



THREE SQUARE MEALS

A just diet for India's adolescent girls



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Kiawah Trust

KIAWAH TRUST

The Kiawah Trust is a UK family foundation that is committed to improving the lives of vulnerable and disadvantaged adolescent girls in India. The Kiawah Trust believes that educating adolescent girls from poor communities allows them to thrive, to have greater choice in their life and a louder voice in their community. This leads to healthier, more prosperous and more stable families, communities and nations.



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Dasra recognizes an urgent need for inspired and uncompromising competence to touch and transform the lives of 800 million Indians. Through knowledge creation, capacity building, collaboration and fundraising, we nurture powerful partnerships with funders and social enterprises. Since 1999, Dasra has engaged with over 3,000 corporates, foundations and philanthropists, influenced INR 280 crore towards the social sector and improved the life chances of over 10 million people.

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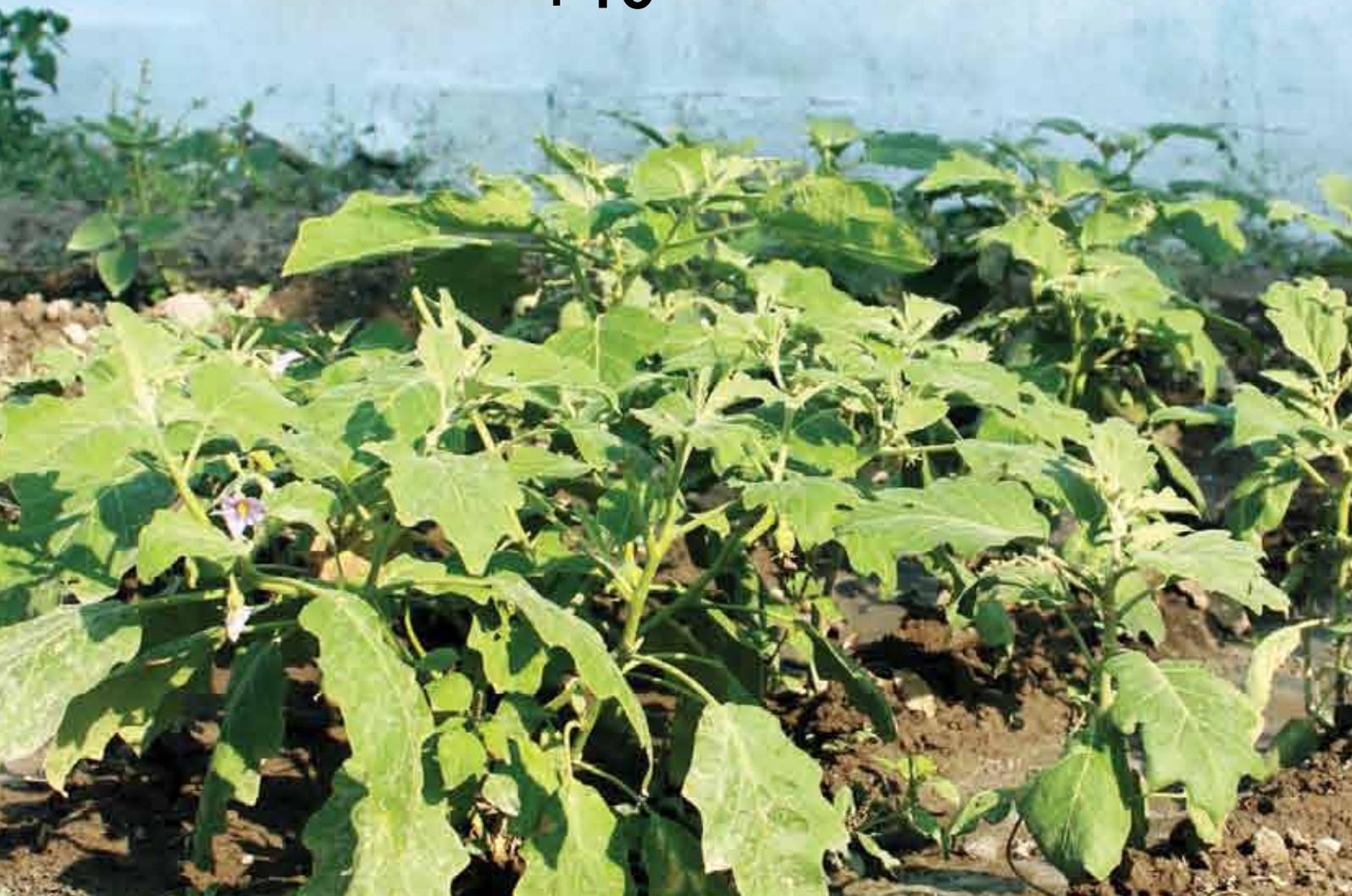
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FOREWORD

A country with strong aspirations to lead global economic growth cannot possibly achieve and sustain that if it loses 2-3% of its GDP to lower productivity, which is the long-term fallout of malnutrition.

A country in which 50% of its 113 million adolescent girls are anaemic cannot escape the fact that one child out of every three is underweight at birth (less than 2.5 kg), and most likely grows up to be stunted or wasted. A country where 42% of children under age 5 are malnourished cannot possibly convert its demographics into a social-economic dividend or competitive advantage. A country where 285 million people sleep hungry every night cannot possibly create a productive and efficient workforce.

The country I am talking about is India, and we cannot hope to achieve enduring economic growth if the key indicators of human development – education, healthcare, nutrition, hygiene and sanitation – are not accessible to all, and improved to certain minimum acceptable standards.

The significance of addressing nutrition, in addition to assuaging hunger has emanated from several forums globally. In India, despite our poor indicators there is no determined and concerted effort to address the issue systemically. Based on the realisation that several countries in the world will not reach their MDGs without additional intervention, the SUN (Scaling up Nutrition) movement was created by the UN which currently has over 50 countries that are seriously pursuing multi-faceted nutrition specific and nutrition sensitive initiatives.

The path breaking work published in The Lancet in 2008, established the enduring and irreversible link between nutrition in the first 1000 days (from conception to 2nd birthday) and the physical growth and cognitive development of an individual. This was followed in 2013 by a deeper understanding and insights on nutrition which put the spotlight on adolescent girls. The 2011 Copenhagen Consensus isolated nutrition as the #1 issue to be tackled to generate the highest return on every dollar invested in it.

Several of these areas are gaining saliency, at least in conversation and hopefully in action on the ground as well – such as the Swachh Bharat program, which has the potential to directly impact the health and nutritional status of the country as a whole.

Further, the intergenerational cycle of poor health and nutrition is worsened by societal norms and conditions that discriminate against the girl child. If she is born underweight, she grows up to be an undernourished adolescent, is often married before age 18, experiences multiple pregnancies by the time she is 25, and is not healthy enough to produce healthy children or realise her own potential.

Only healthy mothers can produce a healthy nation, and so attention to nutrition for adolescent girls is of paramount importance. The need for good nutrition is based as much on good human development as it is on good economics.

The challenge of nutrition is multi-faceted, therefore the solution set needs to be multi-input as well. It needs initiatives that are both, nutrition-specific (adequate and

correct calories, large-scale food fortification, deworming, etc.) and nutrition-sensitive (potable drinking water, hygiene, sanitation, societal attitudes and norms etc).

In India, we need swift action in at least three areas:

- Mandatory large-scale food fortification with micro-nutrients (a successful example is iodised salt).
- Significant improvements in hygiene and sanitation standards in our cities and villages.
- Overhaul of the ICDS, primary health centers and mid-day meal structures to better deliver the interventions they were originally designed for - education on maternal and child healthcare practices, access to nutritious food, access to quality primary healthcare.

Effectively addressing these three areas would need the coming together of government, civil society, non-profits and business - the last two play a critical role in deploying pilots to get proof-of-concept, while the government plays the most critical role: scaling up concepts that work.

As an illustration, food companies can and must make a significant contribution through micro-nutrient fortification, which is a tried and trusted intervention, with the government mandating large-scale fortification as part of our broad food standards. Similarly, healthcare companies must partner with the government to improve and standardize healthcare practices at primary health centers. Our final responsibility is to ensure effective running of the models we have in place - such as ICDS and mid-day meals, which reach 120 million children in primary schools.

However, the most difficult and fundamental shift will only occur when we foster a society that values gender equality, which in turn will ensure that girls are respected and cared for, so they can realise their potential. This involves changing deep-seated beliefs and mindsets, and a comprehensive approach that educates and informs just as it penalises undesirable behaviours.

Right now, it is critical that we take the responsibility, as individuals and corporates, to focus not just on economic indicators but human indicators as well. The voice of undernourished adolescent girls must be heard by those with the resources to make those lives valued and worth living.

I am grateful to Dasra for putting the limelight where it matters most, and for being a catalyst for positive action.



Vinita Bali
Strategy Adviser and Board Director,
Global Alliance for Improved Nutrition

EXECUTIVE SUMMARY

Today, India's aspirations stand at the cusp of opportunity. And central to both are its 113 million adolescent girls, who could potentially anchor our progress on economic and human development indicators, for this generation and the next. But this cannot happen if more than 50% of them live in the shadow of malnutrition - which leaves them with incapable minds and bodies, and very likely to pass on this malnutrition to their next generation.

As India begins to acknowledge and address malnutrition in adolescent girls, there is a need to draw nutrition out of the preserve of academics and technical experts, and make it an aspiration for the masses. For long-term effectiveness, nutrition efforts must target not just the girl but also the nutritional insecurity experienced by her family. To that end, non-profits are experimenting with a variety of programs that engage the girls, their family and the community to: improve access to nutritious foods, promote nutrition-smart preparation and consumption of these foods, and facilitate better absorption of nutrients from the food consumed. Dasra visualizes these food-based strategies together as the food continuum.

Using the food continuum, this report identifies four key strategies or cornerstones that need immediate investment and commitment, if India is to address adolescent girl malnutrition soon. These are:

Ensure a diverse diet to improve nutrition for adolescent girls

This promotes daily consumption of different types of food, to give the growing body and mind of girls the required energy, body-building support, immunity and protection.

Make girls aged 10-19 a nutrition programing priority

In this age group 10-12 is a critical window of opportunity to identify and treat malnourished girls before they experience puberty and its intense nutritional demands. It is also a chance to intervene at the behavioral level, before adolescents turn poor nutritional practices into habits.

Make women active stakeholders in the food continuum

Gender-inequitable distribution of nutrition in the household stems from the poor status of female members, and their internalization of this valuation. Since women closely engage with all stages of the continuum, this strategy aims to help them to lead decisions and action to ensure better nutrition through the continuum, prove their potential to themselves and their families, and set a better precedent and a better environment for their growing daughters.

Build and use strong evidence

This aims to plug the knowledge gap both, on the extent and nuances of malnutrition, as well as the efficacy of food-based solutions. It also advocates for better use of existing evidence in designing nutritional programs and their evaluations.



Some non-profits are already pursuing these cornerstones through eight interventions that are detailed in the report. One of the most impactful of the interventions develops community collectives for community ownership of the problem and its solution. Non-profits using this intervention typically organize community members (often women and young girls) into groups, promote discussion among them and help them use their collective knowledge to identify and implement solutions. Many non-profits have adopted this intervention, including Ekjut, CINI, MSSRF, and Deccan Development Society (DDS), among others.

The women sanghams (collectives) developed by DDS are an inspiring example. Over 20 years ago, these women depended entirely on the government and powerful individuals in their communities for their food requirements. Today, each woman in the group grows 12-23 crop varieties on 1-2 acres of non-fertile, non-irrigated land. This change was triggered when DDS first organized the women into sanghams, which collectively addressed their hunger crisis by prioritizing seasonal food crops over chemical- and resource-intensive cash crops. Today, these women sanghams tour the world to share their collective knowledge and experience.

Another effective strategy aims to convince girls and their families of the importance of adequate nutrition - especially for adolescent girls - which is critical given that it is hardly acknowledged or understood.

It also tells them how they can adapt daily cooking, eating and hygiene management to secure adequate nutrition. Among the non-profits using this intervention are Digital Green, Sambandh and Sukarya. Digital Green's innovative model builds awareness in the community using community-developed videos. These may show role play or cooking demonstrations, performed by community members in the local dialect and context.

While this report talks of numerous non-profits in this space, it has detailed profiles for nine of them, shortlisted by Dasra for their work on adolescent girl nutrition and their organizational strengths. Dasra urges funders interested in adolescent girl nutrition to invest in these non-profits, which are already showing results, rather than starting from scratch. A good place to start would be to fund non-profits such as Sarva Shikshan Prayog and Impact India Foundation, which invest in community action to ensure better nutrition for adolescent girls.

However, to galvanize the sector, more stakeholder groups need to make the issue a priority. While international development agencies, the government and researchers clearly have key roles to play, corporate involvement remains a potent but much underused approach - largely limited to CSR contributions. Corporates have the potential to make good nutrition an aspiration among adolescent girls through the markets and marketing strategies they develop. In the current political scenario, corporates are also strategically placed to push the government for incentives that allow more nutritious products to enter the regular market at affordable prices.

Adolescent girls offer a unique opportunity to break the cycle of malnutrition at the individual and intergenerational levels. Investing in their nutrition is a prerequisite to ensure adequate returns on investments made in their education, livelihoods and empowerment - and the stakeholders have 113 million very good reasons to make that investment.



1 THE SIZE AND SHAPE OF THE PROBLEM

After a long day's work - taking care of her siblings, helping her mother with household chores and serving food to the men in the family - 14 year old Rashi sits down to eat. The family eats dal and chapati for dinner but there is no dal left by the time she gets to her meal. So she takes a glass of water, mixes some salt in, dips her chapati in the glass and makes a meal of it. I am not sure what is more disturbing - the unequal distribution of food in the family, Rashi's own resignation to the injustice, or her mother's ignorance of the dietary needs of a growing girl.

But one thing is clear - wherever resources are restricted, being a girl means eating last, and eating inadequate and unpalatable food even if you work as much as or more than the men in the household. This explains why over 50% of India's adolescent girls are undernourished, creating the threat of low economic productivity, high health expenses, dismal maternal and child mortality rates and an intergenerational cycle of malnutrition.¹

In India, each dollar invested in nutrition yields USD 34

As the world discusses Sustainable Development Goals for the horizon beyond 2015, nutrition is being acknowledged as the 'forgotten' development goal. This follows the insufficient resources being invested in the issue and slow improvements in malnutrition being tracked globally.^{2&3} This neglect prevails despite the high returns on investment that nutrition promises. According to an average for 40 countries, each dollar invested in nutrition returns USD 16.⁴ In India, the returns go up to USD 34 for each dollar invested.⁵ Yet India annually loses hundreds of billion dollars to lost productivity and the cost of treating malnutrition.⁶

Malnutrition is the inadequacy of macro and micronutrients in the human body. Macronutrients include carbohydrates, fat and proteins needed in large quantities for energy and satisfaction of hunger. Micronutrients refer to essential vitamins and minerals that the body needs in smaller amounts for normal cellular growth and functioning.⁷

Undernourishment and obesity are both forms of malnutrition, reflecting two ends of the spectrum. While undernourishment is more common among the poor and in developing countries, obesity is a trend found in wealthier populations and interestingly among those trying to imitate a wealthy lifestyle. This report focuses on the undernourishment end of malnutrition, which affects not only the physical health of an individual but also their cognitive abilities and productivity.

50-80% adolescents consume less than half of the required nutrition

Globally, adolescence is defined as the 10-19 age group. To better understand the nutritional trends and needs of an adolescent, this group is sub-divided into early adolescents (ages 10-14) and older adolescents (15-19). For both boys and girls, after the first year of life, their only other opportunity for a growth spurt is during adolescence - this is why adolescent nutrition offers a make-or-break window of opportunity. This growth spurt is primarily measured through height and weight, and 80% of it is complete by the end of early adolescence.⁸

In order to manage this growth spurt, a recommended dietary allowance (RDA) has been determined for various nutrients that adolescent boys and girls need to consume on a daily basis.

According to a 2000-2001 study conducted by India's National Nutrition Monitoring Bureau, in villages of nine states in India, the median intake of all nutrients was less than the RDA, across adolescent boys and girls. However, the deficits were lower for calorie intake than for micronutrients. Only 9% of adolescents were consuming less than half the RDA for calories. On the other hand, 50-80% adolescents were consuming less than half the RDA for vital micronutrients such as iron, Vitamin A and calcium.⁹ The difference in deficiency levels between consumption of macro and micronutrients, highlights the need to focus on quality more than quantity of adolescent diets.

Malnourished does not always mean 'thin'

While data on obesity in India is limited, it remains an integral part of malnutrition and an issue that needs attention. It is currently a bigger risk among the urban and the wealthy, but it is also fast reaching adolescents in rural and poorer groups, who now have easier access to packaged and bakery foods, and aspire to them as a status symbol. Obesity may also coincide with deficiency of vital micronutrients, leading to what is known as the 'double burden' of malnutrition among adolescents.^{10 & 11}

Adolescent eating is a function of four levels of influence¹²:

- **individual (psychosocial, biological)**
- **social environmental (family and peers)**
- **physical environmental or community settings (schools, food outlets) and**
- **societal (mass media, marketing and advertising, social and cultural norms)**

The struggle for identity, independence, acceptance and appearance, tend to impact the nutrition of adolescents, influenced by their own aspirations and choices. They may consume food based on what is trending, preferred by their peer groups or endorsed by their favorite celebrities. Their meal pattern becomes more erratic, and they tend to skip critical meals such as breakfast as well as meals at home in general. Snacking on energy dense or fast foods that are low in iron, calcium, vitamin A, folic acid and fibres tends to become a habit. Their nutrition is further undermined by low consumption of fruits and vegetables.¹³

70% of girls suffer from moderate to severe anemia

India is home to 113 million adolescent girls. 50% record a below normal Body Mass Index and 56% of them are anemic.¹⁴ In fact, in 15 states more than 70% of girls suffer from moderate to severe anemia.¹⁵ Both these factors - high anemia levels and low body mass index - undermine immunity, reduce productivity and subject girls to a higher risk of obstetric complications and maternal mortality.¹⁶

A girl begins her growth spurt at an average of 10 years, reaches peak growth at the age of 12 and continues to mature till the age of 16. Multiple inhibiting factors - biological, social and cultural - disproportionately affect adolescent girls in India, thereby denying them the nutrition they require to lead healthy and productive lives.

While anemia impacts both adolescent boys and girls, its prevalence reduces among boys once they are past their growth spurt. In girls, it intensifies post the first menstrual cycle unless the periodic loss of iron through menstrual bleeding is compensated with intake of iron-rich foods and supplements, if required.¹⁷

Moreover, because of the preference for sons, girls may receive less food or inferior quality of food. Culturally, it is expected that the girl should eat after serving all family members. She eats with her mother after the family has eaten. In some parts of India, a girl's food consumption is limited for the fear that she will grow too rapidly and will have to be given in marriage soon.¹⁸ She may also need to observe a series of fasts once or twice a week for getting a good husband. Unmarried girls are therefore more prone to malnutrition than boys because of social discrimination, dieting or simply poor food intake.¹⁹

The situation is made more complex by the phenomenon of early marriage and early pregnancy in India. Almost 25% of girls in India are married before the age of 15 and expected to conceive soon after.²⁰ Pregnancy during adolescence compels the girl's growing body to compete with her fetus for a limited source of nutrients; unless interventions are made to significantly improve the pregnant girl's nutritive intake, and reduce her work load.²¹

**Consequences:
on health, education, economic prospects and the next generation**

Malnutrition among adolescent girls impacts their wellbeing as well as productivity through adolescence and adulthood. It also impacts them during pregnancy and motherhood, putting their children at a weak start.

1

**Delayed menarche &
complicated pregnancies**

2

**Poor education
outcomes**



3

Low Productivity

4

**Undernourished mothers,
undernourished babies**

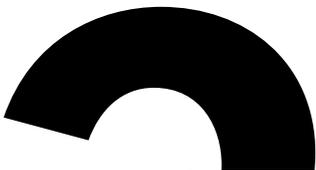
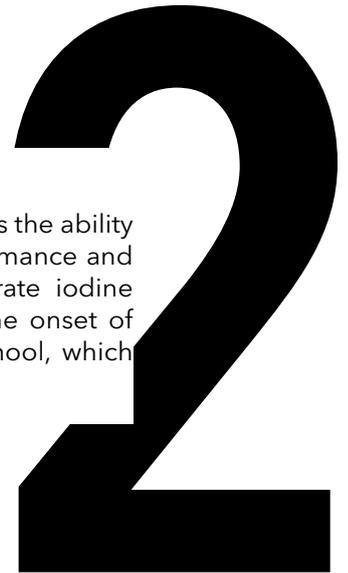


Delayed menarche and complicated pregnancies:

Better nourished girls reach menarche (the first period) earlier than undernourished girls. The onset of the first period is delayed in the latter, leading to slow growth over a longer period of time. They may therefore not finish growing before their first pregnancy, resulting in stunting and thinness which in turn would lead to severe complications during child birth. In India up to 67% of girls were classified to be at obstetric risk in their 15th year as compared with about 20% in their 19th year. A key reason for this is stunting which leads to a smaller pelvis among adolescent girls; increasing their risk of obstructed labor. In addition, iron deficiency during adolescence and pregnancy puts a young woman and her future child at risk of miscarriage, premature birth, low birth weight, birth defects and mortality.²²

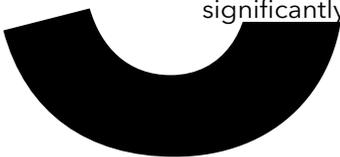
Poor education outcomes:

Iodine deficiency directly impacts the brain's development, decreases the ability to concentrate and learn, and is associated with poor school performance and learning disabilities among adolescent girls. In fact, even moderate iodine deficiency can lead to loss of 10-13 IQ points.²³ Combined with the onset of menstruation, these factors contribute to girls dropping out of school, which greatly undermines their economic potential.



Low productivity:

Iron deficiency decreases energy and physical strength resulting in reduced physical capacity and work performance. Physical performance may be compromised even at mild levels of anaemia. In addition, anaemia in adolescents also impairs the immune response thus making them more prone to infections. A study of Indian children aged 1-14 years indicated that the immune response was significantly low among anemic children, which unless addressed could significantly hamper current and future productivity.²⁴



Undernourished mothers, undernourished babies:

Children born to severely anemic mothers are seven times more likely to suffer severe anemia than children born to non-anemic mothers.²⁵ If the cycle is not broken, malnourishment gets passed on from one generation to the next, a sort of malicious inheritance of a lifetime of social and economic deprivation.^{26 & 27}



**The food continuum:
Ensuring access, consumption and absorption of quality food**

Research evidence suggests that the lifelong and intergenerational impact of adolescent girl malnutrition can be reversed. If positive interventions are made 18-24 months before the first period, existing nutritional deficits can be rectified.²⁸

According to the World Health Organization (WHO), achieving this will require strategies that target the family and community in addition to adolescent girls. It recommends a 'food-based' strategy as one such solution. This strategy not only helps address multiple micronutrient deficiencies within the girl, but also addresses her family's nutritional insecurity as well.²⁹ A food-based strategy - ensuring access, consumption and absorption of quality food - is recommended as a sustainable solution to addressing adolescent girl malnutrition. The following section uses the food continuum of 'Access-Consumption-Absorption' to understand the challenges and opportunities involved in ensuring better nutrition for adolescent girls and their households.



Continuum to improve the nutrition of adolescent girls in India

CHALLENGES

OPPORTUNITIES

ACCESS

Cash crops prioritized over nutrition crops

Public Distribution System offers mainly carbohydrate-heavy foods

Cultivate homestead gardens and nutrition farms for self-consumption

Include 'forgotten' local, nutritious crops in daily meals

Advocate for more diverse food through the Public Distribution system

CONSUMPTION

Decisions on what to prepare and how influenced by family traditions

More and better quality food allocated to sons

Girls' own food choices influenced by peers, concern about appearance, trendy foods

Address household politics that leads to inequitable distribution of food

Promote cooking practices that conserve maximum nutrition in cooked food

ABSORPTION

Poor sanitation and personal hygiene restrict the absorption of nutrients

Poor focus on health-seeking practices preventing timely treatment of common diseases such as diarrhea

Promote hygienic practices among communities

Improve timely health-seeking behavior and demand for preventive healthcare



1. ACCESS TO NUTRITIOUS FOOD

Challenges

India's green revolution created a successful mass base of farming practices that pulled the country back from the brink of famine, which was once a frequent occurrence. Focusing on growing cereals and grains, the revolution has produced a sustainable, long-term reserve of calorie foods. But India still lags in the production of nutritious foods such as lentils, pulses, vegetables and fruits. Production of these has been ignored in favor of high-yield varieties and cash crops. Low production of nutritious crops has raised their market price and made them unaffordable for the undernourished poor.

Also, the transition from traditional multi-cropping to mono-cropping increased the need for purchased inputs - fertilizers and fortified seeds - leading to higher farmer debt and lower farmer capacity to buy nutritious foods.³⁰ The shift away from multi-cropping also led to loss of knowledge on climate-smart farming, causing cash crops to succumb to unexpected climate change. This left families that once had the wherewithal to produce nutritious foods, with neither crops for consumption nor resources to buy them in the market.³¹

Despite India's rapid economic growth, 300 million people live below the poverty line, 75% of them in rural areas.³² These rural poor procure food either from what they produce in their fields or from the Public Distribution System (PDS).

The PDS mainly distributes carbohydrates - rice or flour - to the poor. While there has been a move towards including millets in the PDS, it does not offer vegetables, fruits or other sources of micronutrients.³³ As a result, while the poor are not necessarily going hungry, they still suffer what is known as 'hidden hunger', caused by the deficiency of critical micronutrients in the body.

Emerging threats to traditional diets

"Traditional crops like millets, pulses and oilseeds - nutrition-rich and once a part of our regular diet - are now disappearing from villages due to the government's introduction of rice and other hybrid crops. Also, the younger generation these days feels collecting and consuming food from the forest is humiliating. So community members are being forced to eat only Public Distribution System rice, which does not have enough vitamins and minerals. We were much healthier when we ate traditional diverse foods."

- Minati Tuika, a farmer in Katalipadar village, Odisha³⁴

Opportunities

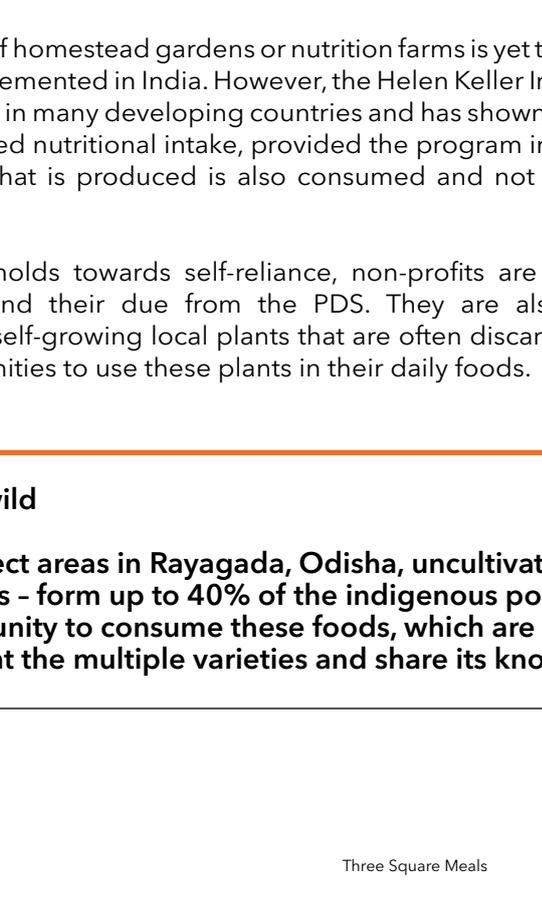
While many approaches focus on systems and policies to improve agricultural production for nutrition, the food continuum shows how communities can become self-sufficient for their nutritional needs.

Non-profits are helping families use at least a part of their farms or the space around their huts to grow nutritious crops for self-consumption. These are called nutrition farms and homestead gardens respectively. Non-profits also provide technical inputs on the types of crop to grow and resource-efficient methods to do this. In addition, they provide families with key resources such as seeds and farming tools.

A Homegrown Solution

MAHAN Trust, a non-profit working with the tribal population of Melghat, in north Maharashtra, has successfully piloted over 3,000 homestead gardens and 400 nutrition farms in the region. The villagers initially resisted because they did not think such gardens could be sustained given the lack of water in this hilly region. MAHAN then demonstrated a homestead garden in its premises, utilizing used water from the kitchen and bathroom. The produce was not only enough for consumption, it also left a surplus for sale.

After this success, several households cultivated homestead gardens and upped their daily consumption of vegetables and fruits. To scale up its efforts, MAHAN now encourages families to use a part of their farm land to grow nutritious crops for local consumption, with plenty of land still left for cash crops. It promotes a low-cost mix of seeds with which farmers can cultivate 14 different varieties of crops in a small plot of land; thereby ensuring dietary diversity for the family and as well as good health for the farm land. The Trust has now begun to officially document changes in the nutrition in-take of families cultivating nutrition farms or gardens for self-consumption.³⁵



Case Study

The nutritional impact of homestead gardens or nutrition farms is yet to be established for most programs implemented in India. However, the Helen Keller Institute has been testing this intervention in many developing countries and has shown that homestead production has improved nutritional intake, provided the program includes nutrition education to ensure what is produced is also consumed and not just sold by the families.³⁶

While nudging households towards self-reliance, non-profits are also mobilizing communities to demand their due from the PDS. They are also studying the nutritional qualities of self-growing local plants that are often discarded or misused, and educating communities to use these plants in their daily foods.

With help from the wild

In Living Farm's project areas in Rayagada, Odisha, uncultivated crops - bamboo shoots, ferns, mushrooms and fruits - form up to 40% of the indigenous population's food basket. The program mobilizes the community to consume these foods, which are rich in micronutrients. It also helps the community document the multiple varieties and share its knowledge.³⁷



Image Credit: Food Ladder

Farming in the city

Food Ladder focuses on nutrition insecurity in India's space-starved urban settings. In partnership with Conserve India, it works in a West Delhi slum to convert waste plastic into flat pack greenhouses that grow a variety of nutritious foods. The project employs slum dwellers who use the greenhouse to grow nutritious vegetables, which they sell to a local hotel chain. The proceeds are used to pay for operational costs and salaries, while the profits fund the health needs of its employees and their families. A part of the produce is also distributed among these employees.

Flexibility to adapt to local needs is a key feature of the project. While the current system in Delhi sells 90% of its produce and keeps the rest for the community, Food Ladder can reverse the proportion should the community and partnering non-profit need it. Such community-led greenhouses give the urban poor the platform and technical know-how to grow food - traditionally the privilege of rural farming communities with sufficient space. To show its potential to grow nutritious food in unlikely spaces, the current West Delhi greenhouse has been located on top of Conserve India's factory in the slum.³⁸



2. CONSUMPTION

Challenges

The preparation and consumption of food is a critical means to integrate nutrition into the daily life of adolescent girls. However, preparation and consumption is influenced by many factors in the Indian context.

First, allocation of nutritious food forms a systematic method to maintain gender hierarchy. The HUNGaMA study of 2012 found gender-differential feeding begins at infancy and continues through the most critical years of a girl's physical and mental development.³⁹ A strong preference for sons in most Indian societies is seen as the main cause of this practice. Nutrition for girls is also restricted to delay visible physical maturity in a girl, in order to keep her protected from sexual predation or early marriage.⁴⁰

Adolescent girls are also expected to observe religious fasts - bi-weekly in some places - to get a good husband or as part of family tradition, which systematically deprives them of balanced nutrition in their own household.⁴¹ This in turn impairs their ability to attend and perform in school without adequate food and water.

In their marital home, systematic discrimination against adolescent girls intensifies. Adolescent brides are often lowest in the family hierarchy. This makes them responsible for more work than most other family members but does not compensate them with more and better food. During pregnancy, when better nutrition is critical, they are prevented from eating more to keep the baby from becoming too big for their stunted bodies and causing obstructed labor.⁴²

In the face of such sustained discrimination, from a very early age, and seeing little resistance to it from their older female counterparts, adolescent girls often internalize such systematic discrimination as a given and involuntarily consume poor nutrition within the family, becoming unquestioning conduits to transfer the same gender-inequitable nutrition practices to the next generation.



Another factor is the reduction of biodiversity, which especially affects the poorest, limiting their chances of getting nutrition from what they have been used to eating. A classic example is of India's tribal communities, which have hunted and eaten meat as a way of life. They have historically not consumed milk products or pulses, because these were not available in their natural habitat. The hunting ban has limited access to their natural source of critical proteins – meat, forcing them to resort to a carb-heavy diet from the PDS, which is severely deficient in micronutrients.⁴³

Opportunities

Many non-profits working to improve nutrition across the food continuum conduct cooking demonstrations to promote nutritious food recipes that use inexpensive, local ingredients and suit local tastes. These demonstrations also promote cooking methods that conserve maximum nutrients in the food prepared.

Sukarya, a Haryana-based non-profit, has developed a book of recipes that use locally available, inexpensive ingredients to prepare quick dishes that are rich in iron and vitamin C, to prevent the prevalence of anemia among children, girls and women.⁴⁴

In addition, non-profits work to ensure greater gender equity in household distribution of work and nutritious food by working with key decision-makers in the household. Programs also work to create a demand for this equity among girls, by sensitizing them on the importance of adequate nutrition and educating them on simple practices that can help them achieve it.

MS Swaminathan Research Foundation (MSSRF)

conducted its 'Alleviation of Poverty and Malnutrition' program in Tamil Nadu and Kerala. The program involved behavior change communication with adolescent girls and their families on two forms of malnutrition: iron-deficiency anemia and micronutrient deficiency. It told the girls about the reasons for these deficiencies, the importance of treating them and the best ways to do this. It counseled girls and their families to address peer pressure, stigma as well as customs and beliefs that deprive girls of nutritious foods.⁴⁵

Living Farms'

program in Rayagada, Odisha, involves men as change agents. At the community level, engaged men are opposing the practice of girls' early marriage which increases the girls' vulnerability to poorer nutrition. At the household level, these men share the workload of their wives, especially during pregnancy, and encourage their mothers to do the same.⁴⁶

Case Study

3. ABSORPTION

Challenges

While a balanced diet is critical for nutrition in adolescent girls, it would be counter-productive if cooked or consumed in unhygienic conditions. Unhygienic practices, including poor sanitation, severely affect nutrition by making the body prone to infections that reduce its ability to absorb nutrition. Repeated bouts of disease not only kill appetite but also channelize the body's nutrients towards infection-fighting and away from driving the adolescent growth spurt.⁴⁷

According to the Public Health Association, only 53% of people in India wash hands with soap after defecation, 38% wash hands with soap before eating and only 30% wash hands with soap before preparing food.⁴⁸

Even compared to China, whose population is comparable to India's, we do badly. While 3% of people in China defecate outdoors, in India it is 50%.⁴⁹

Experts say attitudes towards personal and community hygiene may be as critical as access to sanitation services such as functioning toilets and clean water. Few rural households in India have adopted the inexpensive latrines that have almost eliminated outdoor defecation in Bangladesh. As a result, Indians are constantly exposed to waste, which is a breeding ground for disease and a threat to the nutritional status of individuals and communities.⁵⁰

Opportunities

Non-profits working to improve this mainly promote adoption of hygienic practices as well as improve and facilitate timely health-seeking behavior.

Organizations such as Impact India Foundation (IIF) and MSSRF regularly screen girls to identify nutritional deficiencies and ensure timely treatment. IIF also teaches girls to identify signs of anemia themselves, so they can seek treatment in time. MAHAN Trust has created a cadre of village health workers to increase outreach of information and services that can help prevention or early detection and treatment of diseases.⁵¹

Benefits of the continuum for adolescent girls

The food continuum allows for nutrition throughout the life cycle, as compared to interventions that target girls and women only during certain phases of their life, where their nutritional status affects India's maternal and newborn mortality burden.

While such targeted interventions may prove beneficial during the target period, they leave the 'beneficiary' with insufficient knowledge and resources to keep up their nutrition levels thereafter. In fact, these targeted interventions often refuse assistance to the girls and women once they are no longer eligible for this. The continuum helps reduce the dependence of this group on ad-hoc interventions, and gives the knowledge to choose and utilize existing resources for better nutrition.



Image Credit: Aparna Pallavi

Rama Moon, a 33-year old woman from Shiroli village in Maharashtra, suffered from severe anemia. She was denied iron pills for three years because she was not pregnant. “I could not afford to buy pills from the market,” says the mother of two who had to argue with health workers at the local public health center to get her hemoglobin count tested.⁵²

The food continuum’s potential to improve nutrition security among households makes it a more acceptable approach than interventions that send girls home with rations for self-consumption only.

The advantage of a dietary approach over iron supplements is that it benefits the entire family. “Pills are taken by a single person, but vegetables are consumed by the whole family. Apart from raising hemoglobin counts, vegetables are a source of nutrition in general,” says Preeti Joshi, Head, National Organization for Community Welfare. “Women who raised kitchen gardens have reported a decrease in incidence of viral infections and digestion-related problems among adults and children”, she adds.⁵³

Finally, programs operating through the food continuum have drawn nutrition out of the purely technical space and are making it an issue that can be understood and owned by the community. Collectivizing the community to identify its key issues, this approach attempts to revive traditional solutions combined with new research and knowledge.

Much innovation is taking place in the space of nutrition through the food continuum. A key reason is the approach’s sustainability, simplicity and potential for impact throughout the lifecycle. Above all, it moves on from perceiving girls and women as passive beneficiaries of targeted interventions to empowering them into active contributors to a more holistic and sustainable solution.

Key Takeaways

Chapter 1:

The Size and Shape of the Problem

Every dollar invested in nutrition returns USD 16. In India, the returns go up to USD 34 for each dollar invested. Yet India annually loses hundreds of billions of dollars to lost productivity and the cost of treating malnutrition.

After the first year of life, the only other opportunity for a growth spurt is during adolescence - this is why adolescent nutrition offers a make-or-break window of opportunity to improve health and productivity outcomes.

India is home to 113 million adolescent girls - 50% of them record a below normal Body Mass Index and 56% are anemic. Both these factors undermine immunity, reduce productivity and subject girls to a higher risk of child and maternal mortality.

Evidence suggests that if positive interventions are made during pre-adolescence and adolescence, existing nutritional deficits can be rectified. A food-based strategy - ensuring access, consumption and absorption of quality food - is seen as a sustainable solution to address malnutrition within communities and therefore adolescent girls.

2

KEY MOVERS IN THE SECTOR

This section lists the key stakeholders - government, corporates, international development agencies, and research and academia - currently involved in addressing malnutrition for India's adolescent girls across the life cycle. Within each category, it also provides examples of players with the potential for positive impact. These examples are by no means exhaustive, but indicative of the variety within each category of stakeholders.

Government

Corporates

*Research
&
Academia*

*International
Development
Agencies*

GOVERNMENT

KEY ROLE

To address malnutrition in adolescent girls, the government is:

- Providing products and services that can address malnutrition among adolescent girls, at heavily subsidized rates or for free.⁵⁴
- Generating awareness and building capacity of girls to better understand and manage their nutrition.⁵⁵
- Making a policy commitment to adolescent girls through its Reproductive Maternal Neonatal and Child Health + Adolescent strategy, and to fighting malnutrition in what the government calls 'mission mode'; although this commitment is being differently understood and upheld by different states.⁵⁶
- Helping scale successful initiatives that address adolescent girl malnutrition.⁵⁷

EXAMPLES

Weekly Iron folic acid supplementation (WIFS): This program aims to prevent and treat iron-deficiency anemia among adolescents in India. It targets school-going adolescent girls and boys, and out-of-school adolescent girls with weekly recommended supplements of iron and folic acid. The program targets both rural and urban adolescents through the platform of government aided and municipal school as well as *anganwadis*.⁵⁸

Rajiv Gandhi Scheme for Empowerment of Adolescent Girls/ SABLA: It aims to improve the health and nutritional status of girls aged 11 to 18 years, along with building their life, vocational and home skills and their awareness on their nutritional entitlements. The scheme operates through the extensive machinery of the Integrated Child Development Services and reaches out to in and out of school girls, in 200 districts across the country.⁵⁹

Mid-day Meal Scheme: Provides one hot meal/ day to school-going children in classes 1-8. This free meal is provided to 120 million children across government run and government supported schools, nationwide.⁶⁰ Meals may be prepared in a decentralized manner by each individual school or in a centralized manner through an external vendor who caters the meal to various schools each day, keeping the mandated nutritional requirements in mind.⁶¹

Mahila Kisan Sashaktikaran Pariyojana: To enable recognition of women in agriculture and farming to enhance their opportunities for empowerment, by strengthening community organizations of poor women farmers.⁶²

The National Food Security Act (2013): This act converts existing food security programs of India into legal entitlements. These include the Mid-day meal scheme, the Integrated Child Development Services and the Public Distribution System (PDS). Under this act, PDS is supposed to provide subsidized staples to 75% of India's rural and 50% of its urban population. This system has so far been criticized for its urban bias. Further, the act mandates entitlement of 5 kilograms/ person, of rice, wheat and millets for upto three years from enactment.^{63 & 64}

OPPORTUNITY

- The government's efforts to address malnutrition, especially among adolescent girls, need to move beyond addressing 'hunger' to addressing 'hidden hunger' or micronutrient deficiencies in this group.
- It needs to invest in building national-level data on the extent of the problem, especially in micronutrient deficiency, among adolescent girls.
- Efforts to improve adolescent girl nutrition need to promote greater nutrition security for the girl's household instead of targeting the girl alone.
- The government speaks of cross-sector coordination for better nutrition in adolescent girls but needs to show this through stronger inter-linkages between its various ministries. Ministries that are addressing sanitation, agriculture and health all need to prioritize and budget for nutrition, to ensure it is addressed in a holistic manner.
- The quality of products and services made available through the government system must be improved. There is need to make subsidized vegetables and fruits available through the PDS, to offer a more holistic solution to nutrition among disadvantaged populations.
- While the machinery exists to provide nutritional benefits, issues of black marketing, red tape and poorly trained staff make this machinery unreliable. The National Food Security Act, 2013, converts food entitlements to legal ones, offering a chance to bring defaulters to book and make the system more accountable.
- The government can also play a larger role in making nutrition popular by targeted messaging and advertising campaigns, with a particular focus on adolescent girls.⁶⁵

CORPORATES

KEY ROLE	EXAMPLES
<p>Currently, corporates influence the issue in the following ways:</p> <ul style="list-style-type: none">• They fortify staple foods and make them available to a wider market through affordable pricing. Some also fortify popular packaged foods.⁶⁶• While most Corporate Social Responsibility (CSR) initiatives are directed at education or health, few fund non-profits and social businesses tackling malnutrition.⁶⁷• They partner with government, multilaterals and non-profits to combine technical expertise and advocate for policy and industry-level changes.⁶⁸	<p>Britannia 'Tiger' Biscuits: Britannia Industries, the Naandi Foundation and the Global Alliance for Improved Nutrition (GAIN) formed a Public Private Partnership (PPP) to deliver nutrition through a line of packaged food called Tiger biscuits. Fortified with iron, calcium, folic acid, vitamin A and D, these biscuits assure 25% of all daily growth nutrients per 100 gm and start at a price as low as INR 2 (USD 0.03). Tiger biscuits currently penetrate 71% of the urban market and 45% of the rural market.^{69 & 70}</p> <p>Tata Salt iodization: In 2012, Tata Chemicals launched Tata Salt Plus, an iron-fortified, iodized salt, which was introduced in India to fight the high rates of anemia experienced by women and girls. While the packaged product is available at INR 20/kg, the company has said it will work with non-profits, the PDS and state-run health schemes to provide iodized salt to the country's most marginalized, in addition to selling it at 11,00,000 outlets across India.⁷¹</p> <p>PepsiCo, Potato Farming Program: PepsiCo and India's potato farming program reach out to more than 12,000 potato farmers across six states. Farmers are provided with superior seeds, inputs, and best practice training. PepsiCo has created an assured buy-back mechanism at a pre-fixed rate with farmers, which gives them a steady income through sale of crops.⁷²</p>

OPPORTUNITY

- More corporates must work to ensure that their fortified, nutritious products reach further down the pyramid through open markets.
- Nutrition must become an aspiration among adolescents, and corporate-funded advertising and marketing strategies can contribute significantly towards this.
- In the current political scenario, corporates can drive greater political attention and funding towards nutrition of adolescent girls.⁷³

RESEARCH & ACADEMIA

KEY ROLE

The lack of national-level data on adolescent girl malnutrition (besides anemia) is a growing concern in India. Research and academic institutions, along with non-profits, are trying to plug this gap and develop data on the extent of the problem, at least in specific geographies.⁸³

Research organizations are also working to better understand the inter-linkages of nutrition with other sectors. They are collectively developing tools that can assess how nutrition is affected by programs working on a linked sector, say agriculture or sanitation.^{84 & 85}

There is a move towards training the field staff of non-profits to gather and input data from the field, which saves the cost of hiring qualified researchers. Mobile technology is beginning to be used to facilitate data collection and entry, and make it available to researchers in real-time.⁸⁶

EXAMPLES

National Nutrition Monitoring Bureau (NNMB):

In the absence of national-level data on adolescent girl nutrition in India, NNMB's research provides insight not only into the nutrition status of these girls but also into their dietary intake in distinct geographies. These rural studies collect evidence from a sample representative of the area's population, using prescribed procedures and equipment across all geographies, to ensure the evidence can be used to compare and draw out trends.⁸⁷

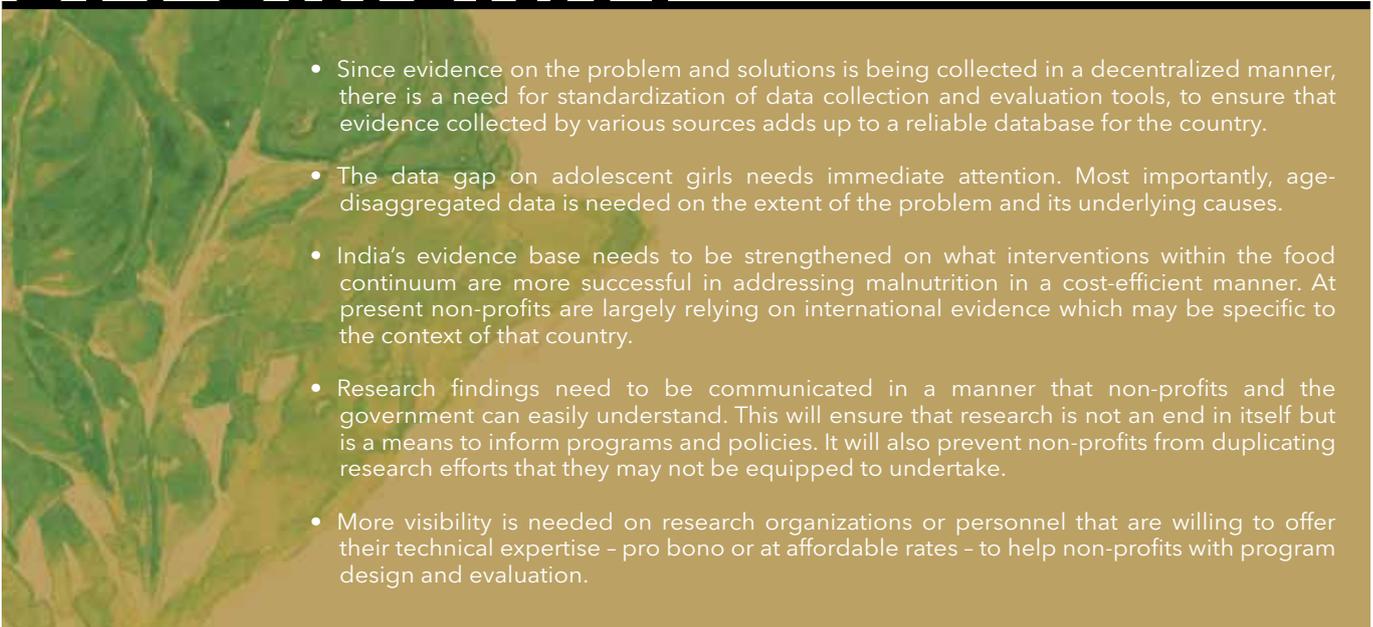
Tackling Agriculture Nutrition Disconnect in India (TANDI):

TANDI is an initiative led by the International Food Policy Research Institute (IFPRI) to identify and analyze the multiple pathways through which agriculture impacts nutrition outcomes among the poor in India. It aims to identify and address gaps in the existing database to enable agriculture policies and interventions that can produce better nutrition outcomes. TANDI engages development economists, gender specialists, applied econometricians and clinical nutritionists to ensure that the final outputs are based on a holistic understanding of the problem and help policymakers appreciate the interplay between agriculture, consumption and nutrition outcomes.⁸⁸

Tata-Cornell Agriculture and Nutrition Initiative:

This long-term research program focuses on the nexus between agriculture and nutrition to address problems of malnutrition, poverty and rural development in India. It conducts multi-disciplinary research and sponsors research fellowships to strengthen the evidence base on these topics.⁸⁹

OPPORTUNITY

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- Since evidence on the problem and solutions is being collected in a decentralized manner, there is a need for standardization of data collection and evaluation tools, to ensure that evidence collected by various sources adds up to a reliable database for the country.
 - The data gap on adolescent girls needs immediate attention. Most importantly, age-disaggregated data is needed on the extent of the problem and its underlying causes.
 - India's evidence base needs to be strengthened on what interventions within the food continuum are more successful in addressing malnutrition in a cost-efficient manner. At present non-profits are largely relying on international evidence which may be specific to the context of that country.
 - Research findings need to be communicated in a manner that non-profits and the government can easily understand. This will ensure that research is not an end in itself but is a means to inform programs and policies. It will also prevent non-profits from duplicating research efforts that they may not be equipped to undertake.
 - More visibility is needed on research organizations or personnel that are willing to offer their technical expertise – pro bono or at affordable rates – to help non-profits with program design and evaluation.

INTERNATIONAL DEVELOPMENT AGENCIES

KEY ROLE	EXAMPLES
<p>International development agencies play a critical role by:</p> <ul style="list-style-type: none">• Strengthening government's nutrition programs with technical support, financial resources, guidance and supplies.⁷⁴• Supporting innovative non-profit programs that address the nexus of nutrition insecurity with other development issues.^{75 & 76}• Advocating with industry groups and the private sector to invest in market-based solutions to malnutrition.⁷⁷• Setting the policy agenda on nutrition, globally and in India.⁷⁸	<p>Global Alliance for Improved Nutrition (GAIN): To reduce malnutrition among at-risk populations, GAIN manages PPPs that include government, non-profits, international organizations, academia and the private sector. It advocates with private sector companies to adopt proven interventions such as staple food fortification, and to introduce low-cost, fortified food products targeted at women and children.</p> <p>It may also offer these companies technical assistance on product formulation, fortification and quality control. Through its social marketing support to these companies, it creates consumer awareness around nutrition-enhancing products.</p> <p>GAIN also supports programs on social behavior change communication, and works closely with government and other stakeholders to ensure women, girls and children have access to adequate nutrition interventions and services.⁷⁹</p> <p>Welthungerhilfe's Fight Hunger First Initiative (FHFI): In 2011, Welthungerhilfe launched FHFI to improve key food and nutrition indicators over a six-year period in highly vulnerable regions in Jharkhand, Karnataka, Madhya Pradesh, Odisha and West Bengal. The program supports non-profits like Living Farms and Development Research Communication and Services Centre (DRCSC) to run innovative pilots that ensure food and nutrition security through community-led activities ranging from classification and utilization of uncultivated foods to the introduction of community scorecards for monitoring government programs with food and nutrition entitlements.⁸⁰</p> <p>Bill and Melinda Gates Foundation⁸¹ : The Gates foundation, India's Ministry of Science and Technology and the Biotechnology Industry Research Assistance Council, have together launched the 'Grand Challenge' in India. The Grand Challenge offers a partnership framework to fund innovative initiatives in the health and development landscape. Its call for proposals on 'Achieving Healthy Growth through Agriculture and Nutrition', invited innovations that could empower women farmers through better productivity and nutrition for themselves, their children and their families. The Grand Challenge invests in innovations by individuals while also encouraging them to seek useful partnerships. The Challenge aims to fuel innovations in India, and leverage them as a proof of concept for the benefit of other developing countries.</p> <p>United States Agency for International Development (USAID)⁸² : USAID supports nutrition work in India as part of its focus on ending preventable deaths among mothers and children. The challenges faced in addressing nutrition are multidimensional. Any successful response to these challenges will require collaboration among partners. USAID believes its strength and most useful contribution to be its ability to catalyze partnerships between government, the private sector, and civil society. USAID supports Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project which is focused on the prevention of stunting and maternal/child anemia in the first 1,000 days of life through an innovative video-based approach targeted at social and behavior change related to high-impact nutrition practices. A feasibility study showed that the videos effectively achieved behavioral changes for improved nutritional practices. In collaboration with the Bill and Melinda</p>

Gates Foundation (BMGF) and the Department of Biotechnology (DBT), USAID supports a Grand Challenge for innovations at the intersections of agriculture and nutrition. Through the Reproductive, Maternal, Neonatal, Child, and Adolescent Health (RMNCH+A) Alliance, in collaboration with Dasra, Piramal Foundation, and Kiawah Trust, USAID supports nutrition among adolescent girls as a key issue towards their empowerment in India. USAID continues to forge partnerships to promote innovative solutions to prevent malnutrition in women and young children.

OPPORTUNITY

- Funding from International Development Agencies (IDA) is still largely aimed at child and/or maternal nutrition. Given the young population of India, there is a need to also support adolescent health and wellbeing.
- IDAs are typically funding programs and interventions with only three-year durations. This hinders implementing organizations because most nutrition outcomes are realized only in the long-term and therefore need sustainable funding.
- Since a series of factors affect nutrition, it may be useful for IDAs to pool funds and support a host of non-profits within a geography which may be contributing to nutrition in different ways - ranging from agriculture to sanitation. Funding partnerships may also help provide longer funding cycles, with IDAs actively funding at different times within the tenure of the partnership. These partnerships would also allow IDAs to agree on and co-develop tools and M&E mechanisms - differences on these often make non-profits averse to these requirements.

Key Takeaways

Chapter 2:

Key Movers in the Sector

Along with policy commitments to address malnutrition in adolescent girls, the government promotes products at subsidized rates, trains adolescent girls to manage their nutrition, and helps scale successful initiatives.

Corporates such as Britannia, Tata Salt and PepsiCo are fortifying foods themselves, and also partnering with government, multilaterals and non-profits to combine technical expertise, and advocate for policy and industry-level change.

International development agencies such as GAIN and FHF have been successful in setting the policy agenda, supporting innovative non-profit programs, and influencing the private sector to invest in market-based solutions to address malnutrition.

The lack of national-level data on adolescent girl malnutrition in India is an impediment to identifying effective solutions. Research and academic institutions, along with non-profits, are trying to plug this gap and develop data on the extent of the problem based on age, demographics and geography.



KEY LEVERS TO IMPROVE NUTRITION FOR ADOLESCENT GIRLS



In order to achieve better nutrition for adolescent girls and soon, India's steps and investments need to be prioritized. The following chapter talks of key levers or cornerstones that need immediate support, and will be foundational to galvanizing India's efforts for improving adolescent girl nutrition in India, in the near future. Through its research, Dasra has identified the following as key strategies or cornerstones:

- Ensure a diverse diet for adolescent girls
- Leverage the 10-19 window of opportunity
- Make women active stakeholders in the food continuum
- Build and use strong evidence

The figure below maps the stages of the food continuum to relevant cornerstones needed to address them. The figure further provides non-profit interventions currently undertaken to implement the cornerstones on the ground.

Stages of the Food Continuum	Cornerstones	Non-profit interventions
Access 	 <p><i>Ensure a diverse diet for adolescent girls</i></p>	<ul style="list-style-type: none"> • Support nutrition farms and gardens • Promote nutrition-smart practices • Create demand for government entitlements • Conduct policy advocacy • Develop community collectives • Nurture community leaders • Build evidence
Consumption 	 <p><i>Leverage the 10-19 window of opportunity</i></p>	<ul style="list-style-type: none"> • Cultivate community leaders • Promote nutrition-smart practices • Provide nutrition screening and treatment • Build evidence • Conduct policy advocacy
Absorption 	 <p><i>Make women active stakeholders in the food continuum</i></p>	<ul style="list-style-type: none"> • Support nutrition farms and gardens • Nurture community leaders • Develop community collectives • Promote nutrition-smart practices • Create demand for government entitlements • Build evidence
	 <p><i>Build and use strong evidence</i></p>	<ul style="list-style-type: none"> • Provide nutrition screening and treatment • Build evidence

1. Ensure a diverse diet for adolescent girls

Dietary diversity is the consumption of different types of foods over a period of time. These mainly include 'energy-yielding, body-building, protective and regulatory foods', which are essential for the growing minds and bodies of adolescent girls. It is a highly recommended approach for three key reasons. First: It ensures adequate nutrition intake by emphasizing inclusion of micronutrients, and preventing under- or over-consumption of any one nutrient. Second, it challenges traditional diets, which may include only limited types of food in regular meals and thereby push adolescents towards unhealthy but satisfying fast foods. Third, diverse diets not only improve nutrition among adolescent girls, they also help prevent chronic diseases by simultaneously building and protecting their body.⁹⁰

Many studies have recognized the need for a diverse and balance diet to:⁹¹

1. Optimize birth weight of children
2. Minimize risk of cancer and other non-communicable diseases
3. Maximize earning capacity
4. Prolong life expectancy

In resource-poor settings in urban and rural India, two main challenges need to be addressed to make dietary diversity a reality for adolescent girls. One is the issue of household access to diverse foods, the other is of gender equitable distribution of these foods within the household.⁹² The box below discusses the work of two non-profits in Maharashtra that have shown the potential to improve household access to diverse foods.

Ensuring dietary diversity among adolescent girls can make a significant contribution to their nutrition status. It not only offers a short-term solution, as with supplements, but also positively impacts the entire household and is therefore likely to be better accepted and pursued in the long term.

Less supplements, more greens

To address anemia in adolescent girls and women by improving families' access to a more diverse diet, the Department of Science and Technology supported NGOs Dharamitra and Amhi Amchya Arogyasathi.

In 2010 and '11, Dharamitra helped 130 families in nine villages in Maharashtra's Yavatmal district to cultivate kitchen gardens, especially green vegetables, which are a rich source of iron and are not available through the PDS. At the start of the program, 200 adolescent girls and 150 young married women were tested for their hemoglobin level. After a year of regular consumption from these kitchen gardens, 77% of them recorded an increase in hemoglobin count, while 24% of adolescent girls and 27% of young married women were no longer anemic.

Amhi Amchya Arogyasathi worked in Maharashtra's Ghadchiroli district to show the potential of a diverse diet over iron supplements. It helped families cultivate kitchen gardens and conserve wild foods that were once consumed regularly. It found that regular consumption of green vegetables improved hemoglobin count even among patients of sickle cell anemia, who could not consume iron supplements. This was a major breakthrough for Ghadchiroli, where sickle cell anemia is highly prevalent.

A key reason for the success of the initiative is that it positively impacted the entire family. Average vegetable consumption per family rose from 500 gm to 4 kg per week, and medical bills reduced from INR 408 to INR 124 per month as improved consumption of protective foods reduced the incidence of viral infections and digestive problems among adults and children alike.⁹³

Case Study

2. Leverage the 10-19 window of opportunity

Adolescence is a crucial conduit between childhood and adulthood. The growth spurt experienced during this phase may allow one to catch up on deficient growth in early childhood. It also determines to a large extent the overall growth - physiological and psychological - that an individual would experience during their lifetime.

In girls, almost 80% of growth is completed during early adolescence (age 10-15). The growth spurt begins on average at age 10 and peaks around age 12. This period is a critical window of opportunity to create key changes in the nutrition status of girls, which will predict the extent to which they attain their growth potential, either through adolescence or adulthood.⁹⁴

Since gender discriminatory feeding in India begins during infancy and continues through childhood, girls are already at a disadvantage in terms of nutrition and growth status.⁹⁵ The 10-12 age bracket offers a final chance to rectify these childhood growth deficiencies.⁹⁶

But to optimize the potential of the 10-12 age window, these girls need additional nutrition and disease-prevention support, to help their bodies address the pre-pubertal growth spurt and compensate for childhood growth deficiencies. However, this is not yet happening in India where, on an average, more girls aged 10-12 consume less than 50% of RDA for vital nutrients, compared to older adolescent girls.⁹⁷

The 10-12 age window offers a chance to observe and modify nutritional deficiencies, behaviors and practices that may undermine the growth of girls during adolescence, and their overall potential as adults. Given the high impressionability of this group, it is critical to expose them to adequate information on nutritional dos and don'ts, before they begin to emulate the practices of peers or other role models, with the growing desire to 'fit in'.⁹⁸

Since weight among adolescent girls peaks earlier than height, the lack of this information may lead girls to become concerned about their body image and push them towards practices such as dieting, which deprive their growing body of much-needed nutrients. Alternatively, home-cooked food may get replaced with fast foods to keep up with peer pressure, leading to the simultaneous risk of obesity and micro-nutrient deficiency in growing adolescent girls.⁹⁹

Developing nutrition-smart behaviors and life skills among this group is also critical. The behavior change would help these early adolescents to begin appreciating good nutrition practices and adopt them before their habits formalize. Life skills would give the girls a tool to address external pressures that may push them into foregoing good nutritional behaviors.^{100 & 101} One cost-effective and impactful medium to develop these behaviors and skills in adolescent girls, is the school. Strategies implemented in this space not only influence individual girls but their peer groups as well.^{102 & 103}

Schools are also a useful platform for nutritional screenings and treatment among adolescent girls. Since nutritional deficiencies in this group may not be apparent, parents may not take them for screening outside the school system.¹⁰⁴ Periodic screening in schools is a good way to ensure these girls are screened as early as 10 to identify and treat any nutritional deficiencies they may have.

Anemia screening scores well in Parali, Maharashtra

IIF's anemia reduction program in Parali, Maharashtra, targets adolescent girls, as 80% of them are anemic. IIF's anemia reduction efforts were triggered by the need to reduce disability among newborns, and by the realization that this objective cannot be achieved by treating anemic women during pregnancy alone - the treatment needs to start much earlier. Thus, IIF's anemia reduction efforts target adolescent girls in school.

In 2012, IIF conducted anemia screening for 2,878 adolescent girls in school, through hemoglobin estimation. It found 1,050 of them anemic and initiated treatment with IFA supplements, de-worming and diet counseling. After three months of treatment, 236 girls (out of 1,025) recorded a hemoglobin level of 10gm/dl, considered a standard of good health.

While treatment continued for the remaining girls, the program began emphasizing anemia prevention by promoting kitchen gardens for improved consumption of vegetables rich in micronutrients. It also invested in teaching girls how to self-assess the return of anemia. By June 2014, a total of 875 targeted girls were no longer anemic - recording an 83% success rate for the program.¹⁰⁵

Case Study

It is critical to note that the program's emphasis on adolescent girls comes from the perspective of their potential role as mothers. This perspective is predominant among most programs, and India's recent policy emphasis on adolescent girl health and nutrition. While important, this perspective may prevent programs with limited resources from targeting pre-pubertal adolescent girls (aged 10-12), who are not perceived as facing reproductive risks yet; this misses a key window of opportunity to put adolescent girls on a stronger nutritional footing that would influence all aspects of their life, through adolescence and adulthood.

3. Make women active stakeholders in the food continuum

" Cultivating women as decision makers on issues of agriculture and household diets has a very positive impact on the nutrition, food security and health of their families."¹⁰⁶

This is essential if we hope to empower girls "in patriarchal societies that traditionally do not treat women as equals [... and expect them to] be followers, not leaders"¹⁰⁷



Girls and women are much more than just consumers of food - they closely engage with food during its production, procurement and preparation. A number of non-profits are working to reduce nutrition insecurity for entire families and thus reduce the vulnerability of adolescent girls to inadequate nutrition within their own households. While our diligence on the ground identified programs that work to build the knowledge and capacity of girls on the nutrition front, it is challenging to achieve outcomes through this intervention alone. While girls may gain knowledge on good nutrition, they can only convert it into action if they have the buy-in of at least their mothers.

It is therefore critical to build the agency of mothers first, which often suffers due to their poor status within the household and their internalization of poor nutrition behaviors. This poor valuation not only transfers to their daughters but also prevents mothers from standing up for equal nutrition of their growing daughters within the household.

For women to build their agency, it is critical that they play a more proactive role in the food continuum. A primary step in this direction is to strengthen their knowledge and confidence to make well-informed decisions throughout the continuum, which are not only more likely to yield positive nutritional outcomes but also prove their potential as individuals. Where these decisions also yield economic gain, it further improves the woman's status and influence in household decisions, thereby creating a more enabling environment for the wellbeing, nutrition and agency of their daughters.



Case Study

A nutrition revolution - one acre at a time

In India, 83 million women are engaged in agricultural work. Almost 40% of all agricultural effort is performed by women. Yet women are hardly recognized as farmers and consequently enjoy little or no decision-making power over their fields.

The One Acre Model has been Swayam Shikshan Prayog's (SSP) attempt to achieve recognition for such women as farmers, who understand the inter-linkages of sustainable farming practices with nutritional security, and are thus capable of making sound farming decisions. After organizing women into farmers' groups - guided by agricultural leaders - the model first establishes link between sustainable agriculture, health and nutrition security, through monthly meetings. These meetings not only talk of farming best practices and innovations, but also provide information on how chemical-heavy farming impacts the health of their adolescent girls and children, while also reducing their food and nutrition security. It also trains women farmers to negotiate with their reluctant husband or family head for one acre of the family's farming land. The aim is to use this land to show how organic and sustainable farming can provide nutritious food for consumption within the household. It also helps establish that women farmers can successfully implement farming plans without male support.

The model also promotes collective farming among women by helping them get loans, and collectively lease and cultivate larger plots of land. This helps women farmers save twice as much money, by producing enough for both household consumption as well as for sale. The program also enhances the women farmers' confidence and knowledge by taking them for exposure visits to other farming areas, and facilitating their engagement with technical and government experts. According to the program's 2013-14 mid-year evaluation, 65% reported that their negotiation skills succeeded in getting them one acre of land for the model's demonstration; all respondents were able to get some land allocated for the purpose; 80% said their families showed respect for their business and farming acumen and 40% said they were being consulted on key decisions about their family's larger farming lands.¹⁰⁸

Clearly, the potential of women to promote nutrition through the food continuum is undisputed. When programs like 'One Acre Model' address women as individuals and build their social and financial capital, they create long-lasting change that is well summarized by Shaila Shinde, a woman farmer from the program:

"We will continue our work even if SSP leaves this place. We are self-sufficient now. We now have not only technical skills but also all the essential components to be truly 'saksham' (capable)."¹⁰⁹

4. Build and use strong evidence

Evidence on nutrition for adolescent girls can broadly be divided into three categories:

- Evidence on the extent of the problem of nutrition among adolescent girls.
- Evidence on the effectiveness of an intervention in a controlled environment or ideal situation.
- Evidence on the progress and success of a program implemented in a non-controlled environment (where factors beyond the program may influence the problem).

Evidence on adolescent girl nutrition suffers from a lack of standardized data collection tools that would capture context and still collect comparable data across geographies and economic strata. Data is also missing on diets and eating behaviors of adolescent girls across the country. In this group, standardized data collection tools are especially missing for micronutrient deficiencies, which are a good indication of malnutrition and not just of hunger. According to the Global Hunger Index, 2014, data on micronutrient deficiencies is basic to assessing efficacy, cost-effectiveness, scalability and sustainability of food-based solutions. Improvements in girls' micronutrient deficiencies cannot be measured without knowing their current status.¹¹⁰

In the nutrition space, outcomes cannot be attributed to any one intervention. But the effectiveness of an intervention can be tested with efficacy trials conducted in controlled environments. Globally, such trials have been conducted for most nutrition-related interventions, although it is scanty still for certain food-based interventions. It is important to ensure efficacy trials for all food-based interventions to assess their impact on not just hunger reduction but also on reduction of micronutrient deficiencies or 'hidden hunger'.¹¹¹

Experts say it would be useful for non-profits to engage technical expertise in the design stage of their nutrition program. This would help them leverage existing evidence and also identify useful points of evidence that the program could create using available resources. Not only would this allow the program to sufficiently show success, it would also ensure that it better utilizes and contributes to evidence in the sector.¹¹²

Clearly, adolescent girl nutrition in India can move forward at the desired pace if timely and standardized data is available for the nutrition status of girls across the country. While thought leaders like WHO and the Global Hunger Index recommend food-based interventions as the most sustainable solution, the efficacy of all interventions possible in the food continuum needs to be established. Evidence must be available and comprehensible to those not trained in academic research, to improve utilization of the evidence in design and evaluation of programs. Finally, better engagement is needed between technical experts and non-profits to ensure non-profit programs better utilize evidence present in the sector, and create programmatic evidence that is not just of use to them and their donors but also adds to the sector's body of evidence.

Expert panel at Dasra Social Impact workshop

Experts say non-profit programs must use proven interventions and build evidence on how well the intervention was accepted by the community, combined with specific challenges and learnings.

For instance, a one-year program may seek to improve the anemia status of adolescent girls by promoting the regular consumption of IFA tablets. This program must collect evidence on the increased number of beneficiaries consuming the tablets as prescribed, and the program's challenges to ensure uptake and continued consumption. But the program need not invest resources to measure change in hemoglobin levels of beneficiaries, to establish improvement in anemia status. This is because:

- The impact of IFA tablets on anemia levels has already been proven in a controlled environment through efficacy trials. If consumed as prescribed, the particular intervention should yield the desired results. Therefore details on uptake and continuity of the intervention are more significant.
- The program's one-year duration may not be enough to change the anemia status of the girls.
- In a real context - where many other factors may influence girls' anemia status - the program can at best show an association between the intervention and a change in girls' anemia status.

It is then worth asking whether this evidence will add to the body of evidence already available in the sector. More importantly, it asks whether short-term programs should invest their limited resources to collect evidence on impact, which will prove no more than an association of the program with a change in girls' anemia status.

Key Takeaways

Chapter 3:

Key Levers to Improve Nutrition for Adolescent Girls

Ensure a diverse diet for adolescent girls: There is clear evidence that increasing the consumption of a variety of foods optimizes birth weight of children, minimizes risk of non-communicable diseases, increases earning capacity and prolongs life expectancy.

Leverage the age 10-19 window of opportunity: Given the high impressionability of this group, it is critical that they know enough about nutrition to make key changes in their habits and behaviors, which in turn will determine the extent to which they attain their growth potential, through adolescence and adulthood.

Make women active stakeholders in the food continuum: Girls and women are much more than just consumers of food - they closely engage with food during its production, procurement and preparation. Strengthening their knowledge to make well-informed decisions throughout the continuum is likely to yield positive nutritional outcomes for them and their families.

Build and use strong evidence: This sector suffers from a lack of data, which obstructs identification of effective solutions that can be prioritized for investment focus. We need to build evidence to understand the extent of the problem, measure effectiveness of an intervention, and create standardized tools that will indicate not just hunger but malnutrition as well.



RECOMMENDATIONS AND CONCLUSION

With nutrition likely to secure more global attention through the Sustainable Development Goals for 2030, the time is right for India to make the issue a priority and invest in it. If we aim to achieve double-digit growth in the next few years, we need to prevent billions of dollars from being lost to treating malnutrition when it can be prevented at a fraction of that cost.

Move beyond hunger.

India needs to move away from looking at nutrition solely from a 'hunger' lens. The debate around food security - how many kilos and at what price - is merely a debate about hunger, not nutrition. It is critical for all the stakeholders to transition from merely thinking about consuming enough energy to thinking about nutrition more holistically and focusing on not just 'food security' but 'nutrition security' as a whole.

Leverage the window of opportunity.

After the first year of life, the only other opportunity for a growth spurt is during adolescence. There is enough evidence to suggest that if interventions are made in this period, existing nutritional deficits that have occurred during childhood can be rectified. It is critical then for funders and non-profits to leverage this window of opportunity to improve health, economic and productivity outcomes.

Focus on the adolescent girl to achieve national potential.

The focus on nutrition for adolescents, especially girls, needs to be much sharper. While there is no doubt about malnutrition's impact on reproductive performance and the health and life chances of the future children of today's adolescent girls - the larger emphasis should be to recognize how malnutrition prevents girls and the nation from achieving their potential, by restricting the cognitive abilities, lifelong productivity and overall well-being of India's 113 million adolescent girls.

Be part of existing networks.

Committed networks such as the Coalition for Sustainable Nutrition Security already exist and convene a diverse set of stakeholders at the policy and program level, to set an agenda for nutritional security in general and in adolescent girls in particular. Such networks need to be utilized instead of creating new partnerships.



Corporates have a critical role to play.

The United States government has made it mandatory to fortify staple foods. Evidence reviews show that this approach has made a reasonable contribution to improving nutrition levels. In India, some industries - oil, wheat, milk for instance - now voluntarily fortify products at a marginal additional cost. Examples include Annapurna, Britannia, Mahakosh and Tata Salt. This 'market-based approach' is critical to increasing access to quality food for marginalized populations. Corporates across food groups can do more to adopt this approach and influence their peers to do the same.

Use the well-established education system.

Most adolescents, particularly in the 10-12 age group, are enrolled in schools. Surveys such as ASER, conducted by Pratham (a leading non-profit in the education sector), reach girls in this age group. Non-profits and implementing agencies must therefore consider using the established eco-system of schools, teachers and surveys such as ASER to create awareness about nutrition, develop healthy habits and attitudes among this group, and gather data on the status of nutrition in adolescent and pre-adolescent girls.

Invest in gathering and disseminating data.

Data on nutrition for this group is scarce, particularly disaggregated data based on age, gender and geography. Given this, gathering and disseminating data that complements government data becomes critical to even begin developing solutions. Funders need to support research and data collection because it strengthens the overall ecosystem - identifying the problem and its extent and therefore developing targeted approaches that address the problem.

APPENDICES

Appendix I

Criteria used to define 'impact' and 'scale'

Defining 'impact'

- **Proximity to end beneficiary:** Measures that involve direct contact with a beneficiary, such as teaching in class, more deeply impact individuals than indirect activities, such as revising the curriculum and developing evaluation systems.
- **Duration of engagement:** Interventions that involve engagement with beneficiaries over a longer period may potentially have a greater impact on their lives and situations than a one-off awareness building session or other such short-term engagements.
- **Evidence for effectiveness:** Interventions may be effective on paper, but the ground reality may be quite different. For example, using IT for distance learning modules can ideally have a major impact on improving teaching and learning. However, at present most rural schools do not have electricity and internet to implement these solutions. Such an intervention is therefore rated lower on impact.

Defining 'scale'

- **Resource intensity:** This would include human and financial resources. For example, the need for skilled teachers may be a factor limiting an increase in scaling alternative schooling models. On the other hand, relatively few resources are required to train community members to deliver a service, such as transportation, inherently making it a more scalable intervention.
- **Gestation period:** This refers to the time required to realize impact once a program has started. For example, it takes longer for evidence-based advocacy to provide benefits to the girl child (owing to the need for gathering data, analyzing information, advocating for change by the government, securing acceptance of change and implementing legislation) than, for example, well-distributed financial incentives. Consequently, interventions with longer gestation period are deemed less scalable.
- **Partnerships leveraged:** This refers to the use of partnerships and other organizations to reach out to more people. For example, interventions that train or build the capacity of other organizations have the potential to affect more beneficiaries in a shorter time than those that implement the program in communities directly. They are also less expensive to deliver and will therefore qualify as more scalable.

Appendix II

Dasra's non-profit mapping included site visits to review programs on the ground and interact with beneficiaries; detailed interviews with leaders of non-profit organizations; phone interviews; and desk research.

Operationally, the following due diligence procedures were followed:

Initial Mapping: Firstly, Dasra collated a comprehensive list of non-profit organizations that worked through community-based models to strengthen the demand side and improve nutrition for adolescent girls, their households and community. This list was developed based on internet search and referrals from sector experts. Initial mapping yielded a list of 68 non-profit organizations and social enterprises throughout India.

Phone Interviews: Secondly, Dasra shortlisted 42 non-profit organizations based on their program focus, emphasis on adolescent girls, and size. It also took into account the non-profit organization's work across the food continuum. Through phone conversations with the heads or program heads of these organizations, the following information was discussed:

- Activities, direct and indirect, related to improving nutrition of adolescent girls
- Degree of organization and program focus on improving the nutrition of girls
- Organization budget size and proportion of total non-profit budget related to improving nutrition of girls
- Outreach of relevant programs since their inception and over the previous year (2013-14)
- Organizational and program team size

Additional information gathered included the year in which the non-profit organizations and relevant programs were established, geographical coverage, and statutory compliance. Based on the information provided, Dasra selected nine non-profit organizations for visits.

Site Visits: Thirdly, Dasra met with leadership and field staff of the shortlisted non-profit organizations, to see the work being done on the ground and see how their theories of change translated into effective action on the ground. Dasra staff spent 1-2 days with each non-profit organization, acquiring detailed information concerning the organization in general and its programs for nutrition of girls in particular, including the evolution of the program, its model, management structure, program financials, outreach and outcomes achieved. This stage was used to better understand the non-profit organizations to be highlighted in this report and recommended for funding on various parameters, including:

- Strategic vision of the organization and program leaders
- Strength of institutional processes and structures
- Evolved program models which are scalable and impactful
- Growth over the previous three years (2012-14)
- Future scaling plans
- Proven outcomes/impact
- Current partnerships (government, academia, international non-profit organizations, and other non-profit organizations)
- External endorsements (historical and current funders, and prestigious awards)

After evaluating organizations on these parameters, Dasra profiled nine established non-profit organizations that implement programs impacting the nutritional status of girls in India.

Appendix III

Acknowledgements and Organizations Database

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4.	G. Subbulakshmi	Impact India Foundation
5.	Hina Goel	Philanthropist
6.	Laxmi Iyer	Digital Green
7.	Manjula Singh	DFID
8.	Meera Mishra	IFAD
9.	Peter Kenmore	Food and Agriculture Organization, India
10.	Purnima Menon	IFPRI
11.	Rajan Sankar	GAIN
12.	Rajlakshmi Nair	UNICEF
13.	Rita Sarin	The Hunger Project
14.	Sadhana Bhagwat	GAIN
15.	Salil Kumar	GAIN
16.	Sharmila Neogi	USAID
17.	Subhankar Chatterjee	Welthungerhilfe
18.	Vinita Bali	GAIN

Non-profits and social businesses

Dasra invited 17 non-profits working in this sector, to participate in a capacity building workshop, held from 8th to 10th December, 2014. Using a curriculum and a facilitation methodology from Dasra's globally recognized Dasra Social Impact Executive Education program, the workshop helped to strengthen these organizations' strategic thinking, supporting improvements in their assessment methodology, operational planning and communications with donors and stakeholders. The workshop also provided an opportunity for Dasra to present its research findings and framework to the leading non-profits in the adolescent girl nutrition sector. Their input has been included in this report.

	Organization Name	Website
1.	Apnalaya	www.apnalaya.org
2.	BAIF Development Research Foundation	http://www.baif.org.in
3.	Child in Need Institute (CINI)	www.cini-india.org
4.	Digital Green	www.digitalgreen.org
5.	Ekjut	www.ekjutindia.org
6.	Foundation for Mother and Child Health India (FMCH)	www.fmch-india.org
7.	Impact India Foundation	https://www.impactindia.org
8.	Institute of Health Management, Pachod (IHMP)	www.ihmp.org
9.	Jan Swasthya Sahyog	http://www.jssbilaspur.org
10.	MAHAN Trust (Meditation, AIDS, Health, Addiction, Nutrition)	www.mahantrust.in
11.	MS Swaminathan Research Foundation (MSSRF)	www.mssrf.org
12.	Samaj Pragati Sahayog	http://www.samprag.org
13.	Sambandh	www.sambandh.org
14.	Seva Mandir	www.sevamandir.org
15.	Swayam Shikshan Prayog (SSP)	www.sspindia.org
16.	Society for Nutrition, Education and Health Action (SNEHA)	www.snehamumbai.org
17.	Tara Mobile Creches, Pune	taramobilecrechepune.org

Acronyms

ASHA	Accredited Social Health Activists
AWW	Anganwadi Worker
BAIF	Bharatiya Agro Industries Foundation
BCC	Behavior Change Communication
BMI	Body Mass Index
BPL	Bottom of Poverty Line
CF	Community Facilitators
CHI	Community Health Initiative
CWFC	Child and Women Friendly Community
DFID	Department for International Development, UK
FHFI	Fight Hunger First Initiative
GAIN	Global Alliance for Improved Nutrition
GIS	Geographic Information Society
GPS	Global Positioning System
ICDS	Integrated Child Development Services
IDRC	International Development Research Centre
IFA	Iron Folic Acid
IFAD	International Fund for Agricultural Development
LANSA	Leveraging Agriculture for Nutrition in South Asia
MKSP	Mahila Kisan Sashaktikaran Pariyojana
NABARD	National Bank for Agriculture and Rural Development
NRC	Nutrition Rehabilitation Center
NRHM	National Rural Livelihoods Mission
PDS	Public Distribution System
PHC	Primary Health Centre
PLA	Participatory Learning and Action
PPP	Public Private Partnership
RDA	Recommended Dietary Allowance
RKSK	Rashtriya Kishor Swasthya Karyakram
SHG	Self Help Group
TANDI	Tackling Agriculture Nutrition Disconnect in India
UNDP	United Nations Development Program
UNICEF	The United Nations Children's Fund
USAID	United States Agency for International Development
VHC	Village Health Committee
VHW	Village Health Workers
WHO	World Health Organization
WIFS	Weekly Iron Folic Acid Supplementation

Glossary

Accredited Social Health Activists (ASHAs) are community health workers instituted by India's Ministry of Health and Family Welfare as part of its National Rural Health Mission.

Body Mass Index (BMI) refers to the relative size of an individual based on his/her mass and height.

Public Distribution System (PDS) refers to India's food security network, essentially selling food products at heavily subsidized rates, for the poor.

Recommended Dietary Allowance (RDA) refers to the daily intake of various food types prescribed for individuals as per their age and other measures.

Stunting refers to a condition when an individual's height is below normal for his/ her age.

Thinness refers to a condition when an individual's weight is 15-20% below normal, according to their age and height group.

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THREE SQUARE MEALS

A just diet for India's adolescent girls

NON-PROFIT PROFILES



USAID
FROM THE AMERICAN PEOPLE

Kiawah Trust



Piramal Foundation
knowledge action care





USAID

The United States Agency for International Development (USAID) is the United States federal government agency that provides economic development and humanitarian assistance around the world in support of the foreign policy goals of the United States. USAID works in over 100 countries around the world to promote broadly shared economic prosperity, strengthen democracy and good governance, protect human rights, improve global health, further education and provide humanitarian assistance. This report is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of Dasra and do not necessarily reflect the views of USAID or the United States government.

Kiawah Trust

KIAWAH TRUST

The Kiawah Trust is a UK family foundation that is committed to improving the lives of vulnerable and disadvantaged adolescent girls in India. The Kiawah Trust believes that educating adolescent girls from poor communities allows them to thrive, to have greater choice in their life and a louder voice in their community. This leads to healthier, more prosperous and more stable families, communities and nations.



PIRAMAL FOUNDATION

Piramal Foundation strongly believes that there are untapped innovative solutions that can address India's most pressing problems. Each social project that is chosen to be funded and nurtured by the Piramal Foundation lies within one of the four broad areas - healthcare, education, livelihood creation and youth empowerment. The Foundation believes in developing innovative solutions to issues that are critical roadblocks towards unlocking India's economic potential. Leveraging technology, building sustainable and long term partnerships, forming scalable solutions for large impact is a part of our approach.



DASRA

Dasra means 'enlightened giving' in Sanskrit and is India's leading strategic philanthropy foundation.

Dasra recognizes an urgent need for inspired and uncompromising competence to touch and transform the lives of 800 million Indians. Through knowledge creation, capacity building, collaboration and fundraising, we nurture powerful partnerships with funders and social enterprises. Since 1999, Dasra has engaged with over 3,000 corporates, foundations and philanthropists, influenced INR 280 crore towards the social sector and improved the life chances of over 10 million people.

MARCH 2015

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4

THE CHANGE MAKERS: NON-PROFIT INTERVENTIONS & PROFILES

Non-profits in India currently conduct multiple activities under the food continuum, for greater nutritional security at the level of communities, households and adolescent girls. With a focus on achieving this through civil society action, this report has identified the following eight key interventions being implemented on the ground.

1. Develop community collectives
2. Promote nutrition-smart practices
3. Nurture community leaders
4. Support nutrition farms and gardens
5. Create demand for government entitlements
6. Provide nutrition screening and treatment
7. Build evidence
8. Conduct policy advocacy

The grid below shows the interventions mapped on impact and scalability, relative to each other. The two boxes above the grid list Dasra's sub-criteria to define impact and scalability. The mapping on the grid has been validated by members of non-profit organizations and social businesses who attended Dasra's capacity building workshop on this sector as well as an advisory committee of experts.

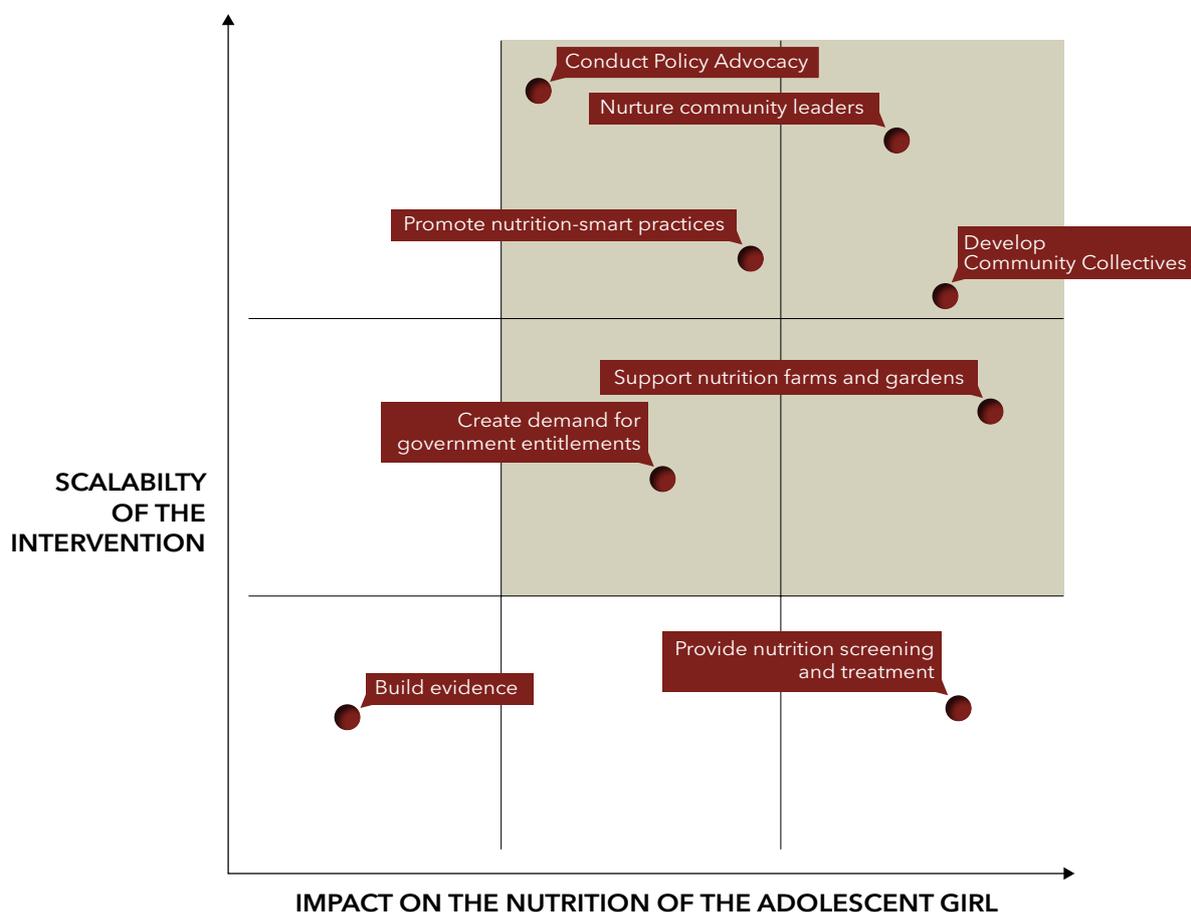
Six of the eight interventions have been categorized as high-to-medium on the combined criteria of impact and scale, highlighted in the shaded area of the matrix.

Criteria for Impact

- Proximity to end beneficiary
- Duration of engagement
- Evidence for effectiveness

Criteria for Scalability

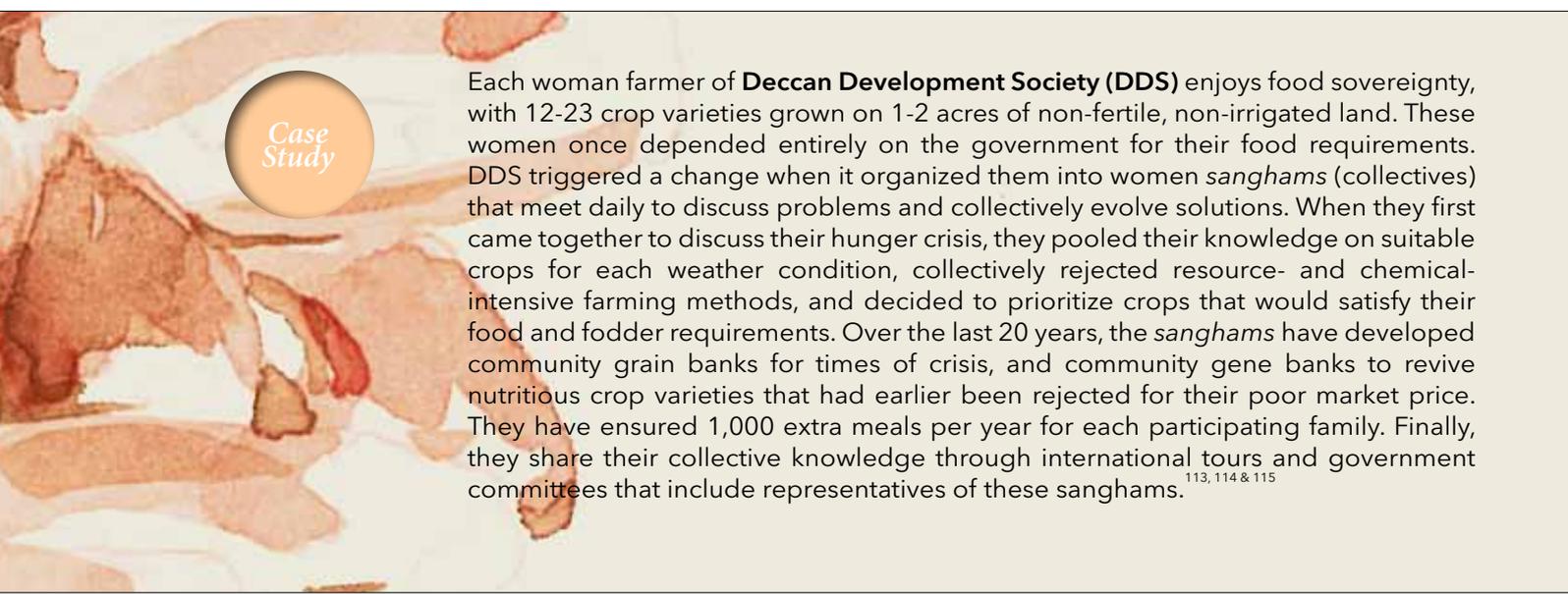
- Resource intensity
- Gestation period
- Partnerships leveraged





1. Develop community collectives

To address nutrition in a bottom-up manner, it is critical to transform high-risk communities from a group of 'beneficiaries' to a critical mass of change makers. A highly impactful and scalable approach to this end is the development of community collectives. Non-profits using this intervention typically organize community members (often women and young girls) into groups, promote discussion among them and help them use their collective knowledge to identify solutions and implement them. Community collectives help reduce insecurities experienced by households and individuals in nutrition-insecure areas that often make them fight each other for sustenance. By collectivizing these community members and promoting regular conversation, this approach helps them appreciate the similarity of their problems and the possibility of a collective solution. Solutions identified in this participatory manner are not only better contextualized and more effective, they are also better accepted by the community. Finally, by enabling the community's problem-solving skills and giving them a self-run structure for engagement, collectives help ensure that the community owns and addresses its nutritional needs, even beyond the tenure of the program.



Case Study

Each woman farmer of **Deccan Development Society (DDS)** enjoys food sovereignty, with 12-23 crop varieties grown on 1-2 acres of non-fertile, non-irrigated land. These women once depended entirely on the government for their food requirements. DDS triggered a change when it organized them into women *sanghams* (collectives) that meet daily to discuss problems and collectively evolve solutions. When they first came together to discuss their hunger crisis, they pooled their knowledge on suitable crops for each weather condition, collectively rejected resource- and chemical-intensive farming methods, and decided to prioritize crops that would satisfy their food and fodder requirements. Over the last 20 years, the *sanghams* have developed community grain banks for times of crisis, and community gene banks to revive nutritious crop varieties that had earlier been rejected for their poor market price. They have ensured 1,000 extra meals per year for each participating family. Finally, they share their collective knowledge through international tours and government committees that include representatives of these sanghams.^{113, 114 & 115}

2. Promote nutrition-smart practices

By and large, the significance and complexity of ensuring daily nutrition - especially for adolescent girls - is poorly understood or appreciated. To address this, non-profit programs sensitize the community on the importance of daily nutrition and the factors that affect it. The community is often given functional knowledge on how it can adapt daily practices related to cooking, eating and hygiene management, to secure adequate nutrition. A popular example of this intervention is a cooking demonstration for women and girls, which gives them recipes and cooking methods that use inexpensive, local products that maximize nutrition secured per meal.

Most programs conduct these demonstrations in groups and follow up with home visits to see whether and how individual women / girls have adopted these practices. While this intervention has significant potential to integrate nutrition into the daily life of girls and their household, which effects lifelong change, programs often find it simpler to impact knowledge than to impact attitudes/ practices.¹¹⁶ Even where this knowledge may convert into uptake of nutrition-smart practices, it is challenging to follow up on each individual girl / household to determine whether their uptake is merely reactive or continues for a longer duration.

Sambandh develops adolescent girl groups and sensitizes them on the importance of a diverse nutritive intake and hygiene, provides diet counseling and encourages them to develop home gardens to grow nutritive and medicinal crops. Sambandh has worked with over 20,000 adolescent girls till date.¹¹⁷



Digital Green, using a pilot deployed in over 600 villages, helps communities develop and share locally relevant videos that provide information and encourage adoption of best practices at the household level. The videos cover a range of topics including the importance of a diverse diet and Iron and Folic Acid (IFA) supplementation for adolescent girls, as well as the significance of hygiene practices during food preparation and consumption.¹¹⁸

Sukarya's anemia control program focuses on building awareness and changing the attitudes and practices of women and adolescent girls, so that they prepare and consume healthy, nutritious meals using inexpensive, locally available ingredients. It conducts nutrition demonstrations that showcase healthy cooking methods (such as the cooking of 'green rotis', made of soya bean, flour and spinach), promotes healthy practices such as using iron utensils to cook food, and provides recipe booklets with information on simple dishes that contain the required amount of iron. Sukarya also conducts nutrition education sessions in schools, through which it identifies anemic girls. Over three years, it has reached around 30,000 women and girls across 10 villages in rural Gurgaon.¹¹⁹

3. Nurture community leaders

Building community leadership also aims to improve the community's self-reliance and trigger lasting action for better nutrition of adolescent girls. Women and adolescent girls who show initiative and the potential to lead action are trained by non-profits in leadership skills and often in technical know-how to address specific nutritional concerns. The latter may include, for example, training to identify and manage iron-deficiency anemia among adolescent girls, or produce organic fertilizers for nutrition farms. Non-profits often invest in building community leadership and implementing programs through these leaders. This not only facilitates community buy-in for non-profit programs, it also helps non-profits exit the area by handing the program over to the community leaders.

Swayam Shikshan Prayog works to develop women and adolescent girls as community leaders in the fields of agriculture and health. It first develops a cadre of master trainers who then train community leaders in each field. These community leaders have monthly group meetings with the community to share best practices in agriculture and health. Outside this engagement, community leaders become key resources for their specific field, whom the community can approach with specific concerns and queries. So far, SSP has developed 25 master trainers each for agriculture and health. They in turn have trained 300 community leaders for agriculture and 300 for health, together impacting over 100 villages.¹²⁰



CINI engages adolescent girls and women to become community facilitators (CFs) who mobilize the community and help them utilize government resources to address the needs of children and mothers (a significant proportion of them being adolescent girls). CFs also identify and monitor high-risk cases within these groups. CINI develops one CF per 10,000-20,000 people. CFs closely engage with other local bodies such as village health committees and SHGs to maximize community outreach. CINI evaluates its CFs at least once a year, and periodically rotates them to nearby areas.¹²¹

4. Support nutrition farms and gardens

Nutrition farms and gardens are among the more popular interventions in this space. A key reason is the immediate effect of home production on improving food and nutrition security in resource-poor settings. Also, when women cultivate nutrition farms and gardens, it makes them a source of greater nutritional security for the family, which improves the chances of gender-equitable distribution of nutritious food in the household.

Non-profits also promote this practice in limited spaces in rural and urban settings. They help families cultivate the area immediately surrounding their house, using even walls and rooftops – these are called home gardens. Organizations also convince farming families to cultivate a part of their farm with nutritious crops for self-consumption, often called nutrition farms. Non-profits provide families with resources such as tools and seeds as well as technical knowledge and inputs to cultivate nutritious crops economically and sustainably. While this intervention requires significant resources initially, programs help these cultivations become self-sustaining by, among other things, teaching cultivators to save seeds for the next season, and produce fertilizers on the field.



A watercolor illustration in shades of orange and brown depicting a woman in a field, possibly engaged in agricultural work. The style is soft and artistic, with visible brushstrokes and a warm, earthy color palette.

Case Study

DRCSC helps landless and poor communities use common properties like degraded lands and ponds to grow nutritious food, especially during and after natural calamities, when no other food is available. It trains them to cultivate food forests with different types of drought-tolerant plants, food and fruit trees, strategic crops, seasonal vegetables and pulses; and use water bodies for fish culture and duck rearing. DRCSC also trains farmers in techniques such as relay cropping (growing an extra crop using residual moisture of other crops) and rainwater harvesting to ensure food supply through the year. Its models have impacted over 10,000 women and adolescent girls till date.^{122 & 123}

Swayam Shikshan Prayog has helped over 2,000 rural women cultivate one acre of their family farmland with nutritious food for consumption. It trains them in organic practices, facilitates access to seeds and tools, and provides on-field support and exposure visits. SSP also helps women use space within and around their homes to develop kitchen gardens to further supplement their family's diet. It has helped set up around 3,100 kitchen gardens till date.¹²⁴

5. Create demand for government entitlements

The government often quotes underutilization of nutritional benefits as the reason for reducing their supply.¹²⁵ So non-profits generate awareness among the community on their due government entitlements and where these can be accessed. Non-profits also create pressure groups of adolescent girls, women and influential community members to address hindrances to access, such as bribery and red tape. Programs strategize with these groups on who best to file a complaint with and how to follow up for speedy redressal. Programs also help these groups bring the matter to public attention, thus increasing pressure on the government.

This intervention is time-intensive, which significantly impacts its scalability. The quality of nutrition and health entitlements accessed through the government system limits the level of impact it would have on adolescent girl nutrition.

Impact India Foundation (IIF) has helped develop 54 Village Health Committees (VHC), reaching over 40,000 people, to undertake community-based monitoring of government health service delivery. IIF builds the capacity of VHCs and creates awareness of the processes to generate demand for these services. IIF also collaborates with government health workers and community public health systems to strengthen delivery of services, including supply of iron and folic acid supplements, and health and nutrition counseling for adolescent girls to manage anemia.¹²⁶



Samaj Pragati Sahayog (SPS) generates community awareness on food-related government schemes, monitors their implementation and puts pressure on the government to reform and allocate greater resources to these schemes. Its screening of 2,300 households for BPL (Below Poverty Line) eligibility resulted in 800 genuinely poor families receiving BPL cards, which are the basis for accessing multiple government entitlements. SPS works closely with local communities and engages beneficiaries, their families, service providers and other stakeholders in this drive. It trains SHGs and SHG federation leaders to increase their participation in implementation and monitoring of schemes at the local level. SPS also facilitates the process of grievance redressal by liaising with local governments.¹²⁷



6. Provide nutrition screening and treatment

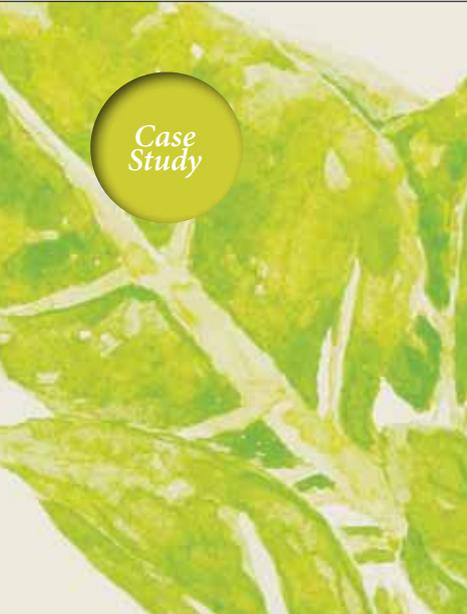
Ideally, for the supply of health and nutrition services, non-profits must not work parallel to the government. However, where government facilities are absent or of poor quality, non-profits fill the gap. While some hold periodic health camps to screen and initiate treatment for adolescent girls, others establish facilities for regular access to quality services, at affordable or negligible prices.

This intervention is significantly impactful in principle, as it helps identify and treat malnourished girls. But in reality, fewer adolescent girls - compared to pregnant women and children - visit health camps for these services. Some programs address this by taking service providers to adolescent girl hubs. This helps realize the intervention's potential, but makes it more resource-intensive and less scalable.

CINI in partnership with Accenture has come up with an innovative solution - GPower - that helps optimize resources by making real time data available on girls' education, protection, health and nutrition status. This information is made available on a central dashboard available to a host of welfare programs dealing with the above- mentioned needs of girls. GPower offers real time, automated analysis of the data, and sends reminders for timely intervention if a need is detected through the data.



This innovation can significantly help plug India's data gap on the extent and nuances of malnutrition among adolescent girls. Since it allows mobile collection of data, it can help capture information on adolescent girls who are less likely to visit health camps or facilities for health/ nutrition screenings. The automated checks in GPower would not only allow good quality data and analysis, but also timeliness of response. Finally, it can help optimize resources as data once collected, is available to various programs simultaneously, allowing better convergence rather than duplication of efforts to address problems faced by adolescent girls.¹²⁸



7. Build evidence

Most non-profits in this space develop monitoring and evaluation (M&E) data for their programs, with varying degrees of proficiency. A major reason is the dearth of affordable M&E experts in the country, which compels many non-profits to perform M&E for their own programs. This in turn raises questions on the objectivity and technical soundness of the evidence gathered.



To address these challenges, some non-profits engage university faculty or students to provide them sound technical assistance at affordable prices. A number of national and international universities offer their expertise to programs in lieu of the data they can generate and utilize. Students gain the benefit of practical experience and application of knowledge in a real setting, making it a win-win for both groups.

Non-profits also try to make programmatic evidence available to a larger audience by moving beyond academic papers - towards case studies, social media videos and other creative methods of story-telling.

MS Swaminathan Research Foundation carries out research projects that range from developing bio-fortified, nutritious crop varieties to piloting and evaluating community-driven programs for better nutrition. MSSRF leads an international research partnership - comprising six organizations - called Leveraging Agriculture for Nutrition in South Asia (LANSA). LANSA conducts research to see how agriculture and agri-food systems can be better designed to improve nutrition, in various countries in South Asia. LANSA engages end users - policy makers, program implementers - from the start to ensure its research is relevant and can be converted into action.^{129 & 130}



8. Conduct policy advocacy

Non-profits often try to use their research and program findings for policy advocacy. Such evidence is used to drive serious policy attention towards ignored groups. Evidence of a program's success is also offered as a proof-of-concept, aimed at encouraging the government to adopt and scale up the program. While this intervention needs significant effort and resources, its effect is highly scalable. However, its impact is lower as there are many slips between conducting policy advocacy for improved adolescent girl nutrition, and the girls actually showing nutritional improvement.

CHETNA contributes to policy formulation through multiple channels. It is a member of the review committee for Rashtriya Kishor Swasthya Karyakram, the national strategy for adolescent health, and provides inputs and modules for Peer Educators, ASHAs and Female Health Workers involved in the policy's implementation. It also advocates for participation of adolescents in policy formulation as well as in program implementation and monitoring. It conducts this policy advocacy by organizing state- and national-level consultations through the National Youth Alliance, a network of non-profits. In 2013-14, CHETNA co-organized a national consultation, Prioritizing Women's Nutrition: An Agenda for Action in India. The consultation aimed to focus policies and programs on gender equity and women's empowerment, to improve nutrition for women and children.^{131 & 132}



In 2004, **MSSRF** piloted a program to empower women farmers in the Vidarbha region, infamous for its farmer suicides. The program trained women farmers in sustainable agriculture and facilitated the formation of women farmer federations. The pilot's success was shared with the central government, which adopted it in 2011 with an initial budget of INR 1 billion. The program now functions in 15 states and is known as Mahila Kisan Sashaktikaran Pariyojana. MSSRF currently partners with the Maharashtra government to implement the program in this state. Since 2012, it has trained over 3,200 women farmers across 60 villages in two districts of Maharashtra.^{133 & 134}

NON-PROFIT PROFILES

During the course of this research, Dasra evaluated over 65 non-profits in the nutrition sector to evaluate their approaches, models and interventions. Following a comprehensive diligence process, nine of these organizations have been highlighted in this section. The chart below maps these organizations to the interventions discussed in the preceding section.

	CINI	DRCSC	Digital Green	Ekjut	IIF	MAHAN Trust	MSSRF	Sambandh	SSP
Develop community collectives									
Promote nutrition-smart practices									
Nurture community leaders									
Support nutrition farms and gardens									
Create demand for government entitlements									
Provide nutrition screening and treatment									
Build evidence									
Conduct policy advocacy									

Child in Need Institute (CINI)

www.cini-india.org



ORGANIZATION OVERVIEW

Founded: 1974 | **Head Office:** Kolkata | **Coverage:** West Bengal, Jharkhand, Chhattisgarh, Odisha
Full Time Staff: 1,767 | **Budget (2013-14):** Organization - INR 28 Crore

CINI works in the areas of nutrition, health, education and protection, for children, adolescents and women in need. It reaches over 5 million vulnerable people through its work at the community level as a facilitator. Over the last 40 years, CINI has worked with the central and state governments and partner organizations, serving as training and resource organization and impacting state and national policy.

PROGRAM OVERVIEW: CINI's Work on Nutrition

Budget (2013-14): 4.6 Crore | **Team Size:** 165 | **Coverage:** West Bengal, Jharkhand, Chhattisgarh, Odisha

THE PROBLEM

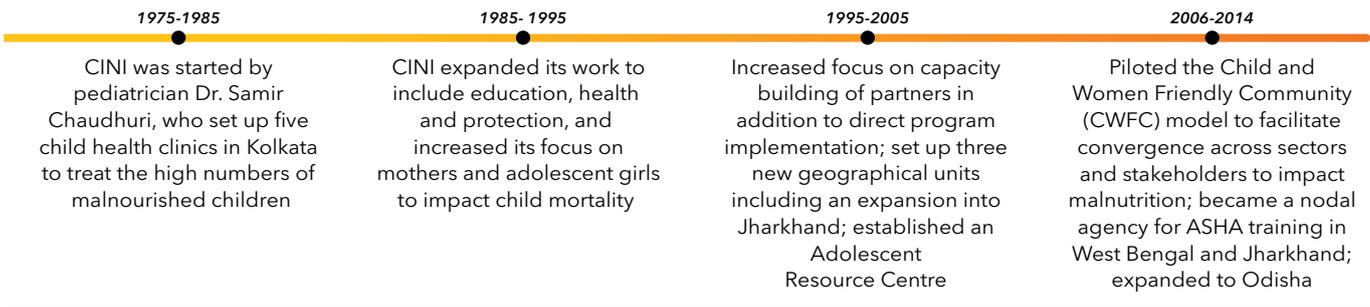
Poor care and nutrition during the first 1,000 days of a child as well as poor health and anemic status of mothers, who are often adolescent girls, has resulted in high maternal and infant mortality. This is driven by poor implementation and awareness of essential government services and adoption of best practices.



CINI'S REPOSE

CINI works with local elected representatives, service providers and community to ensure access and quality of essential government schemes, and increase awareness on both health practices and government entitlements. Its interventions focus on mothers, children and girls to address the intergenerational cycle of malnutrition.

How did it evolve?



What does it do?

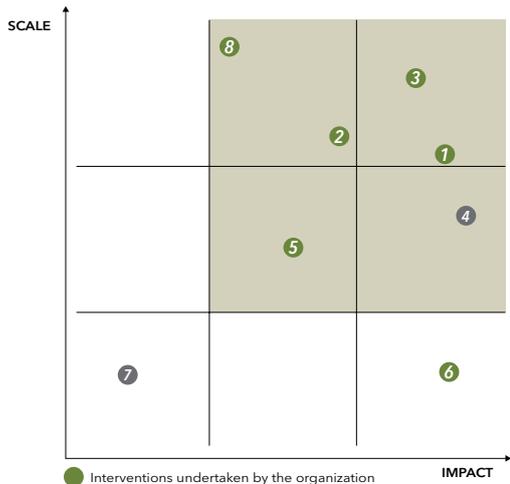
Under its CWFC model, CINI plays the role of a facilitator, working with the community, government frontline workers and local panchayats to address the needs of women and children. It has one Community Facilitator per 10,000-20,000 people, who leverages existing government resources to conduct the following activities:

- Helps **develop and strengthen village level committees** or SHGs, and engages girls as peer educators, to monitor the health and nutritional status of mothers and children, with the help of innovative community driven monitoring systems.
- **Collectivizes girls** through regular meetings to sensitize them on issues of health, hygiene and nutrition, promoting a peer-to-peer approach to change behaviors.
- **Organizes nutrition demonstration sessions and counseling** for girls and mothers (on topics including sanitation, dietary intake and food preparation practices)
- **Builds the capacity of service providers** like ASHAs and AWWs to facilitate delivery and quality of government services

CINI has limited service delivery initiatives such as:

- CINI's Day Care Nutrition Rehabilitation Center (NRC) supplements the fully residential government-run NRCs.
- Its 30 day nutrition counseling and care program, includes 12 days of spot feeding of mothers at local angawadi centers

CINI also pilots and promotes innovation, such as the use of mobile technology for tracking.



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7. Build evidence
- 8. Conduct policy advocacy**

What has it achieved?

- CINI has extensive outreach, currently reaching over 25 lakh beneficiaries through its nutrition programs alone.
- It has trained over 25,000 government workers as well as representatives from over 500 non-profits in India.
- CINI initiated the Nutrition Rehabilitation Centre (NRC) to treat severely malnourished children in 1974; its model was first taken up by the state government and has now been scaled up nationally under the NRHM.
- CINI pioneered and developed Nutrimix, a cereal/pulse mix, to treat malnutrition. It was taken up by a faculty member of IIM-Calcutta in 2013 and is now being run as a social business, CINCOMM, which engages women SHGs to prepare and sell this mix at a local level. It has also been adopted as a provision under the ICDS.

What next?

CINI would like to sustain its core team as well as focus on the following areas over the next few years:

- Having established proven and sustainable models in West Bengal and Jharkhand, CINI would now like to replicate its models in Chhattisgarh and Odisha, by working with local partners.
- It would like to integrate and deepen interventions for adolescent girls through its CWFC model.
- CINI will continue to move out of service provision, and focus more on capacity building efforts for communities, service providers, local government bodies and non-profits.
- It will also look to strengthen partnerships and alliances to influence policy, and develop a knowledge repository for evidence building and advocacy.



An adolescent girls group has developed a community resource map with the help of a CINI facilitator.

Quality Indicators

Leadership

Dr. Samir Chaudhuri is the founder and director of CINI.

- Pediatrician trained at All India Institute of Medical Sciences (AIIMS).
- Recipient of the World of Children Awards (UNICEF) and Global Humanitarian Award.

Partnerships

- Long-term funders include DFID, UNICEF, and the Department of Health, Government of West Bengal.
- Other funders include Save the Children, Jamsetji Tata Trust, Plan International, Ford Foundation and corporates such as PriceWater House Coopers.

Endorsements

- Recipient of the National Award in the field of Child Welfare (1985 and 2004); is the only non-profit to have won this award twice.
- Winner of the WHO award for excellence in Primary Health Care in India (2011) and the SPJIMR-Harvard US-India Initiative - NGO Excellence Award (2013).

Voices from the ground

"We like coming for these meetings. The most interesting topic is that boys and girls have equal rights. We also talk about child marriage, menstruation, maintaining personal hygiene, nutritious food, how to cook food, education, trafficking and knowing about various services including the bank...Now, I eat green vegetables."

- Adolescent girls from an adolescent girl group facilitated by CINI in the Malda district (translated from Bengali)

Voices from the team

"India's level of malnutrition among children and women is unacceptable. Lack of nutrition may compromise physical and mental growth of our future generations. Through our efforts, we hope to improve capacities of families and communities to access existing government services more effectively, thereby giving a second chance to such children and women and building adolescent, women and child friendly communities."

- Dr. Samir Chaudhuri, Director

Development Research Communication and Services Centre (DRCSC)

www.drcsc.org



ORGANIZATION OVERVIEW

Founded: 1982 | **Head Office:** Kolkata | **Coverage:** West Bengal | **Full Time Staff:** 40

Budget (2013-14): Organization - INR 5.0 Crore

DRCSC helps rural, marginalized families to use natural resources such as land, water, soil, plants and animals for food and livelihood security, disaster and climate change adaptation, and vocational training of youth. It implements its programs through 8-10 community-based partners across 12 districts in West Bengal. Serving as a resource organization, it has trained 17 non-profits and nearly 500 community groups to implement its models.

PROGRAM OVERVIEW: DRCSC's Work on Nutrition

Budget (2013-14): INR 3.0 Crore | **Team Size:** 25 | **Coverage:** West Bengal

THE PROBLEM

Poor families living in vulnerable areas that are drought and flood prone, do not have work or food for 4-5 months of the year, and suffer from severe malnutrition. Meanwhile, the uncultivable land and natural resources around them remain unutilized due to lack of knowledge and resources.



DRCSC'S REPOSE

DRCSC develops innovative strategies to produce nutritious food in vulnerable areas. It capacitates farmers, households and communities to implement these practices, to establish sustainable ways to reduce malnutrition and increase incomes of marginalized families, which include adolescent girls and women.

How did it evolve?

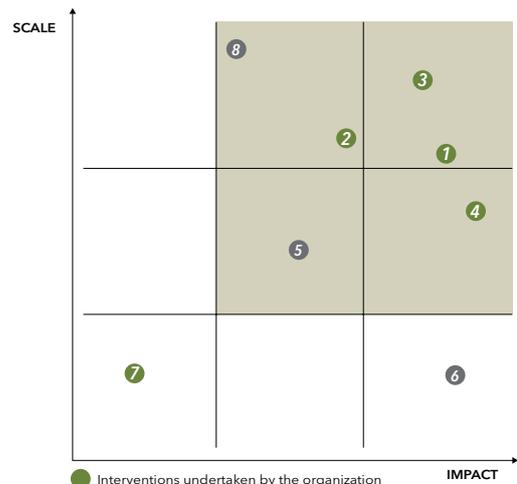


What does it do?

DRCSC has pioneered various models in sustainable agriculture, which address food and livelihood security, and impact the nutritional status of over 10,000 women and girls. DRCSC collectivizes marginalized families and trains them to undertake region-specific solutions with the help of local partners. Its models include:

- **Nutrition gardens:** Optimal use of household and natural resources identified (for example, based on water availability, integration of small animals) to ensure year-round supply of vegetables and diversified food baskets. DRCSC develops women's groups, including adolescent girls, to increase the adoption of home gardens and drive behavior change.
- **Integrated farming:** Agricultural systems that integrate livestock, fish, poultry, insects and crop production are developed to increase diversity, efficiency and sustainability.
- **Food forests:** Unutilized trees in forest areas that can supply nutritious food and fruits are identified through research.
- **Common property resource management:** Groups of landless households are helped to access common property (eg. fallow lands, ponds) from the government for food production.
- **Mixed cropping in permanent fallows:** Unfertile land is made cultivable by adapting the soil and water conservation measures.

DRCSC has also developed youth groups of change agents, involving adolescent girls in awareness generation and monitoring, and helped set up school gardens to supplement the mid-day meal scheme.



● Interventions undertaken by the organization

1. Develop community collectives
2. Promote nutrition-smart practices
3. Nurture community leaders
4. Support nutrition farms and gardens
5. Create demand for government entitlements
6. Provide nutrition screening and treatment
7. Build evidence
8. Conduct policy advocacy

What has it achieved?

DRCSC's sustainable agriculture models help increase food supply in periods of scarcity and lead to lower malnutrition, increased income from sale of surplus food, lower seasonal migration, and ecological conservation.

- DRCSC has helped over 9,000 vulnerable households over the last ten years to increase their food-secure months by 4-5 months on average, and increase average income per household by at least INR 10,000 per year.
- Since inception, DRCSC has directly helped implement over 5,000 home gardens and over 100 integrated farming systems; 1,050 families have been able to grow nutritious food using community property and 1,100 families have benefited from mixed cropping.

What next?

DRCSC plans to continue building on its work on sustainable agriculture by:

- Extending its capacity building support for community based organizations
- Expanding to the hilly areas of Jalpaiguri in West Bengal, to reach tea garden workers who are among the most vulnerable
- Increasing advocacy for its natural resource models to leverage government funding
- Increasing vocational training of youth using natural resource management

DRCSC plans to scale up some of its established models, with the support of the Adaptation Fund Board through NABARD, over the next three years.



A cooking demonstration at World Food Day in Bankura district.

Quality Indicators

Leadership

- Ardhendu Sekhar Chatterjee, Founder and Director
- An internationally acclaimed trainer on sustainable agriculture and integrated farming systems

Partnerships

- Key funders include Christian Aid, Welthungerhilfe, Indienhilfe, Save the Children, GIZ, NABARD, Swiss Aid, Department of Science and Technology (Govt. of India)
- Part of national and international networks like Hunger Free West Bengal, Alliance for Sustainable and Holistic Agriculture (ASHA), GM Free India
- Leads networks such as Sustainable Agriculture Network and Save our Food Campaign in West Bengal

Endorsements

- Profiled as one of three organizations in India having best practices such as using home gardens to improve food and nutrition security, particularly for women and adolescent girls, in a USAID report (2011)

Voices from the ground

"Kshama Mondal, 19, of Housibad village, went from being an active participant in nutrition camps, to encouraging others and creating awareness through a youth group in her village. Her group also conducts workshops where the nutritional value of different leaves, fruits, grains that are available in the area is explained and the local women taught to cook nutritious meals. Encouraging this process are the activists of the Kolkata-based NGO, DRCSC."

- Ajitha Menon, Senior Journalist; Published in The Indian Republic

Voices from the team

"In rural India, over 15-20% of families are landless and about 80% of land holders are marginalized farmers. In the absence of fertile lands and other employment opportunities, most of these families are food insecure for at least 5-6 months in a year, and are compelled to migrate which increases their vulnerability. Through its work over the last 33 years, DRCSC has been one of the pioneers in trying to address the problems of the majority by developing sustainable models that can ensure round-the-year food and nutrition for these families."

- Somjita Chakraborty, Secretary

ORGANIZATION OVERVIEW

Founded: 2008 | **Head office:** New Delhi | **Coverage:** Pan-India, Sub-Saharan Africa | **Full Time Staff:** 70

Budget (2014): Organization - INR 24 Crore

Digital Green is an international non-profit that uses technology to create and share knowledge on improved agricultural practices, health and nutrition among rural communities in India and Sub-Saharan Africa. It partners with community based organizations, public sector agencies, research and technology institutions to document best practices and trigger behavior change at scale.

PROGRAM OVERVIEW: Digital Green's Work on Nutrition

Budget (2014): INR 7.4 Crore | **Team Size:** 18 | **Coverage:** Odisha, Bihar, Madhya Pradesh, Uttar Pradesh

THE PROBLEM

Rural communities have limited knowledge of essential nutrition practices and health seeking behaviors which contribute to high rates of maternal and child under nutrition. In addition, locally contextualized and relevant knowledge to address these issues is difficult to access.



DIGITAL GREEN'S REPOSE

Digital Green leverages videos produced by local communities and screened by trained community members to drive behavior change among existing community based groups. Targeted dissemination of nutrition and health content that is locally relevant encourages adoption of practices at the household level.

How did it evolve?



What does it do?

Digital Green engages and empowers rural communities, particularly women to create and share locally relevant knowledge. It works with partners that have domain expertise, strong community linkages and reasonable scale of operations. It provides technical support, building the capacity of its partners and the community to produce videos and disseminate information. Its approach has three components:

- **Initiation:** Focus group discussions are held with the community and partner staff to share Digital Green's approach and address any concerns. Local intermediaries are identified and trained in video production, dissemination and data management
- **Production:** Short videos (8-12 minutes long), featuring members of the community are produced by partner staff, who also facilitate the selection of topics and practices, in consultation with the local community and subject matter specialists.
- **Dissemination:** Videos are screened to existing self-help groups, primarily comprising adolescent girls, young mothers and older women. Mediators are trained to motivate the groups to adopt new practices, by encouraging group members to ask questions and clarify doubts about the practices demonstrated. Each video is complemented by an adoption checklist, which identifies non-negotiable aspects of the practice and supports mediators during dissemination and adoption verification.

It has produced over 3,700 videos, which have reached over 6,44,500 farmers in 7,517 villages across India and Sub-Saharan Africa.



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What has it achieved?

- In a controlled evaluation, Digital Green’s approach to agricultural extension was found to be 10 times more cost-effective and the uptake of new practices seven times higher compared to traditional extension services.
- Digital Green has produced over 165 videos in 7 languages in the health and nutrition domain. These videos have reached over 600 villages and 45,578 individual viewers, triggering 22,236 adoptions. In six pilots across India, Ethiopia and Ghana, the adoption of health practices was 20% higher compared to agricultural practices.
- Results from a post-pilot feasibility study in Odisha showed substantial potential for a nutrition sensitive Digital Green approach to improve nutrition results; consequently the pilot has been scaled from 30 to 140 villages.

What next?

Digital Green has a strategic focus on strengthening the links between agriculture and nutrition messaging to improve food and nutrition security.

- In collaboration with research and program partners, it proposes to conduct a controlled study in Odisha, building on the pilot and subsequent scale-up to improve contextually relevant messages and the nature of messaging that is most likely to facilitate behavior change around Maternal Infant and Young Child Nutrition.



Video dissemination training of Government health workers in Raebarelli district of Uttar Pradesh

Quality Indicators

Leadership

Rikin Gandhi, Founder and CEO

- B.Sc., Computer Science, Carnegie Mellon University
- M.Sc., Aeronautical and Astronautical Engineering, Massachusetts Institute of Technology

Partnerships

- Supporters: Bill & Melinda Gates Foundation, DFID, USAID, Ford Foundation, The World Bank, Government of India
- Research: International Food Policy Research Institute, Tata-Cornell Agriculture and Nutrition Initiative, International Rice Research Institute
- Technology: Microsoft Research, Dimagi, IDEO.org
- Program: MS Swaminathan Research Foundation, PATH, Pradan and Ministry of Rural Development, Government of India

Endorsements

- Awarded Google Impact Challenge 2013
- Winner of The Manthan Award South Asia 2010

Voices from the ground

“When I watched the videos on the importance of exclusive breastfeeding, I was surprised to learn that there are so many benefits for the mother and baby. I learnt a lot of new things from these nutrition videos and found them beneficial for myself and my village.”

- Malli Lohar, 30 year old mother of two, Secretary, Lakshmi Narayan women’s self-help group, Kothaghar village, Keonjhar district, Odisha

Voices from the team

“We have the privilege of working with partners that have invested in developing community institutions, in the form of village development communities and self-help groups. Through them, we continue to empower communities to drive social change to live with dignity. And with our roots in research, we continuously strive to rigorously capture data and feedback to refine our approach”

-Rikin Gandhi, Founder and CEO-



ORGANIZATION OVERVIEW

Founded: 2002 | **Head Office:** Chakradharpur, Jharkhand | **Coverage:** Jharkhand, Odisha, Madhya Pradesh, Bihar, West Bengal
Full Time Staff: 128 | **Budget (2013-14):** Organization - INR 5.4 Crore

Ekjut works with marginalized and tribal communities living in some of the most underserved areas of India to address maternal and child mortality and to improve nutrition, through intensive community mobilization, research and advocacy. It presently works with nearly 3 lakh direct beneficiaries including women, adolescent girls and children across 40 districts in the states of Jharkhand, Odisha, Madhya Pradesh, Bihar and West Bengal.

PROGRAM OVERVIEW: Ekjut’s Work on Nutrition

Budget (2013-14): INR 4.1 Crore | **Team Size:** 128 | **Coverage:** Jharkhand, Odisha

THE PROBLEM

In Ekjut’s areas of operation, health infrastructure is inadequate and positive health practices scarce. Knowledge and good practices around nutrition for women, adolescent girls and children, and healthy child rearing methods are especially compromised, resulting in poor health and nutritional outcomes.



EKJUT’S REPOSENSE

Ekjut adopts a women and adolescent girls driven community mobilization approach to discuss health and nutrition-related issues and develop locally sustainable solutions to address them. Further, it uses comprehensive research methodologies to ensure the efficacy of solutions that have been developed.

How did it evolve?



What does it do?

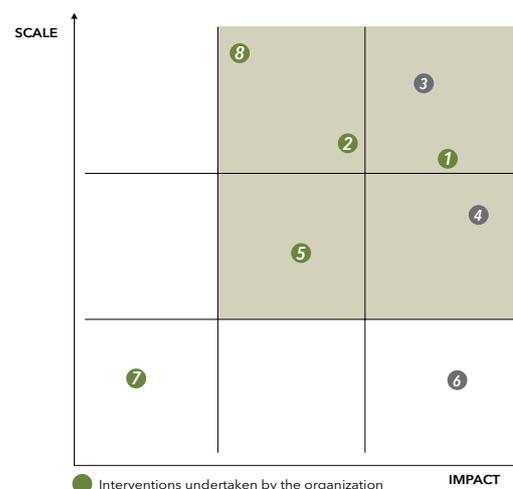
Ekjut works on nutrition for women and children through its Action Against Malnutrition and CARING Trial programs.

- The two programs are primarily based on a Participatory Learning and Action (PLA) model where trained women (including adolescent girls) facilitate monthly meetings of women and adolescent girls’ groups at the village level.
- At meetings, problems relating to nutrition and health are discussed, and facilitators assist decision making and problem-solving at the ground level. In this way, they develop local approaches to tackle malnutrition - such as increasing dietary diversity, improving hygiene, and improving feeding practices.

The organization adopts the following complementary approaches to strengthen its PLA-driven model:

- **Crèches** for monitoring growth of young children and providing locally prepared nutritious food to them.
- **System strengthening** to ensure the provision of improved government services to communities, through active advocacy.
- The CARING Trial additionally includes regular **home visits** and **nutrition counseling** for and by women and adolescent girls.

Ekjut has a robust impact evaluation system based on cluster randomized controlled trials, through which it assesses the efficacy of its programs. It publishes its research in peer-reviewed journals of international repute, which enables it to successfully advocate for the replication of its interventions with policy-makers.



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- 8. Conduct policy advocacy**

What has it achieved?

- Ekjut’s PLA program has led to a progressive increase in community participation and awareness, consequently reducing neonatal mortality and maternal post natal depression rates by 45% and 57% respectively over 2005-2008, with highest impact amongst the most marginalized.
- Following the publication of its study proving the impact of its approach, it has been able to replicate the PLA model to address neonatal mortality in partnership with the State governments of Odisha, Jharkhand, Bihar and Madhya Pradesh.
- It is currently working with nearly 2.5 lakh women and 25,000 adolescent girls on its nutrition programs.

What next?

Over 2015, the organization will be conducting comprehensive studies to evaluate the impact of its programs on nutrition, and will be subsequently publishing its findings. In the coming years, it requires resources in terms of manpower and funds to:

- Expand its reach to all districts in Jharkhand in scaling its newborn mortality related interventions;
- Exclusively engage adolescent girls, to improve their health outcomes;
- Evaluate approaches to, and conduct research on how the life chances of adolescent girls can be maximized.



A women’s group meeting being conducted, where food groups are being discussed

Quality Indicators

Leadership

Founded by Dr. Prasanta Tripathy and Dr. Nirmala Nair

- Dr. Tripathy is a member of the Steering Committee for the National Health Mission, India, and is an Ashoka Fellow.

Partnerships

- Funders: UNICEF, Sir Dorabji Tata Trust. Health Foundation, DFID, Wellcome Trust
- Program partners: Rural Livelihoods Mission (Madhya Pradesh) and the Government of Jharkhand and Odisha
- Nonprofit partners: CINI, LEADS
- University College of London has been a strong research collaborator since 2004.

Endorsements

- The World Health Organization has made a global recommendation for PLA-based meetings.
- Ekjut’s findings have been published in international peer-reviewed medical journals such as *The Lancet*.

Voices from the ground

“ This process of learning together is a long lasting, sustainable process which enables the community to identify their own health related problems, the root causes of their situation, find remedial solutions and use local expertise to ensure that they receive equitable care. It is the process where the community chooses their own priorities instead of being told what they are.”

- Additional District Medical Officer, Keonjhar, Odisha

Voices from the team

“ Ekjut provides a systematic and supportive framework to realize the fruits of the collective effort of women in different states in India. Our work gives a voice to the otherwise voiceless, fosters inclusion, addresses inequities, enhances decision-making capacity, and builds healthier communities.”

- Prasanta Tripathy, Founder

Impact India Foundation (IIF)

www.impactindia.org



ORGANIZATION OVERVIEW

Founded: 1983 | **Head Office:** Mumbai | **Coverage:** Pan-India | **Full Time Staff:** 47

Budget (2013-14): Organization – INR 5 Crore

IIF was founded in 1983, in response to a United Nations General Assembly resolution, partnering with Government to focus on the prevention and cure of disability. It is the flagship of 19 Impact Foundations across the world. IIF addresses (a) disability cure through the Lifeline Express, the world's first hospital on a train that reaches underserved rural populations (b) disability prevention through a community-based health initiative.

PROGRAM OVERVIEW: IIF's Work on Nutrition

Budget (2013-14): INR 1 Crore | **Team Size:** 24 | **Coverage:** Palghar district, Maharashtra

THE PROBLEM

High rates of anemia among adolescent girls and young women contribute to high rates of disability, maternal and infant mortality in underserved tribal populations. This situation is aggravated by limited access to Government health services & inadequate awareness about health and nutrition practices.

IIF'S REPOSE

IIF works with Government health workers and the community to improve health and nutrition outcomes for adolescent girls, women and children. It promotes health seeking behavior in the community, with a focus on preventive healthcare practices such as consumption of nutritious food, immunizations and safe childbirths.

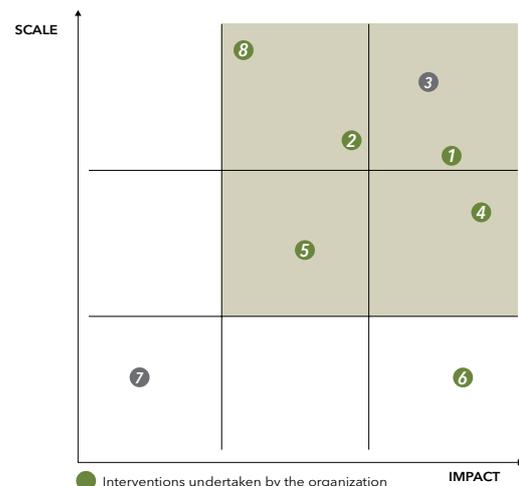
How did it evolve?



What does it do?

The Community Health Initiative (CHI) leverages existing health and education delivery systems and infrastructure to promote health seeking behavior and ensure that the community has access to primary health services. This involves

- Collaborating with **government health workers** to strengthen last mile delivery of services including
 - Anemia management for ~3000 **adolescent girls** through health and nutrition counseling, Iron and Folic Acid supplementation and promotion of kitchen gardens
 - Immunization, ante and post natal checkups comprising medical examinations as well as counseling on maternal diet, childbirth, child care practices and institutional deliveries for ~3600 **pregnant and lactating women**
 - Immunization and hypothermia prevention for **newborns**
- Training and capacity building of 215 Government health workers to enhance their knowledge of health related issues such as anemia management, life skills during adolescence, family planning; over 350 training sessions conducted.
- Training **primary school teachers and students** to detect the symptoms of disease and disability; 1800 students trained.
- Formation and activation of **Village Health Committees (VHC)** to promote community ownership of village development and establish community based monitoring of Government health service delivery.



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What has it achieved?

- Since April 2012, IIF has brought 84% of 1,566 adolescent girls and 71% of 3,600 new mothers out of anemia.
- IIF has incepted VHCs comprising at least 11 community members in each of the 54 villages in the Parali area.
- Within a year of implementation of the CHI in the Parali area, visits at the PHC increased from 2,000 to 16,327, following which the Government reinstated Indian Public Health Standards status to the PHC, making it eligible for additional funding for upgrade from the National Rural Health Mission.
- Following IIF's advocacy efforts to scale up kitchen gardens, Government of Maharashtra's Department of Agriculture institutionalized the distribution of seeds and saplings to Below Poverty Line families in Tribal areas.

What next?

- With a view to ensuring sustainability of the CHI in the current PHC, IIF plans to extend program operations by one year till 2016 to strengthen
 - the community's capacity to demand and monitor Government health services
 - the Government's capacity to deliver primary health care services to the community
- IIF is keen to demonstrate that CHI is a replicable model for a community owned health management system. It has been invited by the Commissioner Tribal Development, Maharashtra and District Collector, Palghar to replicate the CHI in the Sakharset PHC reaching a population of 40,000 tribal community members.



IIF's interactive health game which teaches children and adolescents the benefits of healthy eating

Quality Indicators

Leadership

- Mrs. Zelma Lazarus, Founder Director and CEO
Previously GM, Corporate Relations, Voltas Limited
- Board of Trustees includes Mr. Y.H. Malegam, Trustee of the Reserve Bank of India and Mr. Jayant Banthia, former Chief Secretary, Government of Maharashtra
- Medical Advisory Board includes eight senior medical practitioners, both local and international.

Partnerships & Endorsements

- Funders include Volkart Foundation, Johnson & Johnson Ltd., Cognizant Foundation and ITC Ltd.
- Technical partners include Tata Consultancy Services Ltd. and Tata Institute of Social Sciences (TISS)
- Recognized by the United Nations with the Grand Award for Excellence in Public Service worldwide
- Accredited by Credibility Alliance under Desirable Norms for Governance, Accountability & Transparency
- Empaneled by the National Corporate Social Responsibility Hub at TISS

Voices from the ground

"Vandana Kodhe, 18 years old, is an active member of her Village Health Committee. She lives in village Pachghar and studies in Standard VII at the local Government school. Every month she religiously attends Impact's Community Capacity Building sessions. She takes the time to be present at the Immunization and Ante Natal Care clinics as well. She helps to record the weight of infants and supervises the consumption of Iron & Folic Acid tablets by pregnant women. We are proud to see her communicating health messages effectively."

- Ms. Rohini Patil, Field in charge of CHI program

Voices from the team

"One in two women in India suffers from anemia - the highest in the world. This condition has adverse, long-term intergenerational impact. CHI addresses this problem. The need for timely interventions is now, though the effects of interventions in anemia are not immediate and visible. But we at Impact India believe in 'Sticking Our Necks Out', in establishing credibility, in the hope that others will partner with us in our vision."

- Mrs. Zelma Lazarus, Founder Director and Chief Executive Officer



ORGANIZATION OVERVIEW

Founded: 1998 | **Head Office:** Melghat, Maharashtra | **Coverage:** Melghat, Maharashtra | **Full Time Staff:** 25
Budget (2013-14): Organization - INR 99 Lakh

MAHAN Trust (MAHAN) was established to provide healthcare and improve the quality of life of over 3 lakh marginalized and underserved tribals in the Melghat wildlife sanctuary in Maharashtra. MAHAN runs a hospital and provides grassroots level healthcare in the region through trained village health workers (VHWs), who educate and treat women, adolescent girls, men, and children on malnutrition and a host of endemic health issues including hypertension and substance abuse.

PROGRAM OVERVIEW: MAHAN's Work on Nutrition

Budget (2013-14): INR 44 Lakh | **Team Size:** 20 | **Coverage:** Melghat, Maharashtra

THE PROBLEM

In the Vidarbha region of Maharashtra, where Melghat is situated, malnutrition has historically been an issue - 9.6% of children were severely malnourished in 2004. The lack of availability of public healthcare further compounds this issue in Melghat, consequently leading to people being unaware about good health practices.



MAHAN'S REPOSE

MAHAN addresses the gap in supply of quality healthcare and works with people to develop health-seeking behavior. It improves the health and nutrition of women, adolescent girls and children by deploying doctors, counselors and VHWs to provide healthcare and education on improved nutrition and healthy lifestyles.

How did it evolve?



What does it do?

MAHAN provides curative and preventive healthcare to several villages which lie in among the most inaccessible regions of India:

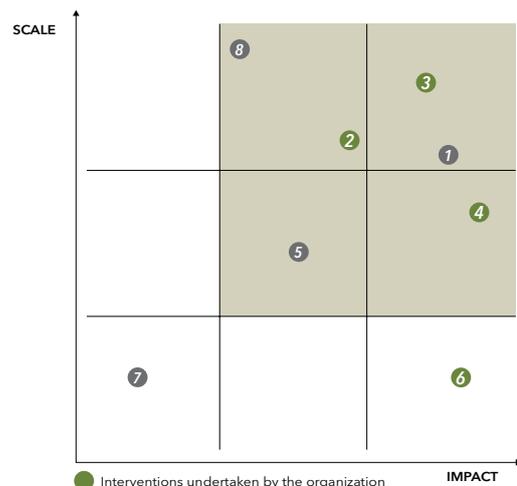
Healthcare provision: MAHAN runs the 20 bedded Mahatma Gandhi Tribal Hospital, which serves as the key provider of specialized healthcare services the region, staffed with 5 doctors.

Community-based healthcare: MAHAN's approach to healthcare at the village level is through local village health workers (VHWs):

- 14 trained VHWs, supported by supervisors, provide diagnosis and medical services for diseases that prevent retention of nutrition in the body, and for other common ailments, at the village level.
- A key role of a VHW is to address severe malnutrition through supplementation among children, adolescent girls and pregnant women, directly at the grassroots.
- VHWs conduct behavior change communication (BCC) to encourage health-seeking behavior among adolescent girls, boys and caregivers; the importance of a nutritious diet, hygienic practices and reducing substance abuse is also emphasized.

MAHAN also provides technical inputs and seeds for low-cost cultivation of nutrition gardens and farms to improve access to a diverse and nutritious diet at the household level.

Research and training: MAHAN conducts research to determine the efficacy of its interventions. It also trains other organizations working in tribal areas to adopt methods based on nutrition farming and village-based healthcare.



1. Develop community collectives
2. Promote nutrition-smart practices
3. Nurture community leaders
4. Support nutrition farms and gardens
5. Create demand for government entitlements
6. Provide nutrition screening and treatment
7. Build evidence
8. Conduct policy advocacy

What has it achieved?

- Since 2007, over 3,000 nutrition gardens and 400 nutrition farms have been cultivated, impacting 6000 people and enabling daily household consumption of nutritious foods.
- Since 2004, VHWs have treated nearly 5000 children, and have educated their caregivers on better health and nutrition for the whole family.
- As result of its activities, the maternal mortality rate in the villages with VHWs has reduced from over 300 in 2011 to less than 1 per lakh of population in 2014
- Severe malnutrition amongst children under 5 years of age reduced by nearly 82%, between 2004 and 2014.

What next?

Over the next five years, the organization is looking to build corpus funding, which would enable it to:

- **Strengthen advocacy** with the government, towards establishing VHWs in more tribal villages of Maharashtra through ASHAs, thus increasing delivery of healthcare on all endemic health issues at the grassroots.
- **Scale its impact** by training more organizations to develop interventions based on MAHAN's work in nutrition and child health.
- **Upgrade facilities** at the Karmagram hospital to provide more specialized emergency healthcare to more patients.



Training VHWs: Improving access to healthcare and information

Quality Indicators

Leadership

- Founded and led by Dr. Ashish Satav (MBBS & MD, Internal Medicine) and his wife Dr. Kavita Satav (MBBS & MS, Ophthalmology).
- Its board plays a key role in mentorship, and includes Dr. Prakash Amte, who was awarded the prestigious Ramon Magsaysay award in 2008 for community leadership.

Partnerships

- Key funders: Stichting Geron; Caring Friends, Mumbai
- Member of state level Village Child Development Committee for Maharashtra's 'Rajmata Jijau Mission'
- Key nonprofit partner: SEARCH, Gadchiroli

Endorsements

- Real Global Award, 2013 from Save the Children International for reducing child mortality
- Indian Council of Medical Research award for 'Best Tribal Research Project' in 2007

Voices from the ground

"Our daughter, Lakshmi, was eating nothing but a few pieces of cashew nut every day, and we had all but given up hope on her. Meerabai, the VHW from MAHAN, however persisted, and succeeded in regularly feeding her ready-to-use therapeutic foods, and we soon saw a complete change in our daughter. We will be forever grateful to MAHAN for saving our daughter's life"

- Mr. Sukhram Jamunkar, Resident of Tarubanda village

Voices from the team

" We dream of healthy and self-sustaining tribal communities. Our model of providing village-level curative and preventative care has met with clear success, and has taken us closer to achieving our ambitions. We believe that with strategic partnerships and collaboration with the State and Union government, we can replicate the interventions that we have developed, and thus reduce malnutrition on a national scale."

- Dr. Ashish Satav, Founder

MS Swaminathan Research Foundation (MSSRF)

www.mssrf.org



ORGANIZATION OVERVIEW

Founded: 1988 | **Head Office:** Chennai | **Coverage:** Pan-India | **Full Time Staff:** 440

Budget (2013-14): Organization - INR 44.1 Crore

MSSRF aims to accelerate (i) the use of modern science for agricultural and rural development, and (ii) the dissemination of technology, to improve lives and livelihoods of tribal and rural communities. Working through six state chapters in India, MSSRF's major program areas include Coastal Systems Research, Biodiversity, Biotechnology, Ecotechnology and Food Security.

PROGRAM OVERVIEW: MSSRFs Work on Nutrition

Budget (2013-14): INR 10.9 Crore | **Team Size:** 70 | **Coverage:** Odisha, Maharashtra

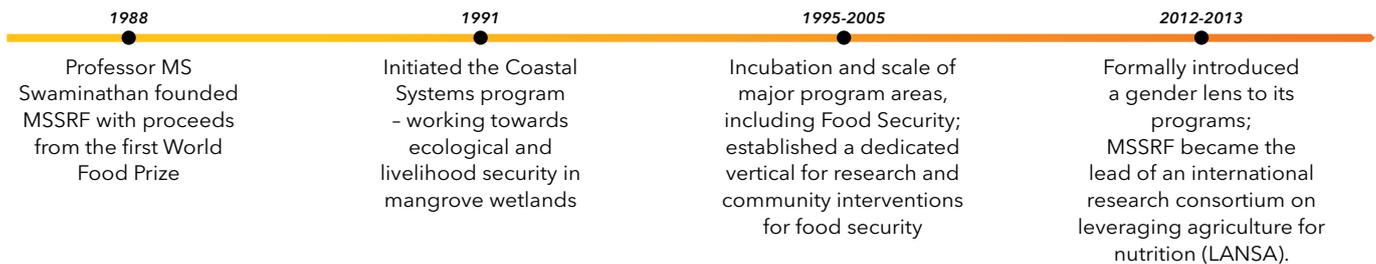
THE PROBLEM

A large population of India is highly vulnerable to the dire risks of prolonged hunger and poverty. A significant contributor to this phenomenon is the lack of evidence generation and widespread adoption of best-practices for sustainable development in the fields of agriculture, food and nutrition.

MSSRF'S REPOSE

MSSRF combines scientific and action research with policy advocacy to address the challenges of poverty, gender inequity, food insecurity and environmental sustainability. Research enables MSSRF to identify effective solutions that can be institutionalized for large scale replication through advocacy.

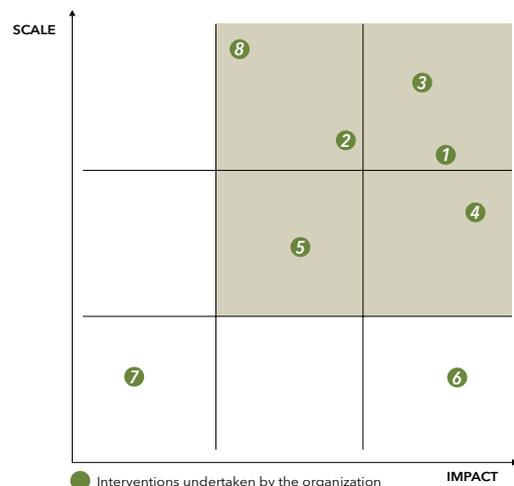
How did it evolve?



What does it do?

The following interventions by MSSRF directly work to create a positive impact on the nutritional status of the population reached:

- Promoting **sustainable on-farm agricultural practices** such as seed management, soil & water conservation etc, through behavior change techniques including (i) focus group discussions with female and male farmers, and (ii) dissemination of community-produced short films and regular voice-based mobile messaging on farming best practices.
- Training and empowering individuals from the community (Community Hunger Fighters) to serve as **champions for dietary diversification**, nutrition gardening, cooking best-practices, importance of health and hygiene and uptake of entitlements from the government.
- Building community ownership and **leadership through women farmer groups** in villages for (i) creating and maintaining community nutrition gardens, the produce of which is for consumption and sale, (ii) running seed and grain banks to ensure food security, (iii) serving as a lending house of agricultural tools for farmers and (iv) promoting sustainable agricultural practices.
- All of MSSRF's field interventions serve as demonstration and a rounded learning process for the research undertaken by the organization. As the lead of the 'Leveraging Agriculture for Nutrition (LANSA)' consortium, MSSRF has a **major research focus on farming systems for nutrition**.



● Interventions undertaken by the organization

1. Develop community collectives
2. Promote nutrition-smart practices
3. Nurture community leaders
4. Support nutrition farms and gardens
5. Create demand for government entitlements
6. Provide nutrition screening and treatment
7. Build evidence
8. Conduct policy advocacy

What has it achieved?

- In 2013-14, MSSRF successfully worked with 6,100 women farmers across Maharashtra and Odisha, trained and empowered 100 community hunger fighters, facilitated the production of 13 films on sustainable farming practices, and helped establish over 1,000 community and backyard nutrition gardens.
- In 2011, MSSRF's intervention for empowerment of women farmers was made a national program by the Government of India under the name *Mahila Kisan Sashaktikaran Pariyojana* and replicated in 15 states.
- MSSRF's focused work on the promotion of millets as a nutritious crop has contributed to the Government of India announcing a budgetary allocation in 2013-14 for promotion of 'nutri-farms'.

What next?

- MSSRF is looking to strategically restructure its program area to include 'Agriculture, Nutrition and Health', after having acknowledged the close linkages between these areas.
- With its field interventions, MSSRF is looking to scale the formation of women farmer federations, the training of community hunger fighters in the villages and the establishment of community and backyard nutrition gardens.
- The organization seeks to further leverage information technology to maximize its outreach, and integrate its technology interventions with the existing and new government programs.
- At an institutional level, the organization is looking to diversify its sources of funds, particularly to have more participation from the private sector.



A community nutrition garden, established by MSSRF in a village of Wardha District, Maharashtra

Quality Indicators

Leadership

- Founded by Dr. MS Swaminathan - renowned for his leading role in India's "Green Revolution" program - he has been awarded the *Padma Vibhushan* by the Government of India.
- Presently led by Dr. Ajay Parida as Executive Director of the organization. Dr. Parida has been awarded the *Padma Shri* by the Government of India and is a Tata Innovation Fellow.

Partnerships

- Key funders and partners: Government of India - Department of Science & Technology, Ministry of Rural Development; DFID, Ford Foundation, IDRC, Jamsetji Tata Trust, American India Foundation
- Project Partners: Digital Green, BAIF, State Bank of India (Youth for India fellowship)

Endorsements

- Saluted by President of India on completion of 25 years
- Winner of mBillionth Award 2014
- Chosen by DFID as lead of LANSAs consortium

Voices from the ground

"If someone gains the power to speak against injustices then that person helps herself and also inspires others. I am very thankful to MSSRF. It is only because of their help that I gained power to speak and was able to help the people"

- Indira Meshram, Community Resource Person and Member of Mahila Shetkari Samiti in Village Takali, Vidarbha (Maharashtra)

Voices from the team

"Leadership in ideas and advocacy has been the hallmark of MSSRF. Capacity building and developing a cadre of change agents, community climate risk managers and community conservation corps are major strengths."

- MS Swaminathan, Founder Chairman & Chief Mentor



ORGANIZATION OVERVIEW

Founded: 1992 | **Head Office:** Bhubaneswar | **Coverage:** Odisha | **Full Time Staff:** 57
Budget (2013-14): Organization – INR 2.4 Crore

Sambandh was established with the aim of addressing chronic hunger, malnutrition, and the lack of sustainable livelihoods among populations of severely marginalized tribal-folk in Odisha. It predominantly emphasizes agricultural means, and promotes local and traditional approaches, to address these issues in close partnership with the communities it works in.

PROGRAM OVERVIEW: Sambandh’s Work on Nutrition

Budget (2013-14): INR 75 Lakh | **Team Size:** 57 | **Coverage:** Odisha

THE PROBLEM

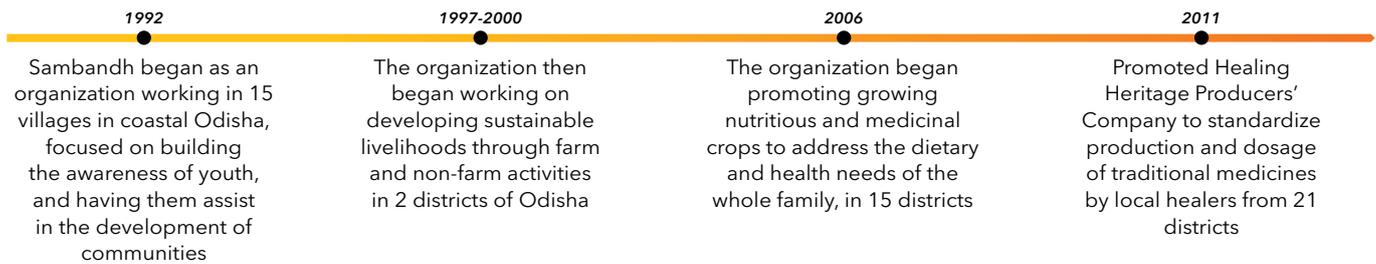
Malnutrition in Odisha is a huge concern – recent estimates suggest that over 40% of both women and children are chronically malnourished statewide. The condition of marginalized tribals in the state is far worse; typically, they dwell in areas which have no access to public health, sanitation or education.



SAMBANDH’S REPONSE

Sambandh works in the most marginalized areas of Odisha, including the Similipal Biosphere Reserve. It builds the awareness of, and mobilizes men, women and adolescent girls to adopt practices that benefit their health, economic status, and resilience. Further, it helps in linking them to public services.

How did it evolve?

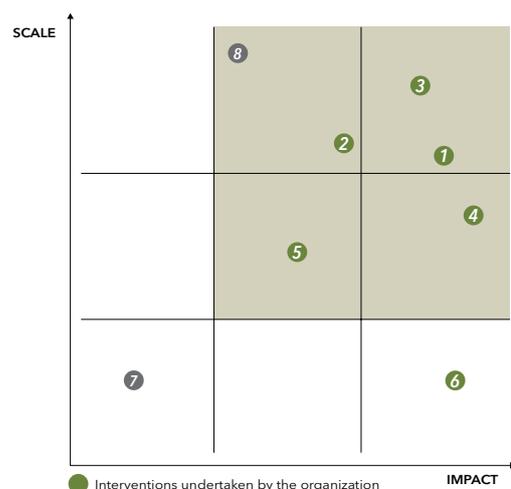


What does it do?

Sambandh addresses the issue of poor nutrition through working in several domains, including health and livelihoods. It engages with the issue of nutrition in several programs; activities vary according to the needs of a given community and the resources available.

To begin with, the organization:

- **Conducts needs assessments** to identify and address the most pressing issues in the given context; typically issues related to water provision and immediate livelihood-based challenges.
 - **Helps in forming and strengthening existing groups** and collectives, such as SHGs and farmer’s collectives, and assists these groups to access their immediate needs and entitlements
- As per the needs of the area, it may, over an average span of four years, conduct a number of the below activities, through field level functionaries and government workers:
- **Building deeper awareness** on nutrition, and conducting diet counseling for all, with a focus on women and adolescent girls.
 - **Training adolescent girls** further on reproductive health, sanitation and hygiene, and imparting basic life-skills.
 - **Promoting breastfeeding**, and the consumption of supplements
 - Providing means to cultivate **kitchen and herbal gardens**, which are based on endemic flora rich in medicinal and nutritive value.
 - **Promoting and providing inputs** for intercropping, where nutritive crops for consumption are grown alongside cash crops.
 - **Increasing access to healthcare** alongside the government.



● Interventions undertaken by the organization

- 1. Develop community collectives**
- 2. Promote nutrition-smart practices**
- 3. Nurture community leaders**
- 4. Support nutrition farms and gardens**
- 5. Create demand for government entitlements**
- 6. Provide nutrition screening and treatment**
7. Build evidence
8. Conduct policy advocacy

What has it achieved?

- The impact of Sambandh's work in nutrition in Similipal over the past few years is exemplified by a sharp reduction in under-5 child mortality, from nearly 55% in 2010 to 12% in 2014.
- The organization has successfully improved health-seeking behavior amongst adolescent girls and women in the area; institutional delivery has increased from 13% in 2011 to 90% in 2014.
- The organization has established more than 20,000 backyard kitchen gardens, contributing to improved dietary diversity for as many families in the Similipal region.
- It has, to date, worked with over 100,000 people - over 20,000 of them are adolescent girls.

What next?

Over the coming three years, Sambandh envisions taking steps to achieve programmatic sustainability and scale. Towards this, the organization aims to develop:

- **A resource centre** to provide training to front-line workers and functionaries from the government and NGOs, to provide perspectives and means to replicate Sambandh's holistic model. The organization aims to leverage its partnerships with the government to ensure significant participation; to successfully implement this, the organization would require manpower for developing training material, and for conducting training.
- **An agricultural business incubator**, to assist the economic upliftment of the local populace; the organization would need to build its corpus to invest adequately in nascent agro-businesses.



A community-kitchen garden, which is cultivated and maintained by adolescent girls and self-help groups

Quality Indicators

Leadership

Founded by Drs. Bibhu and Puspangini Mohanty

- Bibhu Mohanty is a Senior Ashoka Fellow.
- Prior to founding Sambandh, he worked with the Indo Global Social Service Society for 14 years.
- Puspangini Mohanty has been a steering committee member in Community Knowledge Service Asia (initiated by Equator Initiative and UNDP).

Partnerships

- Key funders: NABARD, NRHM, Heifer International , IFAD (Current); Misereor, UNDP (past)
- Odisha Tribal Empowerment and Livelihoods Program in providing livelihoods support to the people of Similipal.

Endorsements

- The Healing Heritage Producers' Company, promoted by Sambandh for standardizing the production and supply of traditional medicine, has received a Development Marketplace Award (World Bank, 2011).

Voices from the ground

"Children are the future of our community. Earlier, we could not save our children; we lost many due to malnutrition. Sambandh's intervention changed our minds, lifestyles, and attitudes, and helped us save our children."

- Female Panchayat Leader

Voices from the team

"The role of community participation in changing and improving nutritive practices and outcomes is extremely important. Together, we have been able to vastly improve the nutritive status of children, adolescent girls and mothers through reviving traditional health practices, and by promoting the cultivation and consumption of nutritious, endemic crops. Further, by linking the local population to government healthcare, we address other key healthcare challenges faced by tribals"

- Bibhu Mohanty, Founder

Swayam Shikshan Prayog (SSP)

www.sspindia.org



ORGANIZATION OVERVIEW

Founded: 1993 | **Head Office:** Pune | **Coverage:** Maharashtra, Tamil Nadu, Gujarat, Bihar | **Full Time Staff:** 55

Budget (2013-14): Organization - INR 4 Crore

SSP empowers rural women as leaders and entrepreneurs through skill building, livelihoods generation, sustainable agriculture, health and nutrition programs. It provides business and handholding support to women’s groups, self-help groups and social enterprises at the community level, impacting over a million vulnerable people in disaster-prone areas.

PROGRAM OVERVIEW: SSP’s Work on Nutrition

Budget (2013-14): INR 1 Crore | **Team Size:** 20 | **Coverage:** Maharashtra, Gujarat

THE PROBLEM

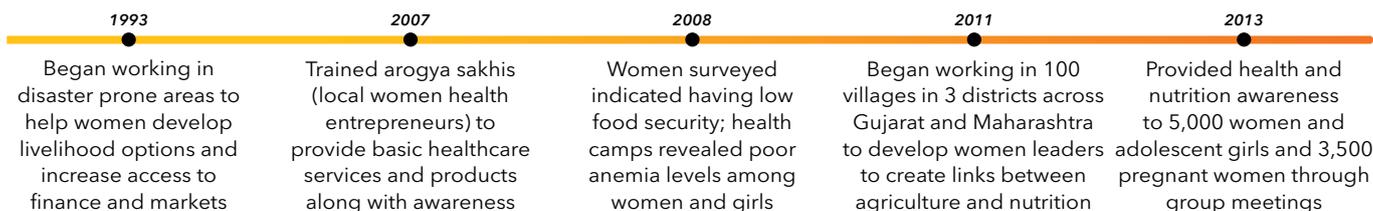
Despite significant farmland holdings, women have insufficient access to nutritious food. Low awareness of sanitation and hygiene practices further prevents proper absorption of nutrients. This leads to poor health for families, especially for women and girls, and higher healthcare expenses.



SSP'S REPONSE

SSP empowers local women to become farmers to increase access to nutritious food, leading to increased food consumption and increased incomes. It also promotes behavior change around sanitation, hygiene, and food preparation with women and girls to better enable nutrient absorption and retention.

How did it evolve?

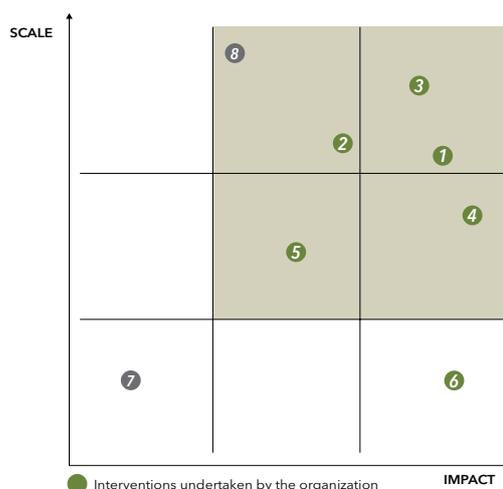


What does it do?

SSP develops and trains health and agriculture women leaders in each village, and helps facilitate and monitor their activities. SSP currently has a cadre of 325 health leaders, 325 agriculture leaders, and 364 arogya sakhis (health entrepreneurs), which reach over 15,000 families across 100 villages in Maharashtra and Gujarat.

- **Agriculture leaders** develop women farmer groups to promote nutritious food production on one-acre farms and kitchen gardens, and share best practices on food preparation, nutrition, sanitation and hygiene. They conduct monthly meetings and home visits, and facilitate access to seeds, loans and technical knowledge to enable women farmers to grow more food.
- **Health leaders** engage with women and adolescent girls through monthly home and school visits as well as community meetings to increase awareness and enable behavior change around health practices, and also support village level arogya sakhis.
- **Arogya sakhis** conduct home visits to provide basic health information, services and products.

In addition to supporting these leaders, SSP facilitators provide linkages with the government, facilitate health camps and provide business support to agriculture-linked women-led enterprises. They also track behavior change at the household level through home visits on indicators including use of mediclor for clean drinking water, adoption of kitchen gardens and construction and use of toilets and soakpits (waste water).



● Interventions undertaken by the organization

1. Develop community collectives
2. Promote nutrition-smart practices
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8. Conduct policy advocacy

What has it achieved?

Based on an evaluation of SSP's agri-nutrition model covering 20,000 women and adolescent girls:

- Over 2,000 women have adopted the one-acre farming model and 3,100 vegetable gardens have been established, up from 650 gardens when the project started
- Average annual income for families of women engaged in the project has risen by INR 25,000 - 30,000
- 90% of survey respondents have started cultivating vegetables for home consumption, thereby saving money. In addition, 25% of women have been able to sell their excess produce, leading to increased incomes
- There has been a 34% increase in adoption of sanitation facilities, and a 51% rise in safe drinking water use

What next?

Under a renewed partnership with MISEREOR till 2018, SSP plans to scale its agri-nutrition model from 100 villages currently to 150 villages, both in its current districts of operation as well as in Washim. In addition, SSP would like to:

- Target groups of landless women, small land holders, pregnant women and adolescent girls
- Support the arogya sakhi model to become self-sustaining by helping sakhis become entrepreneurs in addition to being information providers, by trainings them and equipping them with diagnostic health kits, nutritious products and other health products such as sanitary napkins
- Scaling its agri-nutrition program further, to new areas such as Sholapur in Maharashtra as well as parts of Bihar where SSP already has an established sakhi network



SSP agriculture leader providing information on cultivation of a nutrient-dense crop and its impact

Quality Indicators

Leadership

Prema Gopalan, Founder and Director

- Founding member of SPARC
- Synergos Senior Fellow (2014)
- Changemakers Award (2008); Ashoka Fellow

Partnerships

- Key funders: World Bank, DFID, MISEREOR, USAID
- Founding member of National Alliance on Disaster Risk Reduction, a network of 170 NGOs
- Corporate partners include Godrej, ANZ Bank, Eureka Forbes and First Energy
- Other partners include Groots International, Huairou Commission, ARMMAN, I-Partner and UNDP

Endorsements

- Awarded by Maharashtra and Bihar Rural Livelihoods Innovations Forums (2014)
- Winner, Vodafone Mobiles for Good Award (2014)
- Runner up, Edelgive Social Innovation Honors (2012)
- Finalist, Social Entrepreneur of the Year, UNDP (2008)

Voices from the ground

"Five of us took one acre of land on lease with the help of an innovation fund from the SSP-enabled SHG Federation and knowledge from SSP trainings, to prove to hesitant women farmers that this would be beneficial for them and their families. We started with inter-cropping vegetables and this became our lab where we used to bring women to demonstrate innovative agricultural practices. In 6 months, we made a profit of Rs. 10,000 each and also influenced 30-40 other women to take up similar practices."

- Women Leaders, Masla Village, Osmanabad District

Voices from the team

"We at SSP believe in the strength and determination of every woman. SSP offers a range of livelihoods, skill building and agriculture opportunities to reach and empower such women and rural communities, partnering with them, creating impact and building a sustainable network. With increased support to the organization, it will enable us to design innovative projects, customized awareness and last mile outreach in areas of health services, food security and agriculture, water and energy access."

- Prema Gopalan, Founder and Director

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