

**EXECUTIVE SUMMARY**  
**Report Of A Fact-Finding Visit On Fortified Rice Distribution In Chhattisgarh**  
**June 13-15, 2022**

The following is an Executive Summary of a Fact-Finding Report on Fortified Rice Distribution in various government food schemes in the state of Chhattisgarh, after visits to four districts of the state (Kondagaon, Bastar, Surguja and Korba) and interactions with scores of entitlement-holders/"beneficiaries", frontline workers of various line departments, PDS dealers, medical experts, and senior government/executive functionaries at state and district level. The fact-finding visit organised by Alliance for Sustainable & Holistic Agriculture (ASHA-Kisan Swaraj) and Right To Food Campaign (RTFC) was during June 13<sup>th</sup> to 15<sup>th</sup> 2022, and included a seven member team (two of whom are medical doctors).

The teams of ASHA and RTFC gathered from media reports that certain places in the state complained about fortified rice, claiming it to be "plastic rice". This prompted the fact-finding effort in Chhattisgarh. Chhattisgarh is a state with a significant tribal population – the state embarking on a large-scale reductionist nutrition intervention without a holistic scientific rationale has deeply troubled health experts and others of its possible adverse outcomes. Earlier, similar complaints were received from places in Jharkhand. The fact-finding report from Jharkhand can be read [here](#).

1. **WORSENING ANAEMIA IS A REALITY**: Chhattisgarh, like many other states in the country, is dealing with worsening anaemia levels amongst children, and women as well as men. This requires to be addressed comprehensively, effectively, safely and sustainably, in ways that empower local communities.
2. **GOVT OF INDIA'S RICE FORTIFICATION SCHEME**: Large scale rice fortification production and distribution have been initiated in India starting from 2021, while a [3-year pilot scheme](#) in 15 districts in 15 states of India got initiated by Government of India earlier in 2019. Before the pilots could be initiated as per plan in all 15 states, or before pilots could be completed in 11 states where they were started, or before they were evaluated or the findings put out for expert scrutiny in the public domain, scaling up started happening unjustifiably, to 257 districts of the country by April 2022.
3. **CHHATTISGARH IS A FRONT-RUNNER IN FR PRODUCTION & DISTRIBUTION, WITHOUT ANY SCIENTIFIC BASIS**: Chhattisgarh has been a front-runner in this rice fortification program, for reasons that are unclear and even non-existent, especially given that other innovative holistic nutrition interventions are also ongoing in the state. The pilot initiative in Kondagaon was started in October 2020. 3 years have not yet been completed and no evaluation has been taken up. However, the largest proportion of fortified rice distribution in India ([25-45% per month](#)) is right now happening in Chhattisgarh and an inter-departmental steering committee headed by the Chief Secretary is at work to steer and streamline the rice fortification program (this does not seem to exist in other states at this time). Moreover, the state government is spending substantial budgets allocated for the purpose (about 45 crore rupees) and these are significantly higher than the allocations received by targeted micronutrient supplementation programs in the state. This appears to be happening under coercion from the Government of India.
4. **HEALTH DEPARTMENT MISSING IN ACTION**: The role of Department of Health & Family Welfare is unclear in Chhattisgarh too, like at the national level. Anaemia however

is a public health issue and not a matter of feasibility or logistics of FRK blending and supply of fortified rice led by Department of Public Distribution. Health, in turn, is a State Subject as per the Constitution of India.

5. **RICE FORTIFICATION IS NOT EFFICACIOUS – THERE ARE ALSO SAFETY ISSUES:** Rice fortification has not been found to be an effective strategy to tackle anaemia, neither in India nor in other places in the world. This is apparent from RTI replies from Union Health Ministry's agency, from published papers and credible reviews of published materials. While there are unanswered questions on efficacy, unjustifiable costs and irreversible changes in supply chains in this strategy, there are also serious questions related to safety and regulation of fortified rice for all citizens. There are statutory regulations notified by Food Safety and Standards Authority of India ([FSSAI regulations of 2018](#)) that have to be complied with by all Food Business Operators including agencies involved in government food schemes. Labels have to be clear, and should warn Thalassaemia patients to consume iron-fortified foods only under medical supervision, and Sickle Cell Anaemia patients not to consume such foods.
6. **CHHATTISGARH HAS HIGH DISEASE BURDEN OF CONTRA-INDICATED CONDITIONS:** Chhattisgarh state government has to be (more) concerned about the distribution of fortified rice to its citizens given the existing disease burden in the state, of Thalassaemia, Sickle Cell Anaemia, Malaria, Tuberculosis etc. No comprehensive screening exists of the former two medical conditions and micro-studies and screening projects on sickle cell disorders indicate positive results of around 9-10% (AS) of screened persons and sickle cell disease in about 0.2-0.6% (SS). It is estimated that at least 1.5 lakh persons are afflicted with SCD in the state. In one micro-study covering seven districts, thalassaemia carrier was found in about 18% of the screened population in 2014. Further, it is seen that around 18% of India's malaria cases are from Chhattisgarh alone in certain years. TB prevalence is also high, with around 32500-odd cases in 2021-22.
7. **MEDICAL REASONS EXIST FOR ADVISING AGAINST IRON-FORTIFIED FOODS:** Medical science suggests that in the case of SCD patients, the sickle shaped cells within red blood cells breakdown easily, releasing Iron in circulation; regular destruction of Red Blood Corpuscles (RBCs) results in the build-up of body stores of iron and may lead to liver damage. Fortified Rice adds on to the iron stores which cannot be used for Haemoglobin formation, thus potentially leading to iron overload and organ (liver, endocrine system, heart) damage. In Thalassaemia, frequent blood transfusion adds to Iron overload causing cardiac damage, liver fibrosis, reproductive problems, and growth retardation. Iron-fortified foods are contra-indicated here too.
8. **ADIVASIS ARE DISPROPORTIONATELY VULNERABLE IN THIS APPROACH:** While Adivasis constitute around 8.6% of India's total population, in Chhattisgarh, they constitute 30.6% of the population (Census 2011). There were at least 9 districts out of 18 districts at the time of Census 2011 in Chhattisgarh, where more than 40% of the total population was of adivasis. It is Adivasis who are more vulnerable to genetic disorders like SCDs and Thalassaemia, compared to other ethnic groups. It is also Adivasi communities, with multiple disadvantages and vulnerabilities thrust on them, who are highly dependent on their entitlements from government food schemes.

9. **KEY FINDINGS:** Against this backdrop, the following are the key findings:
- a. **Community Rejection Initially.** During the fact finding, at several places the team found that, communities initially rejected the fortified rice quite strongly. While some of this is linked to fears around “plastic rice”, some of it was lack of preference. In one location, it was adverse effects that made the community give up consumption of fortified rice. In Kondagaon field visit, the team found that PDS beneficiaries refused to buy the fortified rice for one month. This is being sought to be overcome by the state government by aggressive publicity about the virtues of fortified rice without any messages put out on contra-indications related to iron-fortified foods.
  - b. **FRK being discarded even now.** The fact-finding teams found that even now, a significant number of people avoid eating the FRK being mixed natural rice in the PDS supplies. There are at least 3 ways that the chemical fortificants are getting discarded – one, by hand-picking during cleaning stage where women are able to recognise the FRK by color and appearance; two, when the rice is soaked in water when FRK floats up, it is removed; three, when extra water is drained out after the rice is cooked. This is happening in beneficiaries’ homes as well as in anganwadis. This puts a question mark on the efficacy of this approach, apart from this being a clear violation of the WHO guidelines. Efficacy questions arise for other medical reasons also, as a perusal of published scientific literature shows.
  - c. **Adverse reactions reported after consumption of fortified rice.** During the visits, adverse physical reactions were also reported in some locations from some people. Stomach ache was the common complaint heard; however, it is unclear if fortified rice was the reason.
  - d. **Iron Fortified Rice being distributed indiscriminately and irresponsibly to unsuspecting and unknowing people.** There is indiscriminate distribution of fortified rice even to contra-indicated patients – here, multiple issues emerge. (i) there has been no comprehensive screening of the population to identify sickle cell disease persons and thalassemia patients. Therefore, the question of patients following any medical advisories does not arise; (ii) even the patients who have been identified as such have been consuming fortified rice since no one warned them against the same; (iii) in many cases, the patients have no choice other than eat the iron-fortified rice, given their poverty conditions; (iv) even if both fortified and non-fortified rice is supplied separately to each household, maintaining this distinction in the cooking practices of the household, where two types of rice are to be cooked each day may not be possible; (v) even if this is indeed put into place by over-worked women in the households where cooking food has been made their gendered responsibility, such choices don’t exist for contra-indicated persons in anganwadi and school meals.
  - e. **Non-Compliance to Statutory Food Safety Regulations.** The teams also found that statutory labelling regulations are being flouted with regard to iron-fortified rice. F+ logo was not always there, nor were warning statements stencilled and labelled in all cases. Moreover, labelling was incomplete, where it was present. Importantly, compliance to labelling regulations does not mean anything much for the end consumer in this case for various reasons – in Chhattisgarh, PDS dealers, anganwadis and schools are made to return back the gunny sacks in which the rice has been supplied for government food schemes. Such rice is transferred into any bag and container from that stage on and supplied bags are returned. From that stage on, labelling holds no meaning, in that sense. Further, end consumers get their supplies in loose, and not in packaged labelled manner. The poverty, literacy and knowledge

about contra-indicated conditions is such that even if all issues are addressed, patients may not be able to avoid fortified rice.

- f. **One-sided Incorrect Publicity by the Government**: The fact-finding teams found that potential benefits of fortified rice were amplified through the government agencies as wall-writings, posters, banners, newspaper advertisements etc; on the other side, the PDS dealers, anganwadi functionaries and health department functionaries were not told about fortified rice supplies and no warning statements put out. No prior informed consent was obtained from beneficiaries before such large-scale distribution began even though Right to Know Your Food and Right to Informed Choices are basic rights when it comes to something as critical as food.
- g. **Chhattisgarh Government is supplying more fortified rice per person than other states – Safety implications unstudied, unknown**: In Chhattisgarh, the PDS-based entitlements per person are higher than in other states, and all schemes (including PMGKAY) are right now supplying only fortified rice in the chosen districts. This could lead to iron over-dosing.
- h. **Layering of multiple interventions also leading to potential iron over-dosing**: Chhattisgarh also has other schemes which seek to address malnutrition apart from the fact that it is supplying more quantities of fortified rice to its citizens. This includes fortified Take Home Rations, which incidentally also have iron added. Further micronutrient supplementation programs are also underway. In certain districts, jaggery and channa are supplied in the PDS. There is no evaluation of all the interventions comprehensively, to check for risks of iron over-dosing of vulnerable populations.
- i. **Concerns and Reservations amongst Government Functionaries too**: It is noteworthy that the fact-finding teams have only encountered concerns and reservations expressed by various functionaries in the government, once detailed discussions on various aspects related to the intervention unfolded. The lack of debate and information about Rice Fortification is striking and disturbing.

10. **CHHATTISGARH HAS POTENTIAL FOR INNOVATIVE ALTERNATIVES TO BE USED FOR ADDRESSING NUTRITION**: It is noteworthy that Chhattisgarh has holistic innovative interventions undertaken by the government and district administrations. The Mukhya Mantri Suposhan Yojana is holistic, with the intervention having unit cost norms that are appropriate. NGGB and Godhan Nyay Yojana have the potential to improve human nutrition through improvements in soil nutrition and plant nutrition in addition to milk supply. Eggs and pulses included in the hot cooked meals is an additional approach. The Millets Mission is about to take off in the state. Traditionally, many nutritionally-superior landraces and farmers' varieties used to exist in Chhattisgarh, and investments should be made to revive these in fields and plates. Similar is the case of a plethora of uncultivated foods, including forest foods. Traditional processing technologies with improvements made to reduce drudgery can supply nutritious semi-polished grains and oils to the citizens. Yet, it is unclear why Chhattisgarh government, which is exhibiting the right policy approaches in several interventions is scaling production and distribution of fortified rice so rapidly.
11. **CONCLUSION AND KEY RECOMMENDATION**: Given the above concerns noted during this exploration and given that safe, effective, sustainable and community-controlled alternatives do exist to address malnutrition, ASHA and RTFC recommend that the Chhattisgarh government should not be coerced by the Government of India, and that the state government should immediately stop fortified rice distribution in the state.