth and malnutrition shows mixed picture across states. The nutrition is connected to agricultural development related variables for some groups of states and not connected to other groups of states. A look at the state-wise data for underweight children shows that highest malnutrition is in the Eastern and Central parts of India along with U.P. The numbers are: Madhya Pradesh (60.3%), Jharkhand (59.2), Bihar (59%), Chhattisgarh (52%), Uttar Pradesh (47.3), and West Bengal (43%). All these states are relatively agriculturally backward as compared to other regions. Therefore, here agricultural growth shifting to Eastern and Central regions may help in reducing poverty and malnutrition. In the case of other states, there are puzzles. Gujarat is having 44% in spite of higher growth. Kerala is still having 29% (slightly higher than that of Sub-Saharan Africa) in spite of education and low poverty. In other words, agricultural growth, income and poverty play important role in the states where malnutrition rates are high. Other factors like health and women empowerment can reduce malnutrition levels further.

For raising agricultural growth, price and non-price factors such as land and water management, credit, investment in infrastructure, technology and institutions are important.

Food intake in terms of sufficient calories, proteins and micro nutrients are important for nutrition. We have to focus on increasing the range of micronutrient-rich foods consumed. Similarly, public health services have to be improved in India. Health sector performance shows that there are basically six problems: (a) low levels of health indicators; (b) slow progress in these indicators; (c) significant regional, social and gender disparities; (d) poor quality delivery systems in health and ; (e) privatization of health services. Low standards of health, hygiene, sanitation and safe drinking water play important roles since sick children are not able to absorb essential nutrients.

The share of women in agricultural workforce in India has been increasing. It has implications for nutrition. Women's agency (health, education and empowerment) and intra-household issues are important determinants of undernutrition in South Asia in general and India in particular. Two of the three differences between South Asia including India and Sub-Saharan Africa relate to women: (a) low birth weight is the single largest predictor of undernutrition; (b) women in South Asia tend to have lower status and less decision-making power than women in Sub-Saharan Africa. This limits women's ability to access the resources needed for their own and their children's health and nutrition, associated with low birth weight, as well as poor child feeding behaviors in the first twelve months of life. The children's malnutrition is determined by caring capacity of mothers. Caring capacity and caring practices are overwhelmingly influenced by the status of women in the household and society. One important dimension of accessibility of food is intra-household disparity in consumption.

India has programs like Public Distribution System (PDS) and National Rural Employment Guarantee Act (NREGA) at household level and mid-day meal schemes and Integrated Child Development Scheme (ICDS) at individual level to improve food security. The functioning of ICDS which is supposed to be nutrition of women and children is far from satisfactory (see Saxena and Srivastava, 2009). It may be noted that political commitment and better governance play important roles in improving food security programmes in India and raising nutrition levels. For example, the performance of other programmes is mixed. NREGA in Rajasthan and Andhra Pradesh, PDS in Tamil Nadu, Andhra Pradesh, Chhattisgarh and mid-day meal scheme in Tamil Nadu have done well in terms of having impact on nutrition as compared to other states due to better governance, political commitment and institutions.

Finally, agriculture alone cannot sustain livelihoods of 56% of workers in India. There is a need to shift people to non-agriculture to raise labour productivity in agriculture. Development of rural non-farm sector is important here to absorb the workers in agriculture and improve incomes and nutrition of the population.

## References

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