

WFP India: Improving Child Nutrition Through Rice Fortification In Gajapati

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World Food Programme



Malnutrition in India – A National Concern

One in three of the world's malnourished children live in India. Malnutrition results from not getting enough food or not getting the right kind of food. Even if people get enough to eat, they will get malnourished, if the food they consume does not provide the proper amounts of micro-nutrients – vitamins and minerals – to meet their daily nutritional requirements. Disease is often a factor, either as a result or contributing cause. The negative effects of malnutrition are pervasive and constitute a serious national public health concern.

In India, micronutrient deficiencies of iron, vitamin A and iodine have the most overwhelming impact. The prevalence of anaemia in children under the age of five is as high as 70%. Collectively, these deficiencies impair the cognitive development of children from infancy to

adolescence, lead to weak immune systems and increased morbidity rates. For school children this translates into ill health, school absenteeism, sub-optimal performance and concentration at school – factors that contribute to reduced livelihood options and earning potential in later life.

Anaemia affects more people than any other condition, constituting a public health condition of epidemic proportions. Iron deficiency and anaemia reduce the work capacity of individuals and entire populations, bringing serious economic consequences and obstacles to national development. Malnutrition's economic costs are substantial: productivity losses for individuals are estimated at more than 10% of their lifetime earnings. Improving nutrition, therefore, is not only an issue of welfare, social protection and human rights but also of economics.

With a presence in over 80 countries, **United Nations World Food Programme (WFP)** is the world's largest humanitarian agency fighting hunger. In India, WFP has been working in close collaboration with the Government of India to support various food-based schemes since 1963. As India is now producing enough food for its domestic requirements, WFP has realigned its focus from being a food aid provider to a catalytic partner to the Government of India working towards strengthening existing food-based safety net programmes. This is done by providing technical assistance and capacity development as well as developing successful pilot projects that are scalable and adaptable to the diverse conditions found across India. With large numbers of malnourished people residing in India, WFP's vision of ending hunger worldwide is unfeasible without significant impact in this country.



Enhancing Nutrition Security through Fortification

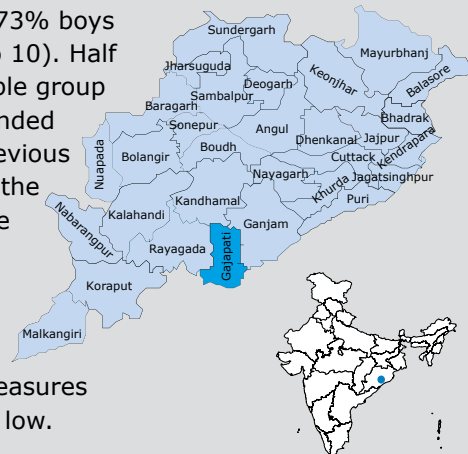
Recognised strategies to address micronutrient malnutrition include dietary diversification, supplementation and food fortification. Of these, food fortification is a very effective strategy by which micronutrients are added to the most common foods leading to rapid improvements in the micronutrient status of various targeted population groups at a very reasonable cost and without need for any behaviour change on the part of the consumer. Iron fortification of rice supplied in school meals is one such strategy that can improve the micronutrient status of school children.



Gajapati

Odisha is one of the most nutritionally vulnerable states in India, where nearly 90% of the population live in rural areas. Gajapati is a remote rural district of Odisha with more than half of its population being from tribal communities. Literacy rates in the district are among the lowest in the State - just over 50% as compared to the Odisha average of 73%.

WFP carried out a baseline study in early 2013 among Gajapati school children aged six to 14, which revealed that 19% of the sampled children were stunted (low height for age) and 14.5% were wasted (low weight for height). Overall 63% boys and 68% girls were affected by anaemia with a higher prevalence among lower primary school children (73% boys and 74% girls aged six to 10). Half of all children in the sample group had fallen ill and not attended school regularly in the previous six months. Only 61% of the interviewed teachers were aware of micronutrient malnutrition. The percentage of teachers who could identify the causes and preventive measures for malnutrition was very low.



The Gajapati Pilot Project

The Department of School and Mass Education (DS&ME) of the Government of Odisha (GoO) has taken the initiative to address several nutrition and health problems in school children through enhancing its MDM scheme in Gajapati. GoO identified Gajapati as the suitable district for the pilot due to the high levels of anaemia in the school children of the area. Rice fortification technology is being used to add iron to the school meal, which is consumed daily by most lower and upper primary school children in the district.

Thanks to the organisation's vast experience with food fortification and supply chain management, WFP is the partner of choice of the DS&ME of the GoO to lead this pilot project, which currently covers grades one to eight of all Government and Government aided schools in Gajapati. WFP is partnering with the DS&ME for this pilot over a two year period (from mid 2012 to end 2014). The main objective is to reduce the prevalence of anaemia among school children (age six to 14) through the MDM scheme in Gajapati by at least 5%.

Incorporated in WFP's model for the pilot are supply chain improvements as well as awareness raising activities to sensitise and educate caregivers, school administrators, school children and teachers to proper nutrition and how to recognise and address childhood anaemia. WFP finds this pilot strategically placed, as schools are important institutions at the heart of every community, offering an ideal platform for the promotion of health and nutrition education of children, their families and the wider community.

Some key components of the pilot include

The rice is fortified with Fortified Rice Kernels (FRK), which are manufactured by combining rice powder with iron and converting this powder into rice-like kernels using cold-extrusion technology. The micronutrient fortified rice kernels closely resemble the sheen, transparency, consistency and flavour of rice. The fortified kernels are then blended at a ratio of 1:100 with the ordinary rice provided by the GoO.

One rice mill has been engaged to serve the entire district. The mill staff have been trained to ensure proper running of the mill and blending unit as well as on adhering to quality assurance protocols.

WFP works with a NABL (National Accreditation Board Laboratories) accredited laboratory to check the quality of both the cooked and uncooked rice in order to ensure that iron is supplied in the required quantity to the school children.

Fortified rice is provided for on-site cooking of supplementary food under the MDM scheme. 101,757 school children across 1449 schools in Gajapati are currently being served. Between April 2013 and January 2014, over 1942 metric tons of fortified rice has been produced and distributed at the local schools.

WFP is carrying out awareness raising activities on issues related to micronutrient malnutrition for the active involvement of stakeholders including school children, teachers and administrators as well as community leaders and State officials. Volunteers from the community are engaged to sustain the interest of the community and provide ongoing clarifications, ensure project momentum and sustainability.

WFP is building the capacity of school staff and Government staff involved in the programme on running an optimised and uninterrupted supply chain of the fortified rice and ensuring quality control throughout. WFP is also training the school staff involved in the preparation of the meal on how to properly cook and store the fortified rice for maximum nutritional impact.

With this pilot, WFP is working towards building a scalable model for the GoO to enhance the nutritional effectiveness of the MDM scheme and an optimised supply chain management system to ensure uninterrupted supply of fortified rice to all schools in the State.

Mid Day Meal Scheme (MDM)

In order to boost school attendance and support the dietary requirements of children, the Government of India launched a national programme for nutrition support to education institutions nationwide – the MDM scheme. Since its inception in 1995, the MDM scheme has developed into the world's largest school feeding programme, which is now reaching out to about 12 crore (120 million) children in over 12 lakh (1.2 million) schools across the country. Under the scheme, freshly cooked mid day meals with a minimum content of 450 calories and 12 grams of proteins for lower primary school children and 700 calories and 20 grams of protein for upper primary school children are provided during the school day to children in classes one to eight in Government and Government aided schools. The aim is to address malnutrition among school children while creating a strong incentive - particularly for poorer families - to send their children to school.



Voices from the field

Ten year old Sonali from Garabandha in Gajapati district, daughter of an auto-rickshaw driver

"The rice we get at school now looks a bit different. It comes in large yellow bags and is mixed with iron. It's clean and good – it tastes the same as before. We were informed about the benefits of consuming rice with iron. It helps the body to make blood. So consuming iron will make us healthy and prevent anaemia. The rice we eat at home does not contain these iron kernels. I eat my school meal every day, except when I am sick and cannot come to school but I have not been sick often lately."

Mr Khetrabasi Jena, principal of the same school

"I have been principal of this school for eight years and been in the profession for more than a quarter of a century. I have seen school meal schemes since 1988 but introducing FRK has made a big difference. Earlier, most children were not good at taking their iron tablets regularly, but since we cook the FRK rice in the proper way (water tight method), we can be sure that all of them consume a large share of their recommended daily intake simply by eating their school lunch. School attendance has gone up. Fewer children are sick. They are active and healthy. Introducing FRK, training the staff in nutrition and the cooks in preparing the meal properly was a very valuable step. I hope other districts follow. During the workshops, even I gained new knowledge in proper child nutrition that I did not have before."

Mr Koresh Sethy, Department of Education, Block Level Officer - Gosani, Gajapati

"I have been involved in the MDM scheme since August 1995. The aim of the scheme is to improve regular school attendance and to ensure children do not go hungry. Now the MDM also takes on the vital question of proper child nutrition. I am very pleased with the good work of our partners. The Department is getting assistance in sensitising all stakeholders involved about the fortified rice and how to monitor the proper implementation at the schools. I think it is particularly valuable for reducing malnutrition and anaemia among students in rural and hill areas. Progress is already noticeable and I expect not only the programme to continue beyond the pilot stage but also to be scaled up to cover more districts."

Mr. Biswamber Nayak, an agricultural labourer, and a father of five (his youngest daughter attends third grade at Machaghara Primary School)

"School teachers and officials told us parents all about the fortified rice that has been used for our children's school lunch. I also attended a meeting where we learned about the proper cooking process and the health benefits of the iron fortified rice. My youngest daughter has not complained about any illnesses for the past few months. I am sure the food she gets at school is good for her health. She is a happy and healthy child and likes to eat the school meal. Hopefully, this programme will continue for the benefit of our children."



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