

**CONCLUSIONS & RECOMMENDATIONS
OF
IRON FORTIFIED SALT DISTRIBUTION (IFSD)
THROUGH INTEGRATED CHILD DEVELOPMENT
SERVICES (ICDS) SCHEME IN CHHATTISGARH -
AN ASSESSMENT**

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Conclusions and Recommendations:

➤ **Prevalence of Anemia in Chattisgarh:**

There is high prevalence of anemia among women and children in the state of Chattisgarh as per the NFHS-2 data. The prevalence of any anemia (i.e. mild, moderate and severe) varies from 48.8% in childless women below 20 years to 95.6% in the age group of 12 to 23 months. Chattisgarh was then part of Madhya Pradesh. The details are given in **Annexure – 1**

➤ **Current status of National Nutritional Anemia Prophylaxis Programme in Chattisgarh:**

In Madhya Pradesh the percentage that received at least one Antenatal Check up was 61% while it dropped to 28.1% for those who received at least three (Compared to 65.4% & 43.8% respectively for India). Percentage that were given any Iron & Folic acid in Chattisgarh was 48.9% while percentage that received supply of iron and folic acid tablets or syrup for 3+ months is 38.4% only (Ref. NFHS – 2, 1998 - 99) (Compared to 57.6% & 47.5% for India). In tribal areas the figures are likely to be much lower.

➤ **Perception of Anemia as a priority health problem at all levels:**

In view of the high prevalence of anemia and the current status of implementation of the National Nutritional Anemia Prophylaxis Program in Chattisgarh, Director-cum-Secretary sated that other options were required to control anemia. The Deputy Director reinforced his statement. Therefore, a decision was taken to introduce Double fortified salt (Iron and Iodine) in the state since April 2003.

DFS reaches the tribal belt of Chattisgarh. Thus, it can prove to be a good vehicle to carry iron and help in reducing the prevalence of anemia along with the focus on effective implementation of supplementation measures. In addition, DFS has the advantage of providing required iodine to prevent and control Iodine Deficiency Disorders which are also an important public health problem in Chattisgarh.

➤ **Context of introducing Double Fortified Salt (DFS):**

Among the various indicators of health that were measured during the NFHS-2 survey, anemia among women and children was one of the key indicators. These findings were consistent with already well-known facts about anemia in these vulnerable groups. The prevalence of any anemia (i.e. mild, moderate and severe) varies from 48.8% in childless women below 20 years to 95.6% in the age group of 12 to 23 months. Chattisgarh was then part of Madhya Pradesh. The details are given in **Annexure – 1**

Taking into consideration all the constraints mentioned above in relation to predictors of iron deficiency anemia, various studies have been conducted by WHO, ICMR and many other organizations to show the prevalence of iron deficiency anemia among certain vulnerable sections of our rural society i.e. pregnant women, lactating mothers and children up to age of 6 years. To tackle this problem, under various National Programmes, tablets containing iron & folic acid have been tried as supplementation to these beneficiaries. However, it is not an uncommon finding that due to many reasons, religious or otherwise, women do not consume these tablets. Also children do not consume these tablets/syrups due to their taste and after effects.

The intention of distribution of DFS i.e. Iron+Iodine Fortified Salt was to provide iron and iodine in small quantities to these beneficiaries on a daily basis since salt is an ingredient that is used in all foods daily and is consumed by all in the family. DFS fortified with iron and iodine looks and tastes like normal edible salt and yet provides the daily iron and iodine requirements which are so important for our well being. The use of Double Fortified Salt on a regular basis in place of common salt is bound to result in improved well being, contributing to better health in people be they children, mothers or workers.

Taking into consideration all the above mentioned factors, fortification of salt with iron, a universally consumed dietary article, has been identified as a measure to control anemia. Efficacy of fortified salt in both rural and urban communities was assessed by a multi-centric study and revealed that iron fortified salt when consumed over a period of 12-18 months, reduced the prevalence of anemia significantly. Accordingly, fortification of salt with iron as a public health approach has been piloted in Tamil Nadu and Rajasthan.

The Integrated Child Development Services (ICDS) scheme was introduced on an experimental basis on 2nd October 1975 in 33 projects in the country. During the 6th five-year plan, it was included under the new 20 point programme and achieved the status of a National Programme. Currently, with its wide network, it covers nearly 80% of the country's development blocks and 273 urban slum pockets.

Iron Fortified Salt Distribution (IFSD) Scheme was launched by Chhattisgarh Government through ICDS. The distribution of Iron Fortified Salt (IFS) to the beneficiaries is carried out at the *Anganwadi* level and the supervision of their work is done by *Mukhya Sevikas*. The overall responsibility lies with the Child Development Project Officer, who is in charge of a project block.

The unanimous opinion of the two state level Programme Managers was that the scheme should definitely be continued because the intention of reducing the current prevalence of anemia among pregnant women, lactating mothers and under-6 years children was good and it was proving to be beneficial to the community.

Recommendations:

1. *The Government of Chattisgarh should make effort to improve the implementation of National Nutritional Anemia Prophylaxis Programme (NNAPP)*
2. *Chhattisgarh is probably the first state to introduce DFS through ICDS and their program has been in place for the last 3 years (April 2003). This demonstrates that there is a strong political commitment at the state level to have DFS programme for the ICDS beneficiaries. This is laudable. Every effort should be made to make it sustainable.*
3. *In view of the high prevalence of anemia among women and children in the state of Chhattisgarh, the distribution of Iron Fortified Salt can be one of the steps by the Government. It must be continued regularly without any interruption in the programme. To have the desired impact, it is essential that the targeted groups (ICDS beneficiaries) consume this salt regularly over a long period of time.*

➤ Issues related to procurement, transportation, storage & distribution:

The Women and Child Development Department, Govt. of Chhattisgarh has appointed Chhattisgarh Industrial Development Corporation as the agency to supply DFS to 146 projects in 16 districts. The supply of salt packets to the *Anganwadi* centers takes place once in every 3 months. The strategy adopted by the Government of Chhattisgarh since the year 2003 for the distribution of IFS from the *Anganwadi* center to the beneficiaries is THR (Take Home Ration). This takes place once in a month where all the food supplements such as cereals, oil, etc. are distributed to each beneficiary of ICDS. Every beneficiary of ICDS, be it a pregnant woman, nursing mother (for first six months after birth) or a child between 6 months and 6 years, at this time, also gets a DFS packet of 500 grams. Thus, depending on the total number of beneficiaries in a family, a family may get one, two, three or more packets per month. DFS provides iron at the rate of 1 milligram per gram of salt intake and also claims 100% absorption in comparison to the 10 - 40% absorption of iron through diet.

One concern was the inadequate and irregular reimbursement of transportation cost (the *Anganwadi* workers currently received Rs.25/- for 3 months) that was being borne by the *Anganwadi* workers to get the salt containing sacks to their respective centers and the inadequacy of salt that was supplied to the beneficiaries. They voiced the opinions of the *Anganwadi* workers and the community stakeholders on these issues.

When asked about transportation cost, all unanimously said that it was inadequate and some had not received it since a long time. This should change so that the scheme is not affected in any way. Another issue related to transportation was that the salt sacks were heavy and transportation was hence, difficult.

The response given by the Chairman and Managing Director of the Firm which supplies DFS was related more to the manufacture, supply and distribution of the salt packets. He described the working of the scheme in short. The scheme had been started three years back with the noble intention of reducing the prevalence of anemia in the vulnerable groups of the state of Chhattisgarh.

He also showed concern regarding the problems faced by the Anganwadi workers as also the beneficiaries of the scheme and said that his firm would do everything possible to cover the present lacunae.

➤ **Issues related to timely availability, quantity, use pattern, acceptability:**

The correct and timely receipt of the salt packets from the manufacturing firm and supply to the distribution centers, the storage at the centers and distribution of this product to the beneficiaries and the compliance of the beneficiaries are all monitored on a periodic basis by the CDPO and the *Mukhya Sevikas*. This is done by visiting the *Anganwadi* centers as well as carrying out visits to the homes of the beneficiaries. The CDPOs, *Mukhya Sevikas* and the *Anganwadi* workers maintain records of the same on a monthly basis.

When the interviews of the two State level Program Managers (Director-cum-Secretary and the Deputy Director) were taken, it was observed that their opinions matched as regards most of the issues related to the Iron Fortified Salt Distribution Scheme. According to them, the scheme was in place since 3 years and has been running smoothly except for some minor administrative hassles like transportation of the sacks containing salt, the allowance to be given to the Anganwadi workers for transportation, etc. which they were sure, could be taken care of.

They both agreed on the most important issue raised during the survey – adequacy of quantity of salt to the end-users. It was evident that the salt was inadequate since it was being utilized by the entire family and hence, the quantity should be increased.

The points raised by the beneficiaries of the scheme were slightly different. Their point of contention was that earlier when the scheme was started, the salt made their foods blackish in colour, leading to hesitation in using it. However, now there was no such problem. They were using it freely and unhesitatingly since they knew that this salt was beneficial to the health of their families. There were some who emphatically said that they were noticing improvement in the health of their families.

They also expressed that since their families were large, the quantity of salt was not adequate for a month and hence, they had to procure salt from outside to make up for the deficit. They also said that it was very essential that the quantity of Iron Fortified Salt being made available to them be increased in order to feel a significant difference in their health.

The Child Development Project Officer is an important link between the State level Program Managers and the community. All the 12 CDPOs reiterated that the scheme was in place in their respective blocks and that they monitored the scheme regularly.

The main issue was of quantity. They all felt that if the quantity is increased, the scheme will prove to be more beneficial and the consumption levels will increase. Their opinion was that the scheme should be continued for the welfare of the community.

The Mukhya Sevikas (ICDS Supervisors) had a similar story to tell. They stated that they had been carrying out the job of monitoring and supervision of this programme since the last three years and were in constant communication with their immediate superiors (CDPOs) and the Anganwadi workers as regards the smooth running of the scheme.

They stated that the scheme had begun in their respective blocks since last three years and slowly but surely, the beneficiaries were getting to know more about the benefits of using Iron Fortified Salt. This was proving to be good as the health of the people in the community seemed to be improving.

They agreed that this salt was helpful to the beneficiaries of the ICDS scheme but were of the opinion that this should be extended to other people in the community as well, especially adolescents and other females in the reproductive age group.

➤ **Reimbursement of travel costs to AWW**

When asked about transportation cost, all unanimously said that it was inadequate and some had not received it since a long time. This should change so that the scheme is not affected in any way. Another issue related to transportation was that the salt sacks were heavy and transportation was hence, difficult.

Recommendations:

- 4. Issues regarding the supply and distribution are constantly reviewed between the CDPO's, Mukhyasevikas and the Anganwadi workers. CDPOs and the Mukhyasevikas also make random visits during the distribution of DFS. It was found that the AWWs maintain a register for supply and distribution and ensures that the salt reaches all the beneficiaries. However so far samples*

have never been sent for checking of iron/iodine content by them. To ensure QA it is recommended that samples are sent on regular basis preferably on quarterly basis to an external agency for checking the content of iron / iodine. Consistency of the answers indicates that there is regular and good communication amongst them at all levels.

- 5. Although the community was initially apprehensive regarding the change in colour of the food cooked in IFS with better understanding of the beneficial effects of the salt it has gradually become acceptable to the community. Its present quantity however is inadequate. Each family has, on an average, 6-8 members. This salt, being used while cooking foods, is being consumed by all the members of the family and hence, is highly inadequate. It is recommended that the quantity be increased from the current 500 grams to at least 1 kilogram per beneficiaries per month so as to cover the salt requirements of the family.*
- 6. The manufacturer should be apprised of the perception of the beneficiaries about the discolouration of food and the manufacturer could explore measures for removing this effect. The apprehension of the beneficiaries can also be removed by ensuring sustained availability of IEC material to the AWW. A change in cooking practice by promoting sprinkling of the DFS after the actual cooking would also remove the discolouration of the cooked food.*
- 7. Transport Reimbursement: This should be done regularly and there should not be any delay in payments. May be it can be paid in advance. The amount should certainly be revised from Rs. 25/-. The details should be worked out depending upon the distance and mode of transport.*
- 8. To avoid the transportation cost problem, it is recommended that the Chhattisgarh State Industrial Development Corporation should not be involved as a third party. Instead, the Anganwadi workers may be reimbursed directly by the manufacturer. This step has to be carried out on a regular basis and the money may also be given in advance, if possible. The amount agreed upon for transportation is not adequate; this needs increment. For smooth operation of this facility, the Department may enter into a direct agreement with the Manufacturer.*

➤ **IEC issues at all level:**

There were no IEC activities being carried out so far related to this scheme nor were any IEC materials given to them. The Director-cum-Secretary, however, said that they received information regarding this through ICDS IEC material. The Anganwadi Workers reiterated that there were no IEC materials related to IFS and strongly recommended for them.

The responses of the Anganwadi workers were more elaborate since they could show the evidence through reports and they were accompanied by some of the beneficiaries from the community. According to them, the scheme was very good and beneficial. However, some beneficiaries did not know much about the importance of this salt and hence, IEC material was required to create awareness among them. Also, just like the other stakeholders, they also talked about the inadequate quantity of salt and suggested that it be increased.

When the beneficiaries were tested for the knowledge about the salt, most said that it had iron in it which helped to increase the blood levels in the body and prevent anemia. But, despite knowing the benefits of using Double fortified salt, this knowledge was not enough and IEC material was the need of the hour.

Despite the problems that the beneficiaries stated, they all said in one voice that DFS was acceptable to them and that it should be continued.

Recommendation:

9. *It has been seen during the survey that no IEC material has been distributed at the level of programme managers, CDPOs, Mukhya Sevikas and Anganwadi workers. This is essential to increase their awareness as well as to create awareness among the community stakeholders. While preparing the IEC material it will be vital to include the community's perception of the benefits of DFS as well as their concerns regarding the discolouration of the food after using DFS.*

10. *Sustained IEC involvement of Education and Tribal Welfare Department should also be explored.*

➤ **Need to have an impact study**

This study was a Rapid Assessment Survey. The survey was completed in a week's time. Because of time constraints, and the nature of the study, hemoglobin estimation could not be done during the survey to assess the impact of the DFS on beneficiary population. As a result, the current prevalence of anemia in the community could not be determined. In addition, urine samples could not be collected for estimation of urinary iodine levels.

Recommendation:

11. *There is need to have an impact study using clinical and laboratory indicators of anemia. The study protocol will depend upon the objectives, time required and financial resources.*

➤ **Quality Assurance (QA) of DFS**

The salt samples that were collected from the various Anganwadi areas and sent to National Institute of Nutrition, Hyderabad for testing of iron and iodine content in them conformed to the BIS standards and hence, proved to be useful for the beneficiaries.

Recommendation:

- 12. The laboratory reports have testified that all the salt samples collected during the survey and tested for iron and iodine content conformed to Bureau of Indian Standards.*
- 13. Majority of the samples were collected from the Anganwadis. This demonstrated good retention of both iron and iodine in salt at the Anganwadi level. Thus, the current DFS procured by the Government of Chattisgarh not only provided iron as per the specifications but also adequate quantity of iodine to the population which also has Iodine Deficiency Disorders as a public health problem.*
- 14. There is a need to carry out QA of DFS level at least every 3 months by an external agency.*

ANNEXURE – 1.

Prevalence of anemia in infants/children in Chattisgarh - Source NFHS – 2, 2000.

Anemia Variety/Age Group	6 -35 Months	6-11 Months	12- 23 Months	24-35 Months
Any anemia	87.7	85.4	95.6	80.2
Mild anemia	23.9	29.7	26.2	17.3
Moderate anemia	60.7	53.8	67.2	58.0
Severe anemia	3.1	1.9	2.2	4.9

Percentage of Childless Women Age below 20 years classified as having Iron Deficiency Anemia in Chattisgarh

Anemia category	Percentage
Any Anemia	48.8
Mild anemia	33.9
Moderate Anemia	13.9
Severe anemia	1.0

Anemia among Pregnant Women in Chattisgarh

Anemia category	Percentage
Any anemia	53.8
Mild anemia	21.9
Moderate Anemia	31.0
Severe anemia	0.9