



World Food Programme

SAVING LIVES  
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# JOURNEY of RICE FORTIFICATION in INDIA

August 2023





# JOURNEY OF RICE FORTIFICATION IN INDIA







# FOREWORD

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Fortifying rice by adding micronutrients is an evidence based, cost-efficient, sustainable and safe way to address micronutrient deficiencies. Considering, India is a young nation, with high prevalence of anaemia in India, scaling up rice fortification to ensure it reaches a large population group will prove beneficial in not only reducing the disease burden of anaemia but will contribute to better productivity and high economic returns on investment.

Over the years, World Food Programme (WFP) India's efforts were directed at making the case for fortified rice through demonstration projects whilst promoting, advocating and providing technical support to relevant stakeholders for development of a robust ecosystem for rice fortification at the national level. Scaling up rice fortification in the social safety net schemes truly displays WFP's unique pilot to scale up approach for programme implementation, which is at the core of WFP's work in India. Rice fortification, started as a pilot intervention from one of the tribal districts of Odisha and is now a national level programme wherein fortified rice is being supplied to over 800 million beneficiaries.

This document beautifully lays WFP's journey on mainstreaming fortified rice in the social safety net schemes of the Government of India. I hope that readers of this document will be able to appreciate the dedicated efforts of the India country office and will find reference for taking similar programmes to scale in their respective countries and contexts.

A handwritten signature in blue ink, appearing to read 'Elisabeth Faure', written over a light blue circular watermark.

**Elisabeth Faure**

*Representative and Country Director,  
WFP India*

August, 2023



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## Government of India's vision for National Rice Fortification

## THE ANNOUNCEMENT: SCALING UP OF FORTIFIED RICE DISTRIBUTION

On 15 August 2021, while the country's celebrating 75<sup>th</sup> year of independence, Prime Minister Narendra Modi, announced the roll-out of fortified rice in all of the Government's food-based safety nets across the country by 2024, with a view to combat anaemia and micronutrient deficiencies in the population.

The announcement led to a policy on the National Rice Fortification Programme with a budget of around INR 2,700 crore (USD 360 million/annum) to be borne by the Government of India. The initiative is being implemented in such a way where each phase builds on the achievements of the previous phase:<sup>1</sup>

**Phase I:** The rollout of fortified rice in the Integrated Child Development Services (ICDS) scheme and Pradhan Mantri Poshan Shakti Nirman - PM POSHAN (formerly known as Mid-Day Meal Scheme) by March 2022.

**Phase-II:** Included Phase I coverage plus the Targeted Public Distribution System (TPDS) and Other Welfare Schemes (OWS) of the Government, in all Aspirational Districts and those with a high burden of malnutrition (269 in total) by March 2023.

**Phase III:** Includes the previous phases and aspires to cover the remaining districts of the country, by March 2024.

However, before rolling out on a country-wide scale, a Centrally Sponsored Pilot Scheme on "Fortification of Rice and its Distribution under Public Distribution System" was implemented for three years, beginning in 2019-20.

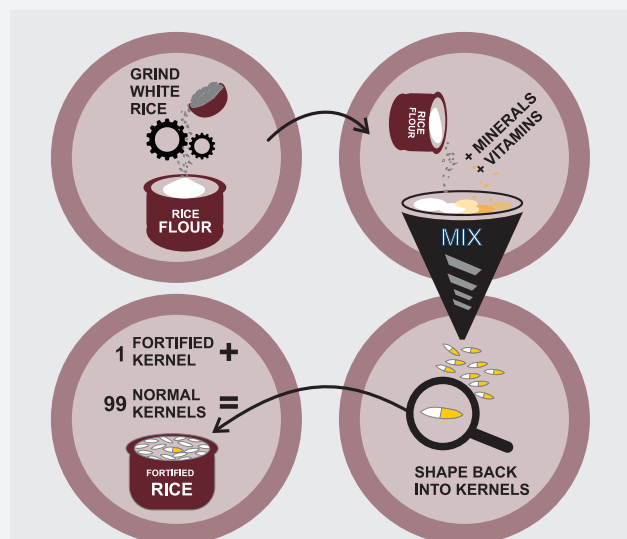
### WHY FORTIFY RICE?

*Anaemia* is prevalent in India, affecting two-thirds of Indian children aged 6-59 months and more than half (57%) of women of reproductive age. The National Nutrition Monitoring Bureau (NNMB) report (2011-12) also suggests that there is a gap of more than 50% between dietary intake and recommended dietary allowances for the majority of micronutrients.

*Fortification*, the process of adding essential micronutrients to food to improve the nutritional quality is a safe, cost effective and easy way for delivery of micronutrients at the population level. Considering that about 65% of Indians consume rice as a staple, fortifying rice is an economical way to reach a large number of people.

Fortified rice is produced by mixing normal rice with extruded *fortified rice kernels (FRK)*, which contain added micronutrients such as Iron, folic acid, and vitamin B12.

Schemes like the PM POSHAN reaches the school children of 6-14 years (grades 1 to 8); the ICDS scheme covers the pregnant and lactating women,



**Figure 1:** Two-step process for production of fortified rice

and children of 6-36 months and 3-6 years; and the Targeted Public Distribution System (TPDS) covers the poor and vulnerable households, all together reaching a population of over 800 million.

<sup>1</sup> Administrative approval for "Supply of Fortified Rice throughout the Targeted Public Distribution System (TPDS) under the National Food Security Act (NFSA) and in Other Welfare Schemes of Government of India in all States and Union Territories (UTs) in a phased manner



## CENTRALLY SPONSORED SCHEME ON FORTIFICATION OF RICE

With a vision to address anaemia and micro-nutrient deficiency in the country, the Government of India approved the three year Centrally Sponsored Pilot Scheme on "Fortification of Rice & its Distribution under the Public Distribution System (PDS)" beginning 2019-20. The scheme was approved for implementation in 15 states (one district per state) with a total budget of INR 174.64 crore (USD \$23 million).

Considering, the size of India and the volumes of rice distributed in the food-based social protection schemes; a phased approach towards integration of fortified rice in the PDS was adopted. In addition, a pilot approach was seen as the best option to generate evidence regarding the effectiveness and operational feasibility of rice fortification in Indian context and for developing an ecosystem for scaling up throughout all schemes.

The key objectives of the pilot scheme were<sup>2</sup>:

- Distribution of fortified rice through the Public Distribution System in 15 Districts - one district per state in the initial phase of implementation.
- Full coverage of PDS beneficiaries with fortified rice in the selected districts.

- Facilitate cross learning and sharing of best practices among States and Union Territories and the Departments of Food and Public Distribution (DFPD).
- Evaluate the provision, coverage and utilization of fortified rice by the target population as well as the effectiveness of fortified rice in reducing micronutrient deficiencies in different age and gender groups.

While the scheme was initially planned for roll out in 15 states but due to administrative delays, only eleven states- Andhra Pradesh, Chhattisgarh, Gujarat, Odisha, Madhya Pradesh, Maharashtra, Jharkhand, Tamil Nadu, Telangana, Uttarakhand, and Uttar Pradesh successfully implemented the scheme.

WFP supported Government of India with the architecture of the Centrally Sponsored Pilot Scheme at the national level by drafting operational guidelines and through technical support at state level in Chhattisgarh, Kerala, Odisha, Uttarakhand and Uttar Pradesh.

The pilot scheme contributed to development of a robust ecosystem for rice fortification based on multistakeholder engagements and paved way for scaling up rice fortification to the entire food-based social protection schemes.

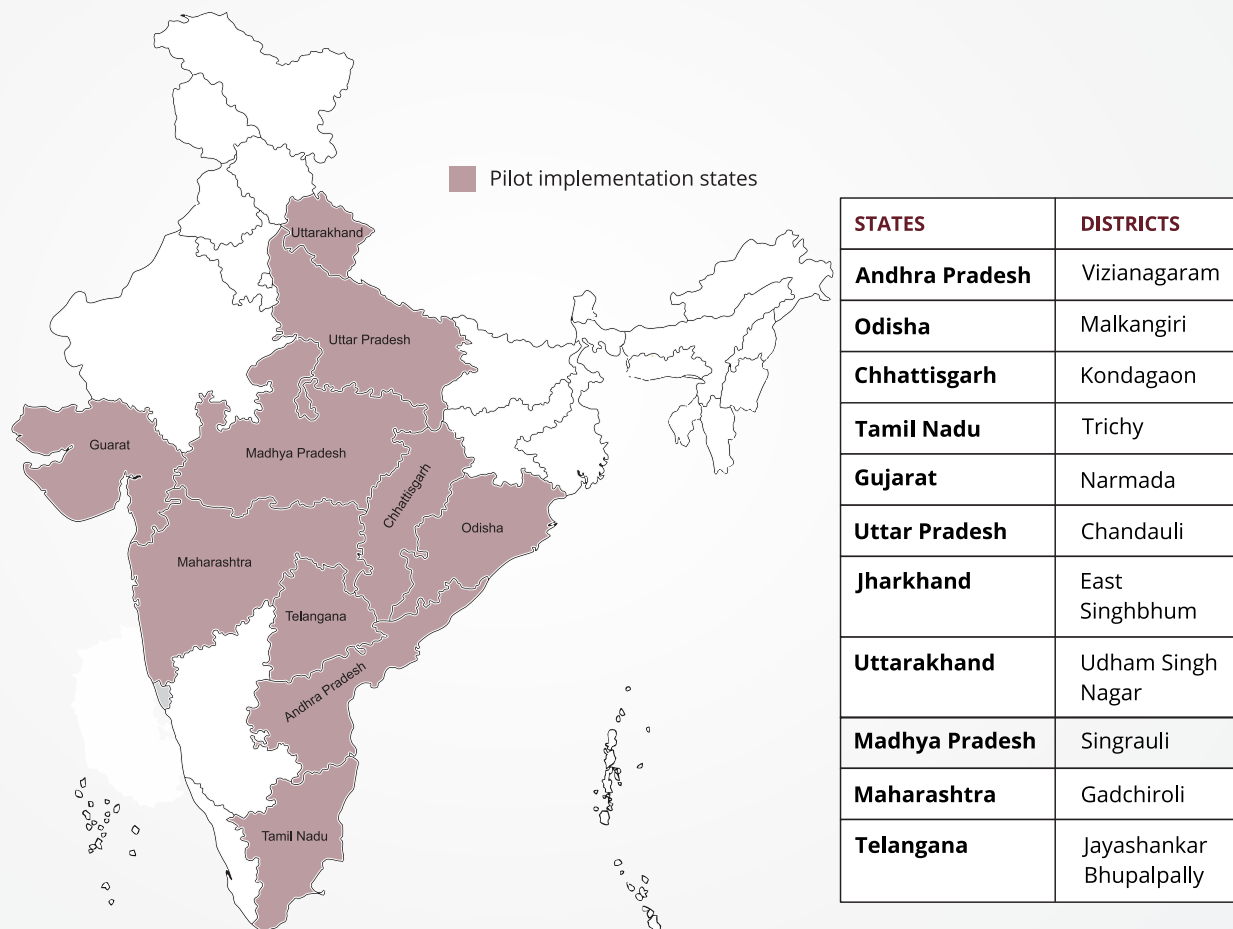


© WFP / Kasturi Panda

<sup>2</sup> [https://dfpd.gov.in/Centrally\\_Sponsored\\_Pilot\\_Scheme.htm](https://dfpd.gov.in/Centrally_Sponsored_Pilot_Scheme.htm)



## Centrally Sponsored Pilot Scheme on "Fortification of Rice & its Distribution under Public Distribution System"



**Figure 2:** Status of implementation of the pilot scheme

## ENABLERS OF RICE FORTIFICATION

Over the past five years, consistent efforts have been made towards establishing structures for ensuring availability and distribution of fortified rice under the Public Distribution System. The success of any large-scale fortification program is driven by partnerships and trust between the public and private sector. The collaboration of all stakeholders is key to creating an enabling environment for rice fortification, with each one contributing its individual expertise for the greater good. The following have been the enablers of rice fortification in India.

- Enabling policy environment for rice fortification:** The approval and implementation of the Centrally sponsored scheme on rice fortification and its distribution under the Public Distribution System paved the way for scale-up in other food-based social protection schemes.

- Established standards for fortified rice and machinery:** Food Safety and Standards Authority of India (FSSAI) issued a gazette notification on standards of food fortification, including rice, while the Bureau of Indian Standards (BIS) has issued standards for machinery such as the extruder and blender. Availability of the standards ensured consistency in the production of fortified rice of optimal nutritional quality.
- Private sector engagement:** The FRK industry increased from seven in 2019 to more than seven hundred by March 2023 and its still growing. Similarly, the blending infrastructure also expanded from only a few rice mills to over 18,000 by March 2023.
- Defined regulatory mechanisms for quality control:** FSSAI is the nodal agency for regulating fortified rice. All manufacturers of fortified rice and FRK are required to obtain a licence from FSSAI for manufacturing of the food product. FSSAI also



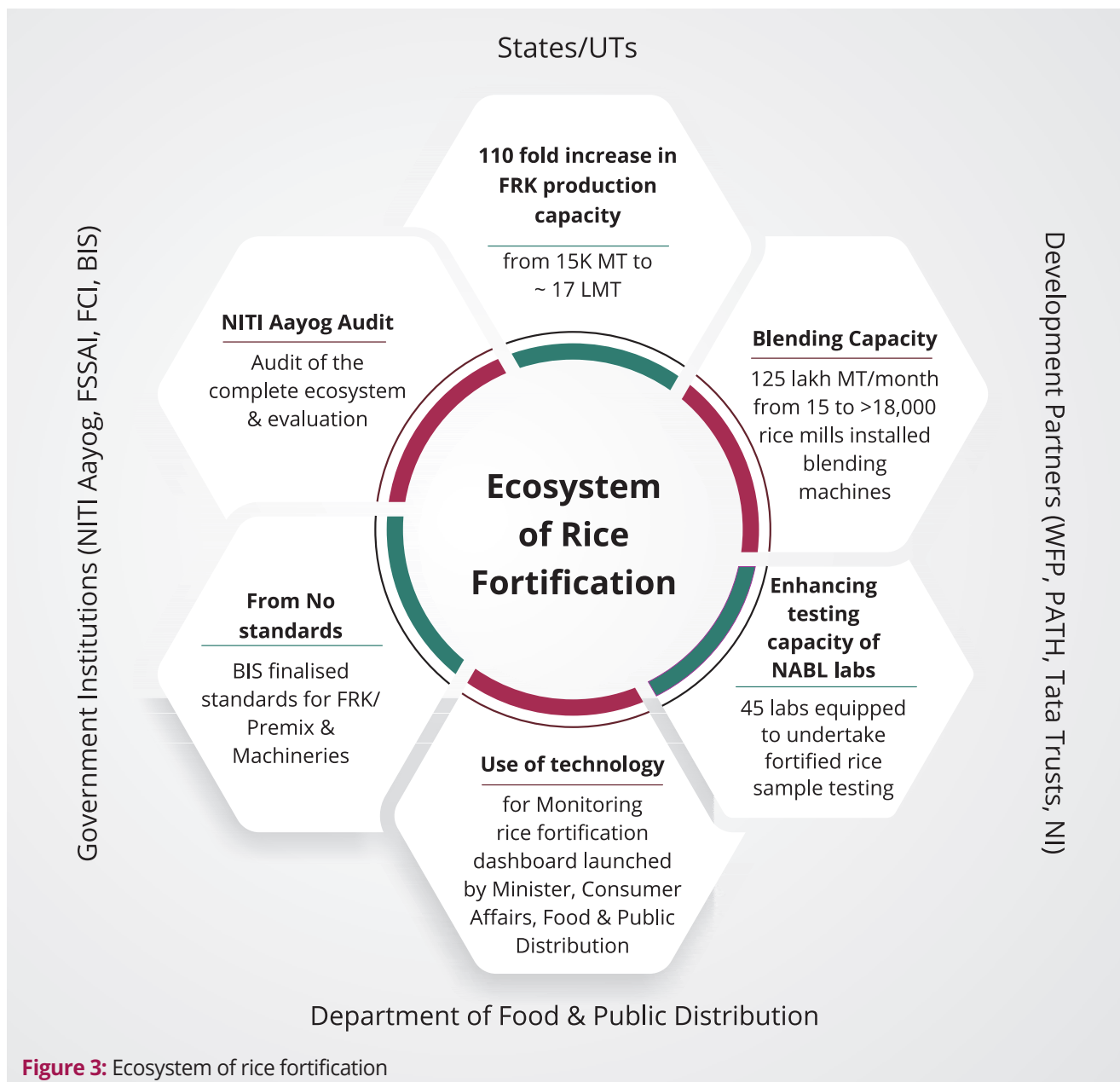
endorses FRK manufacturers through a list which is then used by states for empanelling the FRK vendor for the state. Additionally, the use of the '+F logo' is mandatory on all fortified foods and use of +F logo without endorsement is liable for penalty. FSSAI issues the endorsement certificate for '+F logo' upon submission of a certificate of analysis of fortified rice confirming to prescribed standards.



- **Engagement with academic institutions** such as the Indian Institute of Technology - Kharagpur, National Institute of Nutrition and the Central Food Technological Research Institute, Mysore and with **technical development partners** such as WFP, PATH,

TATA Trusts, and Nutrition International has provided a pool of experts to support the process.

- **Convergence with Government Ministries and Departments of Women & Child Development and Education** has enabled the scale-up under the Integrated Child Development Services (ICDS) and PM POSHAN (school meals) scheme.
- **Enhanced capacities to strengthen the supply chain** within Food Corporation of India (FCI) and State Food and Civil Supplies Department has ensured effective distribution of fortified rice across the country.
- **Creation of a market** for fortified rice at the consumer level through appropriate awareness generation activities.



**Figure 3:** Ecosystem of rice fortification







WFP's approach of pilot-to-scale-up

## CORE ELEMENTS OF WFP'S APPROACH

The launch of the Government's pilot scheme on rice fortification and subsequent phased scale-up is a result of constant engagement, policy advocacy and demonstration through WFP's four large-scale pilots as well as studies by other development partners to test and demonstrate the feasibility and effectiveness of including fortified rice in the Government's food-based social protection schemes.

To demonstrate the effectiveness of rice fortification, WFP adopted a 'pilot to scale-up' approach to project implementation. The strategy involves four phases (Refer to Figure 4).

In the pilots, WFP demonstrated how the introduction of fortified rice in the government social protection schemes in the states of Odisha, Kerala and Uttar Pradesh can be an effective strategy to reduce micronutrient deficiencies. These pilots were implemented across different geographies at the district level, across different supply chain modalities, and food-based social protection schemes, thus providing robust body of evidence for the successful production, and distribution of fortified rice. The details of the pilot projects are placed at Table 1.

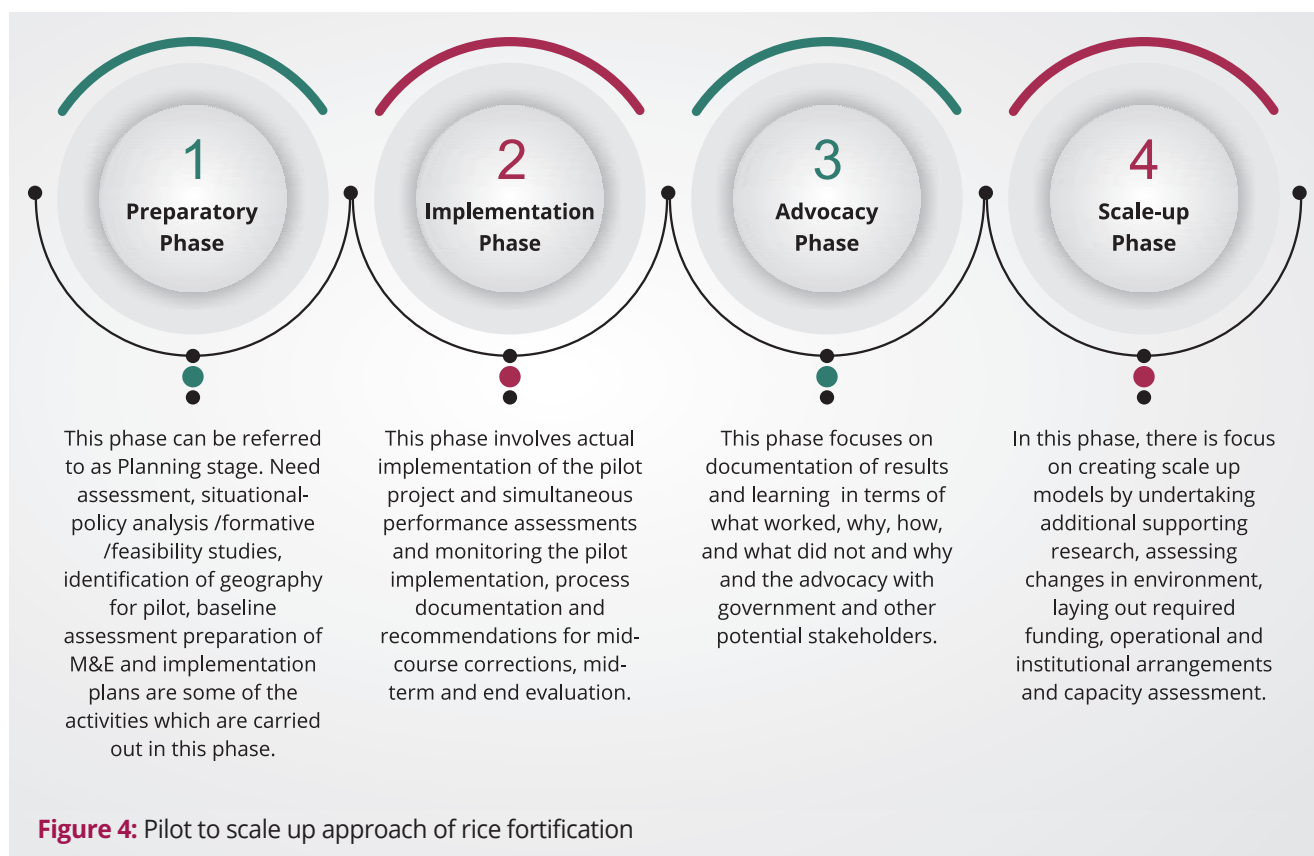
All of the four pilots were implemented with a common strategy focusing on capacity building of stakeholders,

quality implementation of the pilot, including supply chain management as well as information, education, and communication to generate awareness.

**I. Capacity building of stakeholders:** WFP facilitated capacity building activities for rice millers on appropriate blending of rice grains with fortified rice kernels (FRKs), and of government staff for running an optimized supply chain of the fortified rice and ensuring quality control during production as well as distribution.

Training sessions on methods of washing and cooking the fortified rice for maximum nutritional impact were carried out for school cook-cum-helpers and *Anganwadi* workers responsible for the preparation of hot cooked meals for children. Across the pilots, over 10,500 government stakeholders were trained on various aspects of rice fortification.

**II. Effective and quality implementation:** All the pilot projects had a built-in monitoring system where regular information was reported including the amount of rice fortified, the amount distributed, the iron content in the raw and cooked fortified rice, acceptability of fortified rice by beneficiaries, storage of fortified rice at the rice mill, go-downs, schools and *Anganwadi* centres, and pipeline breaks in the supply of rice.





Government officials, WFP project team and the staff of the implementing agency regularly monitored the project through visits to the rice mills, schools and *Anganwadi* centres. For ensuring that the rice is properly fortified, NABL-accredited labs were contracted for testing the micronutrient content of cooked and uncooked rice.

The projects were also reviewed and assessed on a biannual basis by Technical Advisory Groups in each state, comprised of policy makers from relevant government departments at the national and state level, subject matter experts, and WFP staff.

**III. Communication activities:** Considering that fortified rice was new to the community it was essential to build awareness, sensitisation and regular communication with programme implementers, and other stakeholders including teachers, school cooks, *Anganwadi* workers and helpers, children and the community. This was crucial to ensure acceptability and regular consumption of fortified rice. A mix of mass and local media activities in the local language and culture were organised to educate people about fortified rice and its benefits. Local folk media/street plays, posters and flyers, wall paintings were used to raise awareness among the community as well.

**IV. Evaluations of the impact:** To assess the full impact of fortified rice, data was collected in three stages:

before the project started: baseline, halfway through it (midline), and at the completion of the programme (endline). These evaluations not only documented the impact of fortified rice on health and nutrition of the target populations, but also the scalability of the pilots. Reports and briefs were prepared and shared with stakeholders.

## KEY LEARNINGS

- Production and distribution of fortified rice in government food-based social protection schemes is feasible and efficient if the existing channels of supply chain are utilised.
- Fortified rice can be effective in reducing the prevalence of anaemia among beneficiaries of food-based social protection schemes.
- Fortified rice is an acceptable medium for providing micronutrients (MNs) to supplement the diets as it has good acceptability and requires no behaviour change. Thus, this makes the case for fortified rice as an effective nutritional intervention to increase consumptions of micronutrients safely and effectively.
- Information, education and communication and social and behaviour change activities to increase awareness are integral to the success of fortification programmes.

## CHALLENGES

Some of the challenges faced during the pilot implementation include:

- **Lack of policy direction** - Until 2019, there was no policy guidance on integration of fortified foods in food based social protection programmes nor were there standards for rice fortification by the FSSAI until 2016, thus relying on state governments to design or implement their own fortification programmes.
- **Limited production capacities of FRK** - During these fortification pilots, there were few producers of FRK in India. The limited production capabilities gave rise to issues of monopoly and also limited the scale-up of the project. It was therefore necessary to establish more FRK producers and set guidelines and incentives for them.
- **Limited integration in supply chain** - In all the pilots, milled rice from FCI godown was being fortified at a WFP-contracted rice mill and was then sent to the schools and *Anganwadi* centres. Fortification of rice during paddy milling or at the FCI godowns might have been more cost-effective approaches for fortification. Pushing fortification further up the rice supply chain could also help to reduce costs.

***The majority of the challenges faced in the early days of piloting rice fortification in India were resolved with consistent advocacy with the Government and other stakeholders.***



**Table 1:** Details of the pilot projects on rice fortification implemented by WFP

S.no	Pilot Project	Brief Description	Time period	Micronutrients delivered	Reach	Impact	Current Status														
1	Gajapati, Odisha <sup>1</sup>	WFP in collaboration with the Government of Odisha provided fortified rice through the platform of the mid-day meals in 1,473 Primary and Upper Primary schools in Gajapati	December 2012 to October 2015	10mg of Iron (Ferric Pyrophosphate) in 100g of rice	Over 9,000 metric tons of rice were fortified, distributed and consumed by 99,231 school children in the 6–14-year-old age group across 1,473 schools without any perceived change in taste, odour or colour of the product	<ul style="list-style-type: none"> <li>Overall, the results show positive trends in anaemia level and acceptability of fortified rice.</li> <li>Anaemia prevalence in Gajapati reduced by 5 percent points in 15 months (between December 2012 and April 2014)</li> <li>Significant improvement in Haemoglobin levels</li> <li>More than 90 percent children felt that the taste of MDM with fortified rice was the same or better</li> </ul>	Ongoing - sustained by State Government with its financial and human resource since November 2015, till 2022. From April 2023 all food and safety schemes are receiving fortified rice across the state.														
2	Dhenkanal, Odisha <sup>2</sup>	WFP in collaboration with the Government of Odisha demonstrated impact of multi-micronutrient fortification of rice on micronutrient status of school children	February 2017- October 2018	<table border="1"> <thead> <tr> <th>Nutrient</th> <th>Levels /100g of Fortified rice</th> </tr> </thead> <tbody> <tr> <td>Iron (Ferric pyrophosphate)</td> <td>12 mg</td> </tr> <tr> <td>Folic acid</td> <td>50 µg</td> </tr> <tr> <td>Vitamin B12 (Cya-nocobalamin)</td> <td>5.33 µg</td> </tr> <tr> <td>Zinc (Zinc Oxide)</td> <td>1.5 mg</td> </tr> <tr> <td>Vitamin A (Retinyl Palmitate)</td> <td>200 µg RE</td> </tr> <tr> <td>Vitamin B1 (Thiamine Mononitrate)</td> <td>0.46 mg</td> </tr> </tbody> </table>	Nutrient	Levels /100g of Fortified rice	Iron (Ferric pyrophosphate)	12 mg	Folic acid	50 µg	Vitamin B12 (Cya-nocobalamin)	5.33 µg	Zinc (Zinc Oxide)	1.5 mg	Vitamin A (Retinyl Palmitate)	200 µg RE	Vitamin B1 (Thiamine Mononitrate)	0.46 mg	Nearly 60,870 school children aged 6-14 years reached through the Mid-Day Meal Scheme in 835 schools. Over 2,690 MT distributed to schools in the project district Dhenkanal	<ul style="list-style-type: none"> <li>Decline in prevalence of anaemia, increase in the mean values of Hb of 7.3 percent</li> <li>Reduction in folate deficiency from 34.0 to 23.4 percent</li> <li>Only 50-60 percent of the parents were aware of the MDM fortification out of which ~40 percent reported that fortified MDM tasted better, as per their acquired information from their wards.</li> <li>Student participants have also performed better in physical endurance test during the endline survey.</li> </ul>	Project was completed and report submitted. As part of the scale up announced by Government of India, the district is distributing fortified rice in PDS and PM POSHAN Scheme from 2023.
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<sup>1</sup> <https://www.annonline.net/nex7/Iodisha>; [http://mdm.nic.in/mdm\\_website/Files/Workshop/RegionalWorkshops/2014-15/Puri-Workshop/State-PPTs/PDF/Rice%20Fortification%20in%20the%20Gajapati%20District%20of%20Odisha.pdf](http://mdm.nic.in/mdm_website/Files/Workshop/RegionalWorkshops/2014-15/Puri-Workshop/State-PPTs/PDF/Rice%20Fortification%20in%20the%20Gajapati%20District%20of%20Odisha.pdf)

<sup>2</sup> <https://docs.wfp.org/api/documents/WFP-0000115539/download/>

3	Varanasi, Uttar Pradesh <sup>3</sup>	WFP demonstrated an operationally feasible and economically viable model for production and distribution of multi micronutrient fortified rice at a centralized location (continuous blending)	December 2018-June 2020	<table border="1"> <thead> <tr> <th>Nutrient</th> <th>Levels /100g of Fortified rice</th> </tr> </thead> <tbody> <tr> <td>Iron (Ferric Pyrophosphate)</td> <td>4.25 mg</td> </tr> <tr> <td>Folic acid</td> <td>12.5 µg</td> </tr> <tr> <td>Vitamin B12 (Cyanocobalamin)</td> <td>0.1 µg</td> </tr> <tr> <td>Zinc (Zinc Oxide)</td> <td>1.5 mg</td> </tr> <tr> <td>Vitamin A (Retinyl Palmitate)</td> <td>75 µg RE</td> </tr> <tr> <td>Vitamin B1 (Thiamine Mononitrate)</td> <td>0.15 mg</td> </tr> <tr> <td>Vitamin B3 (Nicotinamide)</td> <td>2 mg</td> </tr> <tr> <td>Vitamin B6 (Pyridoxine Hydrochloride)</td> <td>0.25 mg</td> </tr> </tbody> </table>	Nutrient	Levels /100g of Fortified rice	Iron (Ferric Pyrophosphate)	4.25 mg	Folic acid	12.5 µg	Vitamin B12 (Cyanocobalamin)	0.1 µg	Zinc (Zinc Oxide)	1.5 mg	Vitamin A (Retinyl Palmitate)	75 µg RE	Vitamin B1 (Thiamine Mononitrate)	0.15 mg	Vitamin B3 (Nicotinamide)	2 mg	Vitamin B6 (Pyridoxine Hydrochloride)	0.25 mg	292,599 school children benefited under the programme and 4,145 MT of rice distributed across 1,610 schools	<ul style="list-style-type: none"> <li>Fortification of rice served under MDM is found to be operationally feasible</li> <li>Quality of fortification assessment by NABL accredited laboratory found that the retention of micronutrients in the raw and cooked fortified rice were as per the norms</li> <li>Awareness about anaemia increased (Females from 24 to 44 percent (p &lt; 0.01), males from 16 to 46 percent); Awareness about undernutrition and supply of fortified rice also improved</li> <li>Better acceptability of fortified rice (5/5 rating on quality)</li> <li>Prevalence of illness among the children declined from baseline to endline. As compared to baseline, fewer students reported suffering from some sickness in the last 15 days prior to the interview</li> </ul>	Completed; Hand-over and the programme scaled up to the entire state in PM POSHAN scheme (erstwhile MDM) since April 2021.
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4	Kannur, Kerala	Department of Women and Child Development (DWCD), Govt of Kerala and WFP collaborated to mainstream rice fortification in ICDS scheme in Kannur by setting up a demonstration unit with an overarching goal to establish a model that could be replicated throughout the state in the ICDS.	December 2019- February 2020	<table border="1"> <thead> <tr> <th>Nutrient</th> <th>Levels /100g of Fortified rice</th> </tr> </thead> <tbody> <tr> <td>Iron (Ferric Pyrophosphate)</td> <td>4.25 mg</td> </tr> <tr> <td>Folic acid</td> <td>12.5 µg</td> </tr> <tr> <td>Vitamin B12 (Cyanocobalamin)</td> <td>0.1 µg</td> </tr> <tr> <td>Zinc (Zinc Oxide)</td> <td>1.5 mg</td> </tr> <tr> <td>Vitamin A (Retinyl Palmitate)</td> <td>75 µg RE</td> </tr> <tr> <td>Vitamin B1 (Thiamine Mononitrate)</td> <td>0.15 mg</td> </tr> <tr> <td>Vitamin B3 (Nicotinamide)</td> <td>2 mg</td> </tr> <tr> <td>Vitamin B6 (Pyridoxine Hydrochloride)</td> <td>0.25mg</td> </tr> </tbody> </table>	Nutrient	Levels /100g of Fortified rice	Iron (Ferric Pyrophosphate)	4.25 mg	Folic acid	12.5 µg	Vitamin B12 (Cyanocobalamin)	0.1 µg	Zinc (Zinc Oxide)	1.5 mg	Vitamin A (Retinyl Palmitate)	75 µg RE	Vitamin B1 (Thiamine Mononitrate)	0.15 mg	Vitamin B3 (Nicotinamide)	2 mg	Vitamin B6 (Pyridoxine Hydrochloride)	0.25mg	86.6 MTs of FCI rice has been fortified with fortified Rice kernels (FRKs), reaching 14,100 children across 915 AWCs	<ul style="list-style-type: none"> <li>No evaluation convened so far</li> </ul>	Since April 2021, distribution of fortified rice under ICDS scheme has been scaled up to all districts of Kerala
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<sup>3</sup> <https://docs.wfp.org/api/documents/WFP-0000115539/download/>; <https://reliefweb.int/report/india/wfp-india-country-brief-august-2020>  
 Endline Assessment of Fortification of Mid-Day Meal Programme in Varanasi, Uttar Pradesh- Draft Report





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World  
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# Workshop for

## Sensitization and SBCC Campaign on Fortified R

Scot Hotel, Trivandrum



SHRI.MANOJKUMAR  
FOOD AND CIVIL SUPPLIES DEPT

Dr.SHARIQUA -UNWFP

World Food Programme

# for Media

## rice in Kerala



Dr. AM... U-GMCT

Shri. PRATAP CBK  
Asst. Spd. Member Govt. PCB

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Advocacy on fortified rice

## MAINSTREAMING THE RICE FORTIFICATION AGENDA

Fortification is a proven and effective public health intervention for reducing micronutrient deficiencies in a target population. However, it may take several decades for such interventions to be implemented at scale, if it is not supported by intentional, guided efforts and high-level advocacy towards government policy makers. WFP has prioritised advocacy and knowledge management in order to drive policy for piloting and scaling up rice fortification. Therefore, WFP has been providing technical assistance, and leading advocacy for establishing a national rice fortification programme as a complementary strategy to address anaemia and micronutrient deficiencies in India.

It is the result of these consistent advocacy efforts that the Government of India has launched the programme for scaling up fortified rice in all Government food-based social protection programmes. WFP leveraged various opportunities for advocacy on fortified rice.



## SECRETARIAT OF POSHTIK NETWORK

'POSHTIK' is a consortium of development partners and research organisations for food fortification in India, and was constituted in 2013 in order to bring renewed focus on fortification and its subsequent integration in Government food-based safety nets through high level advocacy.

In 2015, WFP was chosen as the 'Secretariat' for 'POSHTIK'. The platform enabled WFP to join forces with other development organizations working on fortification in India, such as The Global Alliance for Improved Nutrition (GAIN), Nutrition International, the Bill & Melinda Gates Foundation (BMGF), Food Fortification Initiative (FFI), Clinton Health Access Initiative (CHAI), World Bank, Tata Trusts, Indian Coalition for the Control of Iodine Deficiency Disorders (ICCIDD), UNICEF, World Health Organization (WHO) and PATH etc.

These stakeholders provide a unified voice to advocate for staple food fortification at scale. As host of the Secretariat from 2015 to 2019, WFP worked towards developing the network as a Technical Resource and Expert Group for leading advocacy on food fortification in the country.

Under WFP's leadership in 2016, the Government endorsed POSHTIK as a technical expert group on food fortification, and the network expanded to include government partners such as the Central Food Technological Research Institute (CFTRI), National Institute of Nutrition (NIN) and FSSAI. The network also supported the "National symposium for the launch of food fortification standards and fortified foods logo" in India.

WFP continued supporting FSSAI with collation and review of comments received from multiple stakeholders from different segments of the society, which ultimately led to finalisation of Food Fortification Standards, which were gazetted in 2018. POSHTIK became a valuable platform for responding to organizations and activists concerned about fortification, presenting as a unified coalition of respected organizations communicating the evidence-based benefits, science, and safety of fortification.



## CONSULTATIONS ON FORTIFICATION FOR POLICY DECISIONS

- **National Food Fortification Summit (2016):** FSSAI, the central ministries and POSHTIK organised the National Food Fortification Summit on World Food Day by where Food Safety Standards and Regulations for fortifying wheat flour and rice (Iron, Vitamin B12 and Folic Acid and other micronutrients), milk and edible oil (Vitamins A and D) and salt (with Iodine and Iron) were operationalised and the food fortification logo was launched.

These regulations encourage the production, manufacturing distribution, sale, and consumption of fortified foods. Furthermore, under this collaboration, various zonal consultation on food fortification (including rice) were convened jointly with the Ministry of Women and Child Development, line Ministries/Departments and development partners including WFP between 2016-2017. WFP presented and advocated on rice fortification at all the regional consultations, based on its global and national experience from pilots conducted in Gajapati while also supporting the organization of some of the regional consultations.

- **Regional experience sharing workshop (2018):** In May, the WFP Regional Bureau for Asia and Pacific organised a regional experience sharing workshop on 'Enhancing evidence-based policy dialogue and nutrition impact through social protection platforms' in Bangkok, to foster experience exchange and learning across countries on topics such as fill the nutrient gap analysis, nutrition-sensitive social protection and rice fortification scale up in Asia, challenges and opportunities.

WFP India along with the Joint Secretary, Food and Public Distribution participated in the workshop and presented India's case of introducing fortified rice in school meals, its impact, and its contribution to formulation of standards of food fortification for India and drafting a policy on introduction of fortified rice in food-based social protection programmes. The workshop also provided an opportunity to learn from other countries' experiences and include some of the best practices in India's scale up plan.

- **Preparation of an approach paper for introducing fortified rice in the Public Distribution System (2018):** In June, WFP developed an approach paper on integrating fortified rice in Public Distribution System for the Ministry of Consumer Affairs, Food and Public Distribution.

- **National Consultation on 'Scaling up the Distribution of Fortified rice in the Public Distribution System' (2018):** In September, WFP, in partnership with the Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution System, organized a national consultation on "Scaling up the distribution of fortified rice in the Public Distribution System". The workshop was attended by senior officials of central ministries supporting food-based social protection schemes, representatives of National Institute of Nutrition, industry personnel, FRK and premix manufacturers and other development partners.

The workshop provided an opportunity to:

- Discuss global and India specific evidence and experience on rice fortification
- Sensitize the various stakeholders on rice fortification through demonstration and tasting of fortified rice preparations
- Identify challenges and solutions for overcoming the challenges, to the scale up of rice fortification in the PDS in States
- Agree on a way forward for scaling up of rice fortification in PDS in the States.

It is at this platform that the Department of Food and Public Distribution announced its vision to implement a centre sector scheme on rice fortification in near future.

## SOUTH-SOUTH TRIANGULAR COOPERATION

WFP India increased its efforts to mainstream rice fortification by supporting the national government through South-South and Triangular Cooperation (SSTC). In the initial years of its journey on rice fortification, WFP organised study visits from India to other countries engaged in rice fortification in order to accelerate progress.



## MISSIONS FROM INDIA ON RICE FORTIFICATION

WFP arranged for the Indian delegation to visit countries having successful fortification policies and programmes including Bangkok (2014), Singapore (2018), and Costa Rica (2019). These visits were pivotal in motivating the Government of India and creating an enabling environment for developing and scaling up the rice fortification programme.

**Bangkok (2014):** WFP India facilitated the visit of key government officials from the Departments of Food and Public Distribution from the states of Odisha and West Bengal, and the Ministry of Education to Bangkok, Thailand to participate in a workshop on “Scaling Up Rice Fortification in Asia”<sup>3</sup>. The workshop was primarily aimed at facilitating exchange of learnings in the area of rice fortification and also to create a network for continued learning and knowledge exchange in support of national efforts to scale up rice fortification.

India’s representation to the workshop helped in attracting a high level of interest in large-scale rice fortification from the Government. The event provided an opportunity to learn about the global evidence for rice fortification, and the technical aspects of policy and production from a programme implementation perspective.

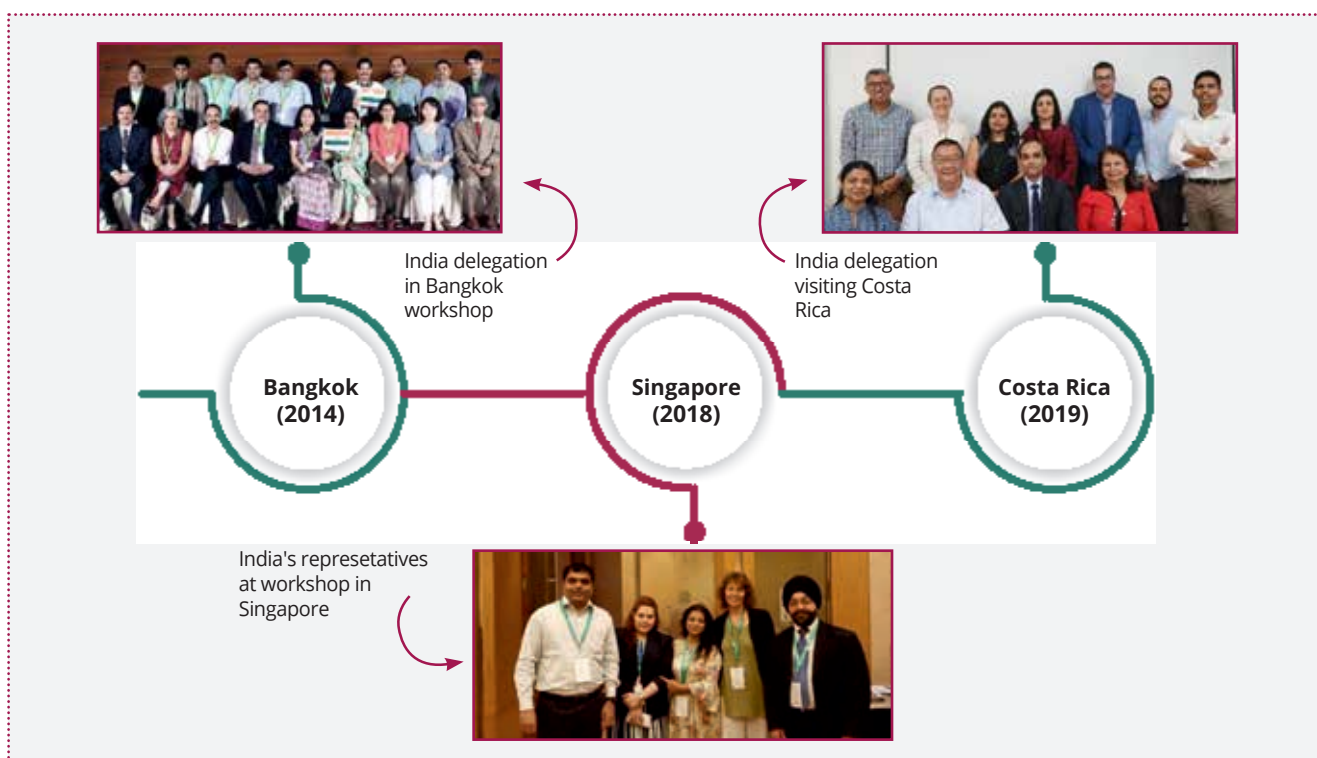
WFP collaborated with other agencies such as FFI, GAIN, Micronutrient Initiative (MI), PATH, and UNICEF at the regional level to jointly organise the workshop.

**Singapore (2018):** The 5<sup>th</sup> International Rice Congress & Trade Show was organised in Marina Bay Sands,

Convention Centre, Singapore, where in for the first time, representatives of the Department of Food and Public Distribution and FSSAI participated in a panel discussion on ‘Rice fortification for improved nutrition: Programme experiences and opportunities’ and presented India country experience on regulatory, policy perspective and progress on rice fortification at programme level. WFP facilitated the visit of the officials as well as provided technical assistance for presentations.

**Costa Rica (2019):** Costa Rica is one of the few countries that has legislated mandatory fortification for many widely consumed commodities, such as rice, wheat and maize flour, milk, salt, and sugar. Costa Rica has the most successful mandatory rice fortification program supported by reliable regulatory and enforcement systems. The objective of the visit was to understand the implementation of the mandatory rice fortification programme and identify best practices for replication in Indian context. The delegation was led by Joint Secretary, DFPD. Other participants included senior officials from NITI Aayog (Policy think tank), Women and Child Development, and FSSAI. It was envisaged that the visit would provide an impetus to policy for large scale rice fortification programme in India.

The study tour involved meetings with government officials of the Ministry of Health in Costa Rica; INCIENSA- the Costa Rican Institute for Research and Education on Nutrition and Health (which also hosts the lab which does the testing on fortified foods); representatives of the Rice Millers Associations as well as field visits to fortified rice kernel production factories. The agenda covered various aspects of policy formulation, implementation, quality control, monitoring, and production of fortified rice.



<sup>3</sup> Scaling up Rice Fortification in Asia [https://sightandlife.org/wp-content/uploads/2017/02/SAL\\_WFP\\_Suppl.pdf](https://sightandlife.org/wp-content/uploads/2017/02/SAL_WFP_Suppl.pdf)





## MISSIONS TO INDIA ON RICE FORTIFICATION

India's openness to sharing lessons learned and solutions on various aspects of rice fortification has benefited other countries establish better processes to support rice fortification at local level. While the benefits to the visiting nation or 'learner' in a south-south exchange are clear, an additional outcome of these exchanges is the confidence and pride that they give India as the host country in its own fortification programme, serving to reinforce its commitment to rice fortification.

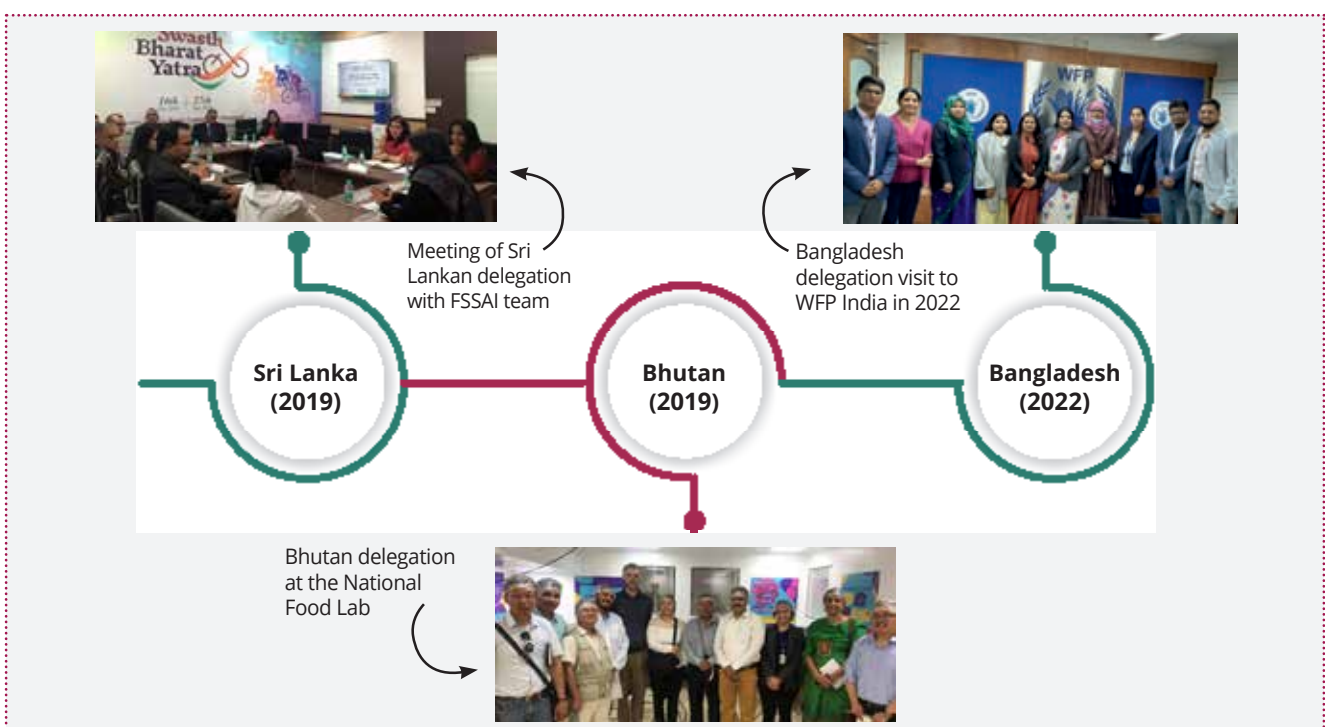
**Sri Lanka (2019):** In February 2019, WFP India facilitated the cross-learning visit of 7-member delegation from the Ministry of Health (Nutrition Division), Family Health Bureau and Food Control Administration Unit, Sri Lanka. The objectives of the Sri Lanka mission were to understand the standard setting process and regulatory mechanism for rice fortification to better plan and implement rice fortification programme in Sri Lanka in an integrated manner under food-based social protection schemes.

The mission of the Sri Lanka delegation was second of its kind and had a special focus on the +F logo that certifies that a fortified product respects the standards and specifications set by Indian authorities. In addition, Sri Lanka paid special attention to the social behaviour change campaign (Eat Right India) developed by FSSAI to promote fortified foods use by consumers and a healthy lifestyle for the people of India. The visit also helped enhance the knowledge base at policy level on fortified rice. WFP India arranged for meetings with officials of FSSAI and visit to FRK manufacturing unit in Bhopal, Madhya Pradesh.

**Bhutan (2019):** The Government of Bhutan also leveraged India's expertise twice to make progress on its rice fortification programme. In a cross-learning exchange on rice fortification, a delegation of seven persons representing Bhutan's Ministries of Health, Agriculture & Food, Education and WFP Bhutan staff visited India in May. The Bhutan mission was interested to learn about the regulatory framework on monitoring the quality and safety of fortified foods supplied, especially through sampling and laboratory testing at FSSAI notified food laboratories and to learn the essence of Eat Right Movement in India pioneered by FSSAI and its progress and success stories.

WFP India facilitated the meetings with the FSSAI and Mother Dairy Production Plant to understand the implementation of Eat Right India Movement. Additionally, the mission visited the National Food Laboratory and Eurofins Laboratory to observe their facilities for testing of fortified foods. This study visit allowed Bhutan to better understand the Eat Right India campaign and to introduce some of these lessons learned in their own National Nutrition Strategy.

**Bangladesh (2022):** A six-member delegation led by the Additional Secretary and Director General, Department of Women's Affairs, and including members from the Ministry of Food, Nutrition International and WFP Bangladesh made a learning visit to India in December to learn about the production and distribution of fortified rice in social protection schemes and modalities of implementation of rice fortification being implemented across the country. WFP, India facilitated the meetings of the delegation with officials of Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution, FSSAI and field visit to Varanasi, Uttar Pradesh to witness implementation of the programme at the state level.







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Creating an enabling ecosystem to scale up distribution of fortified rice



## **MULTISTAKEHOLDER COLLABORATION: KEY TO AN ENABLING ENVIRONMENT**

Historically, the most successful food fortification programmes across the world have been those driven by partnerships and trust between the public and private sector. The collaborative effort of Government, private sector, as well as development partners is the key to creating an enabling environment for large scale rice fortification programmes for the benefit of the target populations.

In the journey of rice fortification in India, WFP has played a vital enabling role in creation of a robust ecosystem for rice fortification. On one hand, WFP works closely with government entities such as FSSAI and BIS and has contributed to the development of standards for production of FRK, vitamin and mineral premixes, fortified rice and equipment for production of FRK and blending of rice. On the other hand, WFP has provided technical assistance to private sector to establish FRK production units. Further, to support advocacy efforts for large scale rice fortification and inform government about the financial implications of implementing rice fortification through food-based social protection schemes, WFP has undertaken cost analyses.

## **DEVELOPMENT OF NATIONAL STANDARDS FOR RICE FORTIFICATION**

While the pilots conducted by WFP and other development partners established the impact of rice fortification on anaemia and other micronutrient deficiencies, it was considered necessary to formulate Indian Standards, based on nutrient requirements for majority of the Indian population, dietary intakes and deficits, as well as prevalence of anaemia, to ensure optimal diets with no risk of toxicity.

With this in mind, POSHTIK advocated for standards for fortified staples including rice. In 2016, Food Safety and Standards Authority of India operationalized draft Food Safety and Standards (Fortification of Food) Regulations, which were developed through a vigorous consultative process. The following year, FSSAI constituted a scientific panel on Food Fortification and Nutrition to review the standards for fortified staples. The discussions emerging from the scientific panel were reviewed by POSHTIK. Additionally, as Secretariat of POSHTIK, WFP also collated, reviewed, and drafted responses against comments received on draft standards and time to time participated in the meetings to discuss the comments further.

On 3<sup>rd</sup> August 2018, FSSAI announced the Food Safety and Standards (Fortification of Foods) Regulations which is one of the important milestones in the journey of scaling up rice fortification. It took several years of hard work and advocacy to create a need for formulating standards for rice among policy makers.

## **COSTING ANALYSIS**

The uncertainty regarding the incremental cost of fortifying rice and overall financial implication of scaling up rice fortification was a deterrent to policy makers and industry for scaling-up rice fortification in the food-based safety nets. Therefore, WFP worked to identify the costs associated with rice fortification and suggested the most feasible and low-cost models for integration/mainstreaming fortified rice in social safety nets.

WFP identified the factors influencing the cost of production of FRKs and estimated the cost of rice fortification based on different models and types of production facilities. The analysis found that the incremental cost of producing fortified rice could range from INR 0.34 per Kg to INR 0.86 per Kg. The cost depended upon several factors such as cost of raw materials, composition of premix, equipment used for FRK production as well as blending, blending capacity, and type of set up.

The detailed analysis was published as “A Costing Analysis: Mainstreaming Fortified Rice in India” and was shared with the Government. Based on the rigorous review of this report, Government of India adopted an incremental cost of INR 0.60 per Kg for producing fortified rice with three micronutrients i.e. Iron, Folic acid and Vitamin B12, during paddy milling, with an isolated FRK production set up.

However, the incremental cost was later revised to INR 0.73 per Kg of fortified rice based on the increase in the market price of FRKs.

## **FACILITATING INCREASED FRK PRODUCTION BASE IN INDIA**

WFP has been involved in expanding the FRK production base in India since 2017, both independently as well as in collaboration with FSSAI. The process was driven by the interest of industry who either reached out to WFP directly or to FSSAI, who then directed the interested group to WFP. However, this process was slow paced and limited by the low consumer demand in the open market.



With the growing interest of government in introducing fortified rice in the food-based social protection schemes programmes, and subsequent approval of the centrally sponsored pilot scheme in 2019, there was a need to support those in the food industry that were interested in venturing into FRK or fortified rice production to meet the increased requirements.

At the beginning of 2019, there were only four FRK manufacturers in the country with an annual capacity of 7,250 MT. WFP amplified its efforts for providing technical assistance to the interested rice millers, food enterprises and other private players to support the local production of FRK to meet the increased demand and to foster healthy competition in the open market. The technical assistance was offered through dedicated virtual sessions which were targeted at informing the prospective suppliers about the equipment, production process, quality assurance, and regulatory compliances in terms of licensing, packaging, labelling etc. as well as growth potential of this industry. Additionally, WFP provided support for evaluating the technical documents and responding to their technical queries around production of FRK and fortified rice.

Between April and September 2021, 18 prospective FRK vendors were sensitised, out of which three FRK manufacturers successfully established FRK production with valid FSSAI license, and six initiated the process of procurement, therefore increasing the total number to 34 FRK producers.

But by early 2022, the FRK industry witnessed a record breaking increase, growing from 34 in September 2021 to 154 by early 2022. This increase can be attributed to the Hon'ble Prime Minister's August 2021 announcement for inclusion of fortified rice in all food-based social protection schemes by 2024. The policy, thus gave assurance to the private sector that there would be a definite demand and a substantial market for fortified rice which in turn stimulated investment from the private sector.

As of March 2023, India's FRK industry consists of over 700 FRK suppliers having an annual capacity of over 17 lakh MT (1.7 million MT).

## BUREAU OF INDIAN STANDARDS REGULATIONS

As the scale up was announced, greater emphasis was made on ensuring the quality of the FRK and fortified rice. Therefore, the Department of Food and Public Distribution

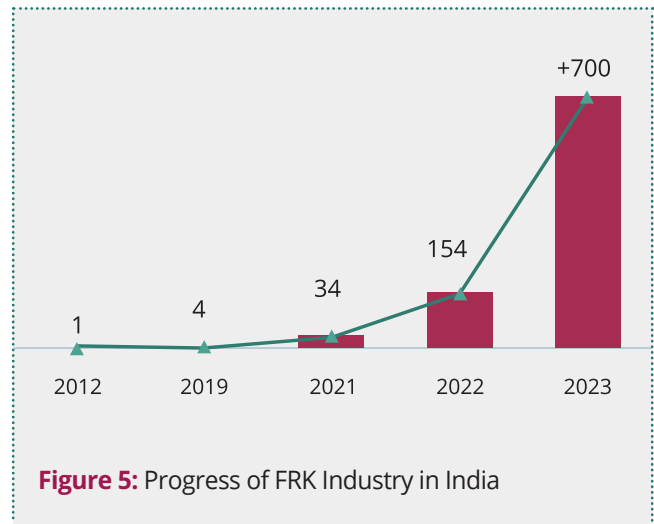


Figure 5: Progress of FRK Industry in India

tasked the BIS with developing standards for fortified rice kernels, fortified rice, vitamin and mineral premixes, and equipment for manufacturing FRK and blending fortified rice with the expectation that these standards would ensure consistent, quality production of FRK and fortified rice.

WFP was one of the core members of the technical committee formed under Food and Agriculture Department (FAD-16) for setting up these standards. WFP provided technical inputs during the meetings convened by the Indian Institute of Technology (Kharagpur) for formulation of these standards and also reviewed and provided inputs to the compiled comments from all the members.

Further to the development of standards by BIS, FSSAI operationalised the draft standards for FRK in June 2022. The BIS standards acted as a base or reference standards for FRK issued by FSSAI.

## OPERATIONAL GUIDELINES ON QUALITY CONTROL

Soon after the roll out of the Centre Sector Scheme on rice fortification in the PDS in 2022, the Department of Food and Public Distribution decided to issue an operational guideline on Quality Control for Fortified Rice Kernels and Fortified Rice which would serve as a ready reference for all stakeholders engaged in the supply chain of fortified rice. WFP provided technical assistance in creating the first draft of the operational guidelines as well as reviewing the final document. Strict adherence to these guidelines ensures that quality product is produced and reaches the target beneficiaries.







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Technical assistance to scale up

## TECHNICAL ASSISTANCE THROUGH A DEDICATED RESOURCE

For national rice fortification, WFP has been the lead technical agency assisting national and state governments, from conducting pilots to supporting government in designing and implementing a centrally sponsored pilot scheme, and now for scaling up production and distribution of fortified rice in the food-based social protection schemes,

To respond to the technical assistance needs of the national government including the Ministry of Consumer Affairs, Food and Public Distribution, NITI Aayog as well as other line ministries, a dedicated staff has been strategically positioned in the Department of Food and Public Distribution. Similarly, at the state level, dedicated staff have been posted to support convergence and operationalisation of the rice fortification scheme in the seven states of Bihar, Chhattisgarh, Odisha, Haryana, Uttar Pradesh, Uttarakhand, and Kerala.

## TECHNICAL ASSISTANCE AT THE NATIONAL LEVEL

### Support towards formulation of the Centrally Sponsored Scheme on Fortified rice

Before announcing the scale up of rice fortification, under food-based social protection schemes, the Government of India implemented a pilot scheme on production of fortified rice and its distribution under the PDS. Not only did WFP work towards generating demonstrable evidence and high level advocacy but they also supported Department of Food and Public Distribution with the technical design, conceptualisation and documentation of the centrally sponsored schemes. WFP contributed to the development of a concept note for in-principle approval of the new scheme, Detailed Project Report and Expenditure Finance Committee (EFC)/ Standing Finance Committee (SFC) memorandum containing key aspects (Evidence around fortified rice, rationale for introducing a new scheme, criteria for inclusion of districts and modus operandi, as well as costing) of the proposal for approval.

### Development of operational guidelines

As soon as the Centrally Sponsored Pilot Scheme on rice fortification was approved by Government of India for 15 districts for three years, there emerged a need to develop operational guidelines to provide clear guidance to the states about the scheme and effective planning and implementation.



Figure 6: Key components of the scheme

The operational guidelines prepared the state governments to implement the scheme. They provide detailed descriptions of the operational processes for planning and implementing the rice fortification program and technical procedures for manufacturing, monitoring, and ensuring quality control (QC) of fortified rice. The guidelines identified the need for capacity building and training; information, education and communication campaigns; quality control (QC) and quality assurance (QA) mechanisms and monitoring and evaluation as the key components of the scheme.

### Development of IEC/BCC material for enhancing awareness in the community on fortified rice

Given that the concept of availability of fortified foods especially through the food-based safety nets was new to the community; and that the success of the intervention is in the regular consumption of fortified rice; information, education and communication (IEC) and social behaviour change campaigns (SBCC) with the community were required to spread awareness about benefits of fortified rice and dispel myths and misconceptions.

WFP helped the national government by developing a range of IEC/BCC materials. These included posters, danglers and indoor panels for display at fair price shops. The materials were also developed in nine regional languages. They had a distinctive branding with a mascot and tagline to create awareness and were planned to be used as interpersonal communication tools by the fair





price shop (FPS) owners to increase knowledge on fortified rice and increase its uptake and acceptability among the beneficiaries.

Further, a set of social media collaterals were also developed in both Hindi and English, and were published on the social media through Food Department's official Twitter handle.

Radio jingles both for the national and state-level were developed as the mass media tools, a part of the overall IEC/BCC package. The radio jingles are aimed to create an enabling environment for the awareness, acceptability, and demand of fortified rice among consumers. Lastly, two short clips on fortified rice were developed which focused on establishing the genuineness of fortified rice, cooking of fortified rice and establishing that the cooking method, taste, smell of fortified rice is same as regular rice.

### Development of training tool kits

To ensure optimum knowledge for rice millers, and to enable them to produce quality-assured fortified rice, WFP has developed a Rice Millers' Training Module in collaboration with Department of Food and Public Distribution. Additionally, based on the request from the Department, WFP also supported the development of a rice fortification module for DFPD staff as well as a video for the capacity building of the FPS owners on fortified rice. The rice fortification module focuses on various aspects of fortified rice ranging from process of production to quality assurance and quality control. This

module is hosted on the e-learning platform used by DFPD for training of their staff.

### Ongoing support towards strengthening the evidence base for sustaining rice fortification

In support of the national government for sustaining and improving the scale up of rice fortification, WFP is working towards strengthening the evidence base for rice fortification by implementing impact assessment studies in the two aspirational districts where the pilot scheme was implemented: Chandauli in Uttar Pradesh and Malkangiri in Odisha.

Additionally, in 2021, a Technical Advisory Group (TAG) consisting of national and international experts working in the areas of fortification, nutrition, medicine, public health, biochemistry, etc. has been constituted to support work around evidence-based advocacy for revisiting Indian standards of food fortification in alignment with the global guidance and mandatory fortification, with the national government.

#### IEC/BCC LINKS:

Social media Collaterals: <http://bit.ly/44nKi65>

Radio Jingle: [bit.ly/3qKMA1k](http://bit.ly/3qKMA1k)

Print Materials: [bit.ly/3qjPe9](http://bit.ly/3qjPe9)

Short clips: [bit.ly/44nmRtt](http://bit.ly/44nmRtt)



## Supported National Seminar on Rice Fortification

WFP in the capacity of a knowledge partner, supported the National Seminar on Rice Fortification organized by the Department of Food & Public Distribution, Ministry of Consumer Affairs, Food & Public Distribution on 22 August 2023. The event brought together technical experts, leaders from government ministries, research institutes, and international organizations to build a common understanding on fortified rice, assess overall implementation progress & challenges, recent evidence of impact of fortified rice and dispel commonly propagated misconceptions about it. The seminar was divided into four technical sessions, each deliberating on aspects of fortified rice described above. As knowledge partner, in the run up to the seminar, WFP facilitated working group meetings to discuss these issues and agree on final presentations. The seminar also witnessed the launch of a National Information Education and Communication (IEC) campaign developed by DFPD for awareness generation at the beneficiary level and the release of a guidance handbook on rice fortification which will act as a ready reckoner for all guidelines, notifications, and orders related to rice fortification in the country.

## TECHNICAL ASSISTANCE AT THE STATE LEVEL

WFP is currently supporting state governments of Bihar, Chhattisgarh, Odisha, Haryana, Uttar Pradesh, Uttarakhand, and Kerala by providing technical assistance along the value chain including capacity building of the rice millers and stakeholders, tendering and procurement of FRK and lab services, monitoring, and IEC and SBCC campaigns.

## Capacity building of the rice millers

The rice millers play a crucial role in determining the success of this initiative and it is imperative to capacitate them in a structured and standardised manner. In collaboration with Department of Food and Public Distribution, WFP has been conducting capacity building programmes for the millers on a regular basis. This training enhances the awareness and learning on quality assurance and quality control aspects of rice. Between April 2021 and March 2023, WFP trained around 4,700 rice millers in seven states. WFP has also engaged in sensitisation of FRK manufacturers since 2017 supporting building a strong local FRK base to produce quality product.

## Sensitisation of government staff

Given that under the national rice fortification initiative, Government of India is producing and distributing fortified rice under multiple social protection programmes, it is imperative to build capacities of the government functionaries on provision of fortified rice, its benefits, identification of fortified rice bags, their roles and responsibilities at the state, district and sub district level. In between April 2022 and March 2023, over 6,000 government functionaries across the three departments have been sensitised.

## Support in tendering and procurement

FRK is the most essential ingredient for fortifying rice. The level of micronutrients in the FRK determines the level of micronutrients in the fortified rice and hence it is important that FRK is procured from a trusted and reputed vendor selected through a competitive and transparent mechanism. WFP provides the technical



support to the Department of Food and Civil Supplies at the state /district level in drafting terms of reference for tender documents as well as in technical evaluation of the bids for procurement of FRK as well as lab service. The effort is directed towards empanelling a credible FRK manufacturer and NABL lab to ensure timely delivery of quality FRK and testing of FRK / fortified rice at the various points in supply chain.

### Monitoring the on ground implementation

Field based monitoring of the operations provide a unique opportunity to extend handholding support to the industry (rice millers and FRK manufacturers) as well as grassroots functionaries on rice fortification. It allows for identification of the bottlenecks in implementation and undertake mid-course correction. Staff positioned by WFP in the seven states undertake visits to rice mills, schools, fair price shops, *Anganwadi* centres, FRK manufacturers and godowns to monitor the implementation of the programme.

### Development and dissemination of IEC/BCC materials

The IEC/BCC collaterals for rice fortification developed by WFP are further adapted from the national repository to align to the local context for states. A range of new creatives including infographics and posters for hoardings, banners and flyers to multimedia content, etc. were also developed based on requests from the states. These IEC/BCC materials play a key component in running SBCC campaigns across the states.

### Conducting on ground SBCC campaigns

With the supply of fortified rice through the food-based safety net programmes ensured, WFP identified the

need for a social behaviour change campaign to address the myths and misconceptions around the consumption of fortified rice. As part of the continued support to the states, WFP designed a comprehensive, context-specific SBCC campaign with well-defined activities planned for various stakeholder groups in order to promote positive health-seeking behaviours and address the myths around the consumption of fortified rice.

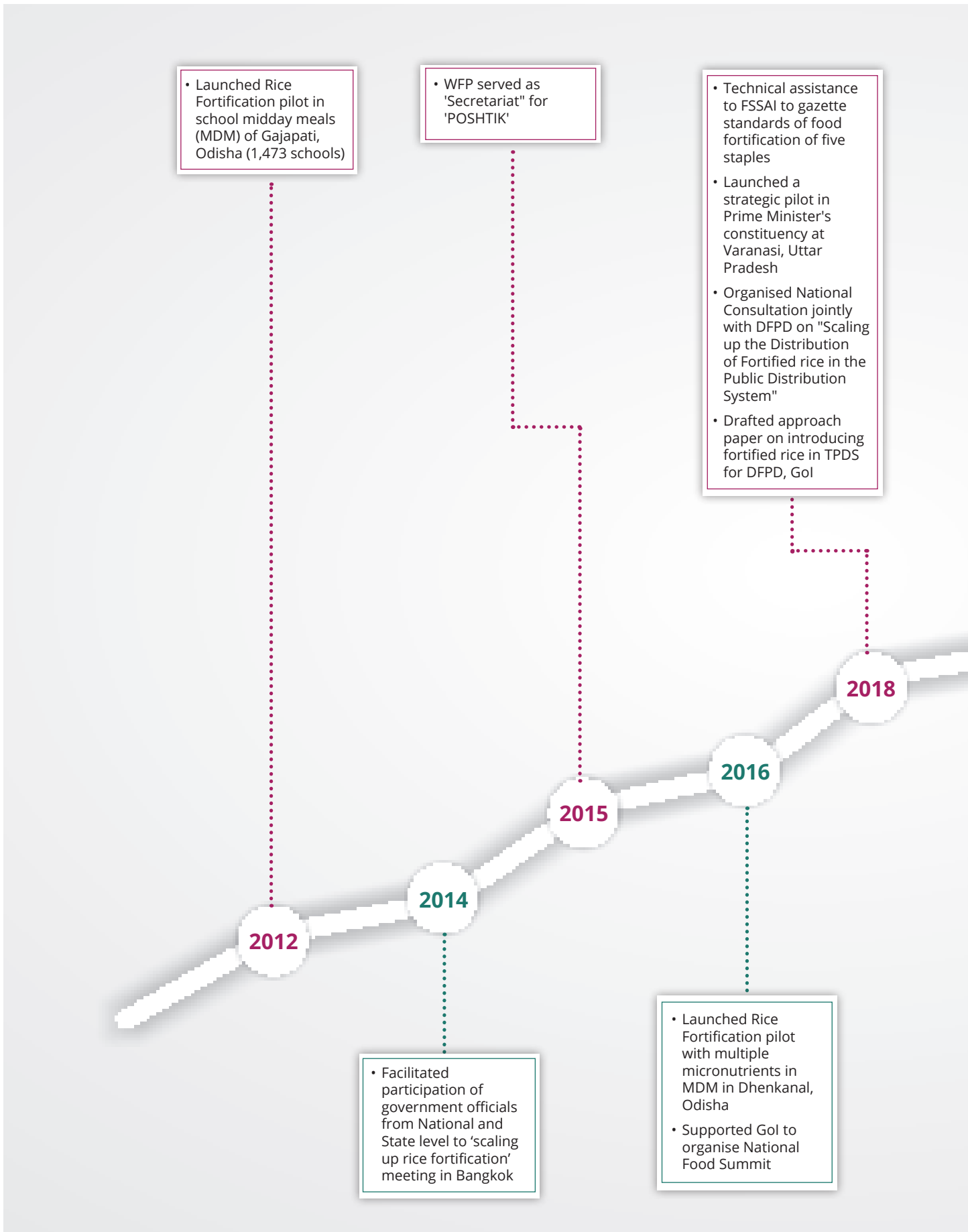
Activities designed in close coordination with the state counterparts, included media sensitisation, cooking demonstrations, stakeholder workshops, IEC Van and Public lectures. The campaign was rolled out in Uttar Pradesh (Apr-Aug' 2022) and Odisha (Mar-Jun' 2023) covering over 22,000 and 41,000 people including community and stakeholders respectively. Similar campaigns are underway in Kerala and Bihar including plans for the same in Chhattisgarh.

### Fostering local partnerships for sustainability

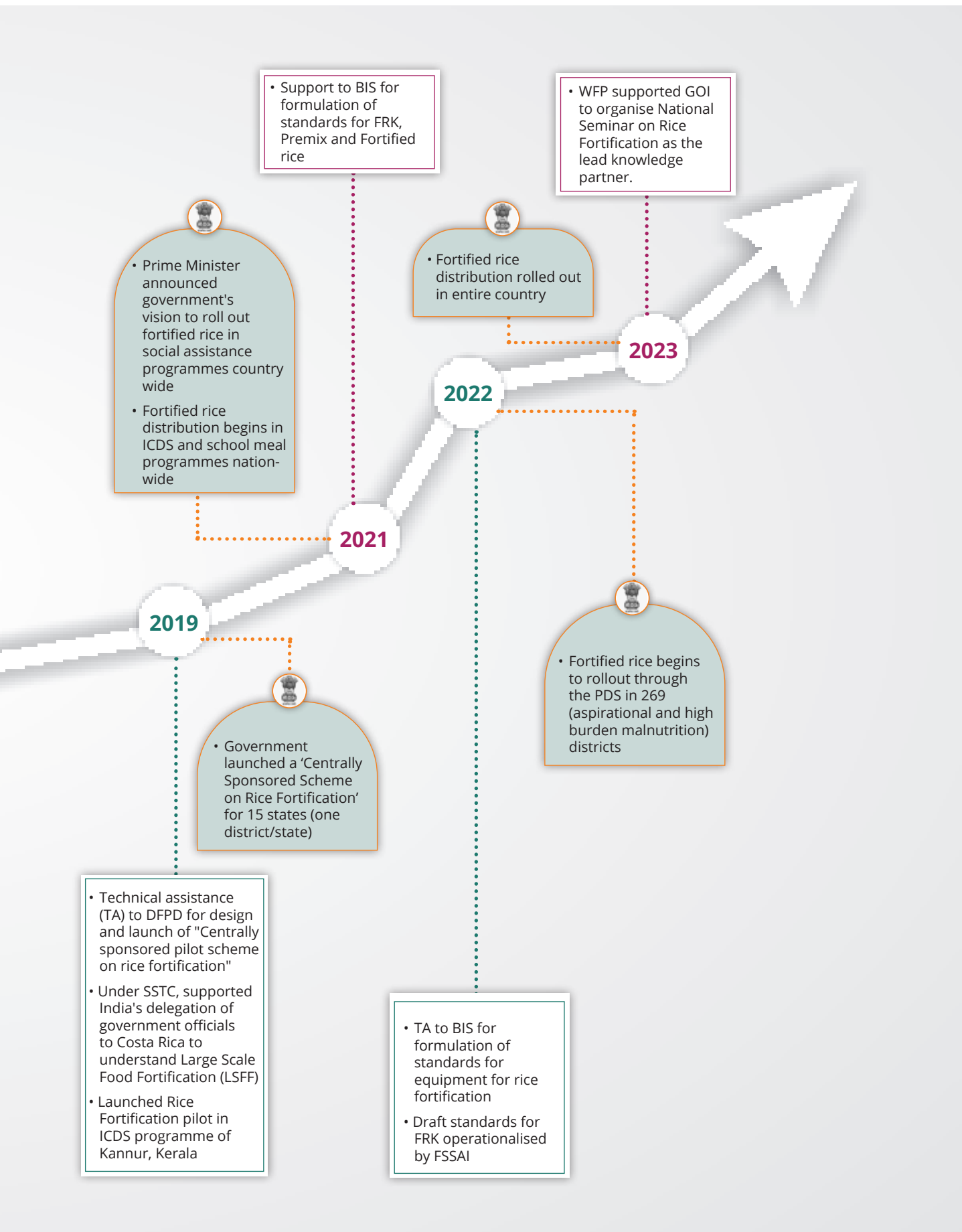
In an attempt to boost the ecosystem of food fortification and create a sustainable system for imparting knowledge, WFP is building partnerships with and enhancing capacities of local academic institutions, offering multidisciplinary courses relevant to food, nutrition, agriculture, public health and medicine. These institutions are expected to provide long term technical assistance to state governments with respect to staple food fortification with a special focus on rice. As on August 2023, memorandum of understanding has been signed with academic institution in Uttarakhand, Chhattisgarh and Uttar Pradesh to set up a technical support unit. Similar units will also be established in other WFP supported states in the near future.



# WFP's Contribution Towards Mainstreaming



# Rice Fortification in the National Agenda



## WAY FORWARD

The journey of rice fortification elucidated in this document establishes the decade of efforts put in by WFP to support Government of India for creating an ecosystem for rice fortification which is driven by evidence, operational experience, perseverance and commitment from stakeholders, supported with Government's leadership and political will.

As India is on its way to scale up rice fortification to the entire country through the food-based social protection

schemes, reaching out to nearly 800 million people, it holds great significance for the country, progressing steadily towards social development alongside economic development. More than ever, now there is a greater need to invest in establishing an end-to-end quality assurance and quality control system embedded in the monitoring and evaluation framework to ensure that targeted beneficiaries receive the benefit of fortified rice. These efforts will go a long way in creating sustainable actions to fight against hidden hunger.



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