

# KARNATAKA MULTI-SECTORAL NUTRITION PILOT PROJECT- PROJECT PAPER

## I. STRATEGIC CONTEXT

### A. Country Context

1. Child and maternal undernutrition is responsible for approximately 3.5 million deaths globally and 35% of the disease burden in children below the age of five years.<sup>1</sup> In India, despite recent high economic growth and a decrease in the proportion of population living below the official poverty line, the prevalence of malnutrition in children below three years of age is one of the highest in the world. In 2005-06, approximately one fourth of newborns had low birthweight, 45% of children under three were stunted and 40% were underweight. Micronutrient deficiencies are pervasive, with approximately 70 and 57% of children 6-59 months of age being anemic and Vitamin A deficient respectively (2005-06).

2. Undernutrition in the first two years of a child's life (i.e. in the first 1,000 days after conception) results in potentially irreversible deficits in physical and cognitive development, affecting future health status, educational achievement and productivity. Compared with non-stunted children, stunted children have been found to score 7% lower on math tests, are 19% less likely to be able to read simple sentence at age eight, are 12% less likely to be able to write a simple sentence, and are 13% less likely to be in the appropriate grade for their age at school, irrespective of the quality of their schooling.<sup>2</sup> By the same token, malnutrition has been found to decrease the probability of children ever attending school, and to increase the probabilities of children starting primary school later, repeating grades, attaining lower grades, and not completing high school. Similarly, childhood malnutrition is associated with lower lifetime income levels.<sup>3</sup>

3. In addition to impact on education, undernutrition negatively affects a country's economic growth. Productivity losses associated with malnutrition in India (specifically, protein energy malnutrition, iodine and iron deficiency) have been estimated at US\$114 billion between 2003 and 2012.<sup>4</sup> Studies also suggest that micronutrient deficiencies alone cost India US\$2.5 billion annually and that the productivity losses (manual work only) from stunting, iodine deficiency and iron deficiency together are responsible for a total productivity loss of almost 3% of gross domestic product (GDP).<sup>3,5</sup> A recent study indicated that stunted children earn as much as 20% less than their counterparts, costing the global economy potentially \$125 billion by 2030 when children born now reach working age, with India accounting for nearly \$46 billion of this amount.<sup>2,6</sup>

4. Over the past few years, India has experienced high inflation (8-9%) mostly driven by higher food prices, which account for 50% of the consumer price index basket weights. This has likely worsened the access to nutritious foods by children under two years as well as

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<sup>1</sup>Black RE *et al.* (2010) "Global, regional, and national causes of child mortality in 2008: a systematic analysis" *Lancet* 375 (9730): 1969-1987.

<sup>2</sup>Save the Children (2013) "Food for thought: Tackling child malnutrition to unlock potential and boost prosperity," Save the Children, UK.

<sup>3</sup>Gragnotati M. *et al.* (2005) "India's Undernourished Children: A call for reform and action," World Bank.

<sup>4</sup>CARE India and Linkages India (2003) "PROFILES for India 2003."

<sup>5</sup>Horton S (1999) "Opportunities for investments in nutrition in low-income Asia," *Asian Development Review* 17: 246-273.

<sup>6</sup>Horton S *et al.* (2010) "Scaling Up Nutrition: What will it cost?" World Bank.

pregnant women and adolescent girls, due to increased costs faced by chronically vulnerable poor households.

5. Infact, household surveys indicate that average caloric consumption may have declined, so that in 2004-05 as many as 80% of rural households in India were considered to be "calorie poor."<sup>7</sup>While direct measurement of the impact of recent inflation on poor households in India has not been done, one modeling exercise suggests that high food prices could lead to a substantial loss in welfare by poor non-farmer rural populations in particular, while expectations that farmers would gain from price increases would largely not be met.<sup>8</sup> Overall, decreased purchasing power is a major potential pathway by which the food and fuel price crisis would increase childhood and adult malnutrition among the poor. Expenditure on food represents 66%of total household spending among the poorest third of households in rural areas and 60%in urban areas (2004-05).<sup>9</sup> Rising food prices have likely reduced the ability of poor households to purchase nutritious foods. Fuel price inflation (which after food is the second largest component of overall inflation in India) likely raises further barriers, including diverting household resources to fuel-related costs (such as for cooking and transport). Reduction in overall purchasing power would also affect the ability of the poor to access other goods and services that have an impact on nutritional status, notably clean water and health care. The need for investing in nutrition is therefore apparent.

## **B. Sectoral and Institutional Context**

6. Karnataka state, with a total population of 61 million in 2011, includes large populations, particularly in the northern districts and more isolated non-irrigated and tribal areas, who suffer from deep poverty and high vulnerability to food insecurity. Household surveys have found both persistently high overall malnutrition levels and significant inequalities. In 2005-06, 42%of children under-three years of age were chronically malnourished (stunted), unchanged from 1998-99. Anemia among women aged 15-49 years who were ever married was higher in 2005-06 at 52% compared to 42% prevalence in 1998-99. Breastfeeding practices too have not changed much over time, with only 38% of new mothers initiating breastfeeding within an hour of birth in 2009, compared to 36% in 2005-06. Equity issues in nutritional status are also evident, with data pointing to large inequalities in nutritional status between the poorest and the better-off in Karnataka: 58% of children under-three years of age in the poorest wealth quintile are chronically malnourished, much higher than the 25% prevalence in the highest quintile.

7. At the most proximate level, undernutrition is determined by food intake, nutrition and health care behaviors and environmental health, which primarily includes access to safe water, sanitation and hygiene practices. Underlying factors such as income poverty, gender, education, poor access to basic amenities and services act as barriers, hindering improvements in nutritional status (Figure 1). Furthermore, it is critical to ensure good nutrition in the first 1,000 days of a child's life since conception as this is the period when the child's brain and body develop rapidly. Any damage or growth faltering during this period is largely irreversible. In the same vein, it is important for adolescent girls (who are likely to

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<sup>7</sup>Deaton A and Dreze J (2009) "Food and Nutrition in India: Facts and Interpretations," *Economic and Political Weekly* 44(7):42-65.

<sup>8</sup>de Janvry A and Sadoulet E (2009) "The impact of rising food prices on household welfare in India," University of California at Berkeley, Working Paper.

<sup>9</sup>Dev S M (2011) "Rising Food Crisis and Financial Crisis in India: Impact on Women and Children and Ways of Tackling the Problem," Indira Gandhi Institute of Development Research, Mumbai.

bear children in the future) and pregnant and lactating women to be well nourished to prevent intra uterine growth restriction and low birth weight as well as to be able to practice appropriate child care and stimulation behaviors.

3. 8. While the national and state governments in recent years have significantly increased support to social sector programs in recognition of the multiple determinants of undernutrition,<sup>10</sup> institutional and other bottlenecks continue to restrict access by many of the poorest families.<sup>11</sup> In Karnataka in 2005-06, the Integrated Child Development Services Scheme (ICDS), the government's primary vehicle to address the problem of malnutrition, was only able to reach out to approximately 34% of children under-six years of age and 34% of pregnant women in the poorest quintile, leaving a majority of potential beneficiaries untouched by the program. The program was restructured in 2011 to improve access and efficiency in service delivery, with a focus on interventions to reach out to under-three children. This change in focus, while much needed, does not fully address the range of factors that affect the nutritional status of children under two in the poorest households.

9. Ensuring the adoption of appropriate child care behaviors and access to services, especially among the poorest and most vulnerable communities, requires a proactive and targeted approach. Responding to this need and to mitigate the impact of the food and fuel price crisis on the nutritional status of the poor, as well as to address the underlying high levels of malnutrition and gaps in existing programs, the state government has initiated the Karnataka Nutrition Mission. Based on experience with a pilot program in Maharashtra,<sup>12</sup> the mission has developed a program aimed at addressing the proximate determinants of nutrition through the daily provision of nutritious food supplements to under-nourished children, adolescent girls and pregnant and lactating women from households below the poverty line (BPL). It also addresses intermediate factors that affect food intake and health status, such as facilitating and promoting access to nutritious foods, motivating adoption of appropriate health and nutrition household behaviors through intensive behavior change communication, and facilitating access to services in the areas of water and sanitation and livelihoods, in addition to health and nutrition (Figure 1).

10. Additionally, by incorporating a multi-sectoral approach as an integral part of its design, the pilot provides a unique learning opportunity for the government, which is looking for effective multi-sectoral strategies for improving nutrition outcomes. The central government recently launched a multi-sectoral nutrition program on a pilot basis in 100 high-burden districts. Currently, efforts under this program are largely limited to joint planning for nutrition among different line departments. The Karnataka pilot aims at improving nutrition outcomes by facilitating access of targeted BPL households to relevant services and schemes such as the *Janani Suraksha Yojna* (maternal and child health), the *Nirmal Bharat Abhiyan* (water and sanitation), the Karnataka Rural Livelihoods Mission, the Mahatma Gandhi National Rural Employment Guarantee Act, and other agricultural and social safety net programs. As such, it could provide a model for actualizing multi-sectoral actions at the household level.

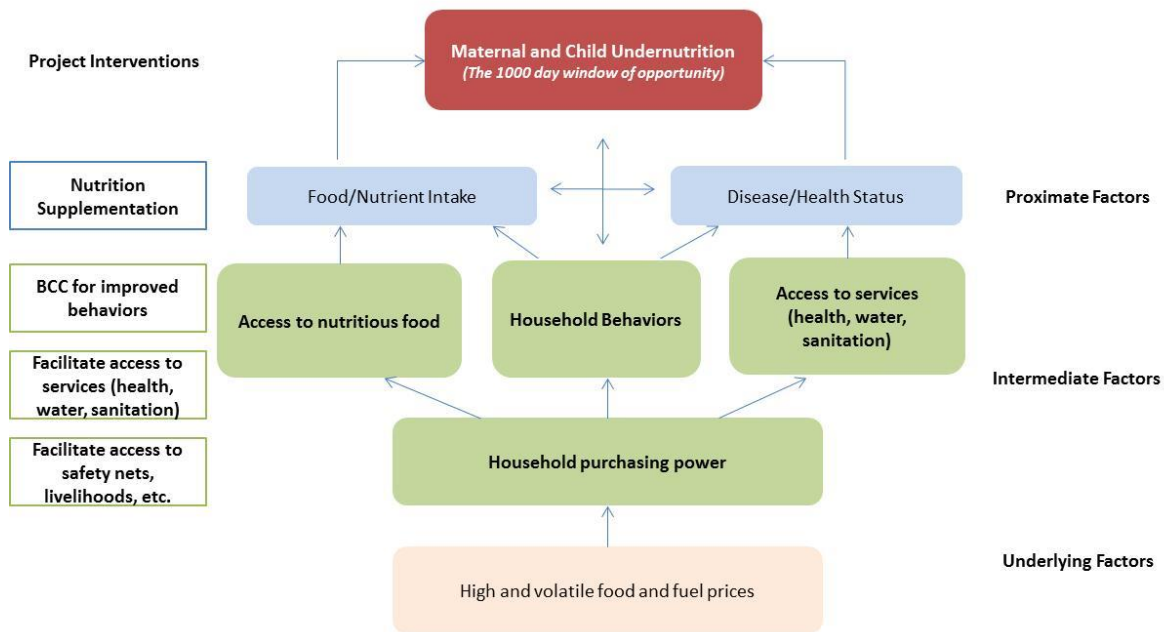
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<sup>10</sup> ICDS Restructuring, Multi-sectoral nutrition program, NRLM, NREGA etc.

<sup>11</sup> World Bank (2011) "Social Protection for a Changing India," Washington.

<sup>12</sup> Rao VS (2008) "Malnutrition, an Emergency: What it Costs the Nation," Council for Advancement of People's Action and Rural Technology, New Delhi.

Fig 1: Project interventions targeted at different levels of the nutrition causal chain



Adapted from World Bank (2011) "South Asia Regional Assistance Strategy for Nutrition"

11. The pilot project reflects high-level political commitment, and will provide a platform for better coordination and targeting of the various public programs with an impact on nutrition that are currently often poorly coordinated, thus missing opportunities for synergies at the household level. The proposed grant will support implementation of this pilot program in two blocks in Karnataka, including a robust impact evaluation, so that lessons learned can inform future scale up to other poor areas in the state and other low income settings across the country.

### C. Higher Level Objectives to which the Project Contributes

12. The proposed project contributes to Engagement Area 3 (Inclusion) of the 2013-17 Country Partnership Strategy (CPS) and will directly contribute to improving child nutrition delivery systems (outcome 3.3). It adds value to existing efforts, by pilot testing an innovative approach with potential systemic impact on the way social programs are directed towards addressing nutrition outcomes. The government has in recent years significantly expanded resources for public programs in nutrition, health, rural development and social protection. Bank support will help build capacities and knowledge on how to improve efficiency and delivery of public services, while ensuring that these programs are responsive to the needs of the most vulnerable segments of the population. The proposed project also contributes to the South Asia Regional Assistance Strategy for Nutrition, particularly its components relating to positioning Bank-financed operations to improve nutrition and to testing convergence of multiple sectors.

## II. PROJECT DEVELOPMENT OBJECTIVES

### A. PDO

11. The Project Development Objective (PDO) is to increase utilization of nutrition-improving services by children under-three years of age, adolescent girls and pregnant and nursing women from poor households in the target areas. The project is intended to mitigate the impact of high and volatile food and fuel prices by providing direct nutritional support to vulnerable women and children who have had their access to nutritious foods curtailed by the reduced purchasing power of their families. The project will also address gaps in existing government programs that contribute to mitigating the crisis, including through improving the access of groups that are poorly covered by current services such as health, nutrition, water and sanitation services.

### B. Project Beneficiaries

12. Children under-three years of age, adolescent girls between 11-18 years of age and pregnant and nursing women from poor households in Chincholi block in Gulbarga District and Deodurga block in Raichur District are the primary project beneficiaries. It is estimated that from a total population of approximately 537,000, direct beneficiaries in these blocks (421 villages) are a targeted 40,000 poor and vulnerable children under-three years of age, pregnant and nursing mothers, and adolescent girls from BPL households.

### C. PDO Level Results Indicators

13. The following indicators will reflect progress towards the PDO:

- (i) Percentage of targeted under-three children, adolescent girls and pregnant and nursing mothers who receive and consume nutritious supplementary foods produced and supplied by the project;
- (ii) Percentage of targeted households who utilize other social sector programs with a potential impact on nutrition (specifically ICDS, health services, and water and sanitation services); and
- (iii) Percentage of targeted pregnant and lactating women who practice core child nutrition and health care behaviors (specifically initiation of breastfeeding within an hour of birth, exclusive breastfeeding, immunization, timely and adequate complementary feeding after 6 months which includes breastfeeding and feeding with 3+ food groups a minimum number of times per day, diarrhea management and handwashing).

## III. PROJECT DESCRIPTION

### A. Project Components

14. *Component 1: Increase consumption of nutritious foods and improve household nutrition-related knowledge and behaviors.* This component will deliver direct support to under-three children, adolescent girls and pregnant/lactating women from poor and vulnerable households in the form of locally-sourced nutrition supplements coupled with support to encourage household behaviors with a large impact on nutrition, notably breastfeeding, complementary feeding and hygiene practices. The high-energy nutrition supplement will be locally produced using local farm produce such as millet (*ragi*), chickpeas (*gram*), cane sugar (*jaggery*) and groundnuts. Nutrition volunteers engaged under the

project in each village will implement the program at the village level with the support of grassroots groups, including women's self-help groups and village health and sanitation committees. These groups will help the nutrition volunteers identify and provide support to women and children facing food insecurity and malnutrition. Capacity building support will also be provided to women's self-help groups..

15. The implementation of this component will be the responsibility of a non-governmental organization (NGO) that will be contracted for the purpose. The contracted NGO will set up production units and train women's self-help groups in the production of the high-energy supplements in accordance with state food safety regulations. The contracted NGO will then distribute the food supplements through the Village Nutrition Workers and SHGs to targeted beneficiaries. . It will also be responsible for identifying, engaging and providing capacity building and ongoing supervision support to nutrition volunteers and SHGs under the project.

16. *Component 2: Improve access to multi-sectoral interventions with an impact on nutrition.* This component will aim to leverage interventions and services in several sectors that have an impact on the nutritional status of poor families in the target areas. At the policy and administrative levels, coordination will be strengthened between key programs. On the ground, contracted NGOs, community-based organizations, and village nutrition workers will facilitate access by poor families to programs in various sectors, so that integrated support is offered to the targeted poor families. In addition, demand-generation activities will empower vulnerable households and communities to demand services and benefits to which they are entitled. This will include programs and services with an impact on nutrition, such as ICDS, health services (including treatment of severe acute malnutrition, immunization, diarrhea treatment, de-worming, micro-nutrient supplementation, antenatal care), social safety nets such as the national rural employment guarantee scheme, agricultural and livelihoods programs, and water and sanitation schemes. Innovative ways of engaging other sectors will also be explored under this component, such as ways of preventing wastage of horticultural produce at the primary level and marketing this to the community.

17. *Component 3: Project management and Monitoring and Evaluation.* This component will finance management capacity for implementation of the project, including the management costs of the implementing NGOs and the development of an effective information, education and communication (IEC) strategy which will be monitored for assessing behavior change. Rigorous monitoring and evaluation will be supported, including baseline and follow-up household surveys to measure nutritional status, household knowledge and behaviors, and access to services. This will provide the necessary evidence on program effectiveness to inform decisions on potential scale-up. Routine reporting and monitoring will also be ensured under this component. This component will also promote knowledge dissemination with a variety of stakeholders through briefing notes and knowledge sharing workshops.