

Foreword

Prospects for better nutrition in India

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Being home to 31% of the world's children who are stunted and 42% of those who are underweight, and with many children and adults affected by micronutrient deficiencies, India is facing huge challenges in the field of nutrition. Even though the Indian Government is investing vast amounts of money into programs that aim to enhance food security, health and nutrition (the Integrated Child Development Services program alone costs 3 billion USD per year), overall impact has been rather disappointing. However, there are some bright spots on the horizon. The recent District Level Health Surveys (DLHS-4) do show significant progress, ie a reduction in stunting of around 15% over the past 6 years in a few states for which preliminary results are available. The reasons for this reduction are not unambiguous and appear to include state government commitment, focus on the 'window of opportunity', improved status and education of women, a lowered fertility rate, and combinations of nutrition-specific and nutrition-sensitive interventions. Apart from the government many other agencies play a role in driving improvements in nutrition. Since 2006 the Global Alliance for Improved Nutrition (GAIN) has worked with a range of partners to improve access to nutritious foods for large parts of the population, through public and private delivery channels. This supplement presents a selection of these activities, ranging from a capacity-assessment of frontline workers in the ICDS system, large scale staple food fortification, salt iodization, fortification of mid-day meals for school children and decentralized complementary food production.

Key Words: micronutrient deficiencies, stunting, nutrition programs, India

Malnutrition continues to threaten the lives of millions in India and remains one of the greatest development challenges for the country.¹ Malnutrition is associated with exceptionally poor outcomes in several domains that affect human development.² Concerted media efforts in highlighting the magnitude and consequences of the problem have helped to initiate a public debate on this subject and to pressurize the government to act accordingly.

Malnutrition is a largely hidden public health problem and the complex nature of its underlying causes calls for collaborative action from different sectors to work towards its elimination. The underlying causes are manifold, and include poverty, social exclusion, poor maternal health and nutrition, inadequate feeding practices and poor water quality and sanitation, leading to recurrent infectious diseases.

The National Family Health Survey 3 (NFHS-3; 2007) provides the only nationally representative data on malnutrition. According to NFHS-3 the prevalence of underweight, stunting, and wasting in children below 3 years was 40%, 45% and 23% respectively.³ Needless to say that these figures show the grim reality of extremely slow progress and the fact that India will not meet the Millennium Development Goals (MDGs). The survey also showed the widespread existence of micronutrient deficiencies with 79% of children below 3 years having anaemia. High rates of malnutrition combined with a huge population base make India the country with the largest number of stunted, wasted and underweight children. According to a United Nations Children's Fund

(UNICEF) estimate, India accounts for 31% of the developing world's children who are stunted and 42% of those who are underweight.⁴

At the same time it is increasingly recognized that the first 1000 days in a child's life, from conception to the age of 2 years, or the 'window of opportunity', determine a child's future development. Science has now shown that this 'window of opportunity' has a major effect on the future of a child, the community and the nation. If the mother is well nourished, the child has a much better chance of surviving the first months of life. If breast-fed for the first six months, followed by the introduction of nutritious complementary foods containing essential vitamins and minerals through to age two, the child is more likely to complete its education, have a higher IQ and earn up to 21% more over its lifetime.⁵ In fact, a child's height-for-age at two years is the single best predictor of future human capital. Today however, almost half of all Indian children will not attain their optimal height.

India was an early starter in recognizing the impact of malnutrition. The Government of India launched its flagship program, the Integrated Child Development Services (ICDS) as early as 1975. Over the years the program has

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been universalized with nearly 1.4 million community centres that cater to the needs of women and children. The National Rural Health Mission (NRHM) was launched in 2005. The ICDS and NRHM together are designed to deliver most of the essential nutrition interventions and are also set up to reach the most vulnerable populations. The budget for the ICDS has been steadily increasing and is currently at 3 billion USD. There are many other programs that have a bearing on the nutritional status of women and children - the National Food Security Act, the mid-day meal program (school feeding programs), national water and sanitation mission and rural employment guarantee scheme, etc. However, the ICDS and other programs have also been criticized for their low cost-effectiveness, leakages, poor targeting and poor quality of services.⁶ In addition to these national and state programs numerous agencies run programs and projects to address malnutrition.

These combined efforts show varying degrees of success, with some states faring much better than others. Preliminary results from the recent District Level Health Surveys (DLHS-4)⁷ show an impressive reduction in stunting among under-fives of more than 15% in several states as compared to the NFHS-3: Karnataka (15.8%), Andhra Pradesh (16.5%), and Maharashtra (16.5%). These stunting rates were reduced over a period of 6 years, a remarkable success. Another survey by the government of Maharashtra and UNICEF also reported a similar reduction in stunting among children below two years of age.⁸

The explanation for the significant reduction in stunting is not clear. Improved focus on the first 1000 days, a convergence of nutrition specific and nutrition-sensitive interventions, improvement in the status and education of women, a lower fertility rate, an increase in the mean age of marriage and reduction in adolescent pregnancies are some strong contributors. This story confirms once again that there is no single silver bullet to eliminate malnutrition. Combinations of nutrition-specific (such as food fortification, supplementation, promotion of breastfeeding) and nutrition-sensitive interventions, (such as improved water and sanitation, women's empowerment, integration of nutrition into agriculture) are needed in combination with an enabling environment and delivery systems that reach those most in need.

Since 2006 the Global Alliance for Improved Nutrition (GAIN) and its partners, have been working in India to improve access to more nutritious foods for large parts of the population, through public as well as private delivery systems. This supplement presents a small selection of these projects, in different states, ranging from 1) large scale voluntary staple food fortification in Rajasthan and Madhya Pradesh; 2) fortification of mid-day meals through centralized kitchens in urban contexts in four different states; 3) developing a model for and assessing the viability of decentralized production of complementary foods by women groups for use in the ICDS program in Rajasthan; to 4) an analysis of the nutrition training needs among frontline 'Anganwadi' workers in the ICDS program in Gujarat; and 5) the process of formation of the National Coalition for Sustained Optimal Iodine intake, which is expected to help India achieve USI by the end of

2015.⁹⁻¹³ Through some of these projects millions of people are already being reached with essential micronutrients. Some other examples provide relevant building blocks for scaling up in future projects. It is our hope that these experiences will form a source of inspiration to other agencies working in this field, in India and beyond, and will ultimately contribute towards achieving food and nutrition security for all.

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AUTHOR DISCLOSURES

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印度更好營養的展望

全世界發育遲緩兒童中，有 31% 身在印度，其中 42% 為體重過輕，還有許多孩童及成人也受到微量營養素缺乏的影響，讓印度面臨營養領域的巨大挑戰。儘管為了確保糧食安全、健康與營養，印度政府投入巨額的經費到相關計畫(僅整合兒童發展服務計畫，ICDS，每年就花費 30 億美元)，但整體的影響仍相當有限。即便如此，未來的事還是有一些希望。最近某些州的地區層級的健康調查(DLHS-4)發現顯著的進展，例如過去 6 年中，發展遲緩的比率約降了 15%。這個率下降的原因還不清楚，可能包含了州政府的承諾、聚焦在“關鍵時機”、提高女性的地位及教育、降低生育率及營養專一及營養敏感的介入組合。除了政府以外，很多其他單位也扮演推動改善營養的角色。自 2006 年起，全球營養改善聯盟(GAIN)已經與許多夥伴合作，透過公共及私人傳遞管道，改善大部分族群取得較營養食物的機會。這種營養補助，透過從 ICDS 第一線工作者能力評估、大規模主食類食物營養強化、食鹽加碘、學童中餐強化，到輔助食物去集中化生產等各類活動而達成。

關鍵字：微量營養素缺乏、發育遲緩、營養計畫、印度