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Project proposal for distribution of Iron & Folic acid medicines kit and awareness programs for prevention of anaemia in Uttar--Dinajpur district of West Bengal for the tribal women & girls.

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Anaemia is a global public health concern, afflicting adolescent girls, women of reproductive age, pregnant women and children in low- and middle-income countries. Reduction of anaemia is one of the World Health Assembly Global Nutrition Targets for 2025 and of the Sustainable Development Goals. Although some progress in reducing anaemia has been achieved, global progress isnot on track for reaching the 2025 target accorded by the World Health Assembly of a

50% reduction of anaemia in women of reproductive age.

This review was commissioned by the World Health Organization (WHO) to collate updates and share new resources for those seeking to implement anaemia reduction efforts worldwide. The purpose of the review is to help Member States and their partners in their efforts to understand and make informed decisions on the appropriate nutrition actions needed to prevent and control anaemias. The objective is to summarize and reference key information and resources that can be applied in these anaemia reduction efforts, including (i) the scope of factors associated with anaemia that should be addressed in the process of applying anaemia reduction efforts- both direct and indirect causes or factors found to be directly associated withanaemia; (ii) a compendium of efforts recommended and feedback from those working on anaemia reduction in different countries; and (iii) steps to consider in terms of priority and readiness in the path for anaemia reduction. This review is directed to a wide audience, including, but not limited to policy-makers, economists and technical and programme staff in ministries and organizations involved in the design, implementation and scaling-up of nutrition actions for public health.

In preparing this document, a desk review was conducted and is summarized here to highlight and provide references to research, guidelines, resources and tools that are relevant for anaemia reduction efforts. A “decision tree” is included, to assist countries through the process of identifying next steps in those efforts. In order to obtain feedback from countries at various stages of anaemia reduction efforts, virtual

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interviews and an online survey were implemented. Key informant interviews were conducted among researchers and government officials in select countries with high or low success in reducing national anaemia rates among women, and these reviews were analysed. A complementary online questionnaire was shared more broadly through the WHO list-serve.

The etiology of anaemia is complex, and successful anaemia reduction efforts must identify the major contributing factors, then develop and implement an evidence- based package of interventions, which usually implies a multisectoral response, in order to achieve effective results. Strategizing involves multiple iterative and feedbackloops; intersect oral approaches are also often needed, although they are likely to require changes in the way the health sector has worked in the past, to include open multi-stakeholder engagement and support.

Results from the qualitative interviews/surveys performed for this review show that better results in anaemia reduction were obtained in countries where programmes were premised on a multisectoral approach, with involvement of all sectors working synergistically. In fact, lack of knowledge about specific activities/indicators/ programmes or lack of/poor coordination between different programmes made it difficult to track anaemia reduction progress in all the different ministries and departments involved.

Empowerment of women, and sensitization of the general community and of men ongender equity would contribute to better outcomes in anaemia reduction. Leadership and coordination mechanisms for anaemia reduction are required at global, regional and community level.

Research is integral to supporting programmes, and investments need to be made in implementation research to ensure there is sufficient evidence to determine how bestto strengthen and maximize the effectiveness of anaemia-related interventions.

The evidence presented in this review clearly reiterates the critical importance of addressing anaemia from multiple perspectives and through multiple coordinated efforts, including multiple government sectors, nongovernmental organizations, United Nations agencies and the private sector - each with specific and complementary roles to accomplish in reducing anaemia.

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Anaemia is a major public health challenge in India. Yet, a comprehensive plan of action to combat this problem has been missing. There are certain existing guidelines for control of Iron Deficiency Anaemia with regard to children and pregnant women and lactating mothers. However, many critical age groups have been missing from this strategy. For instance, adolescents have received no attention so far. There have also been crevices by way of actual administration of IFA to children with several operational issues constraining the prescribed interventions.

The National Iron+ Initiative is an attempt to look at Iron Deficiency Anaemia comprehensively across all life stages including adolescents and women in reproductive age group who are not pregnant or lactating. The schedule of IFA supplementation has also been reviewed to make both administration and compliance much simpler. For children, 6 months to 5 years, there is now a bi-weekly schedule of IFA supplementation with ASHA being responsible for administering the prescribed dosage under her direct supervision. For children of class I to class V in Government/Government aided schools, there is a much simpler weekly schedule of IFA supplementation, under the supervision of teachers. Similarly, adolescents from class VI to class XII receive weekly IFA supplementation in school itself. For women in reproductive age group who are neither pregnant nor lactating, ASHA shoulders the responsibility of providing IFA supplementation.

Anaemia, a manifestation of under-nutrition and poor dietary intake of iron is a serious public health problem among pregnant women, infants, young children and adolescents. Data suggests that 7 out of every 10 children aged 6-59 months in India are anaemic. Three per cent of children aged 6-59 months are severely anaemic, 40 per cent are moderately anaemic, and 26 per cent are mildly anaemic. In fact the percentage of children with any anaemia increased from 74.3 per cent in NFHS-II to
78.9 per cent in NFHS-III.

India is among the countries with high prevalence of anaemia in the world. It is estimated that anaemia directly causes 20 per cent of maternal deaths in India and indirectly accounts for another 20 per cent of maternal deaths.

Reduction of anaemia is one of the World Health Assembly Global Nutrition Targets for 2025 (1) and of the Sustainable Development Goals (SDGs), along with reduction of stunting, wasting and overweight (2). Although some progress in reducing anaemia has been achieved, global progress is not on track for reaching the 2025 target

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accorded by the World Health Assembly of a 50% reduction of anaemia in women of reproductive age (1). The purpose of this review is to help Member States and their partners in their efforts to understand and make informed decisions on the appropriate nutrition actions needed to prevent and control anaemias. Evidence related to the success or lack of progress of anaemia-control programmes is presented, in order to provide guidance to decision- makers on how better to tailor their interventions according to the various causes of anaemia. This review is directedto a wide audience, including, but not limited to policy-makers, economists and technical and programme staff in ministries and organizations involved in the design, implementation and scaling-up of nutrition actions for public health. It is intended to contribute to discussions among stakeholders when selecting or prioritizing interventions to be undertaken in their specific context.

The goal is to highlight the potential for combined interventions to optimize anaemia reduction efforts and close the gaps toward achieving the global targets. Information brought together in this review includes research that was not available at the time of setting the anaemia target in 2012, some of which will provide awareness of whetherit is achievable for all countries to reduce anaemia by 50% among women of reproductive age (15–49 years) by 2025.

The first part of this review compiles multiple resources developed to assist in anaemia reduction efforts and analyses the causes and consequences of anaemia, as well as interventions needed to address anaemia, considering some frequently underestimated environmental and socioeconomic domains. The following section includes a landscape analysis of available anaemia programmes to help with selectionand implementation of the optimal combination of interventions to reduce anaemia.

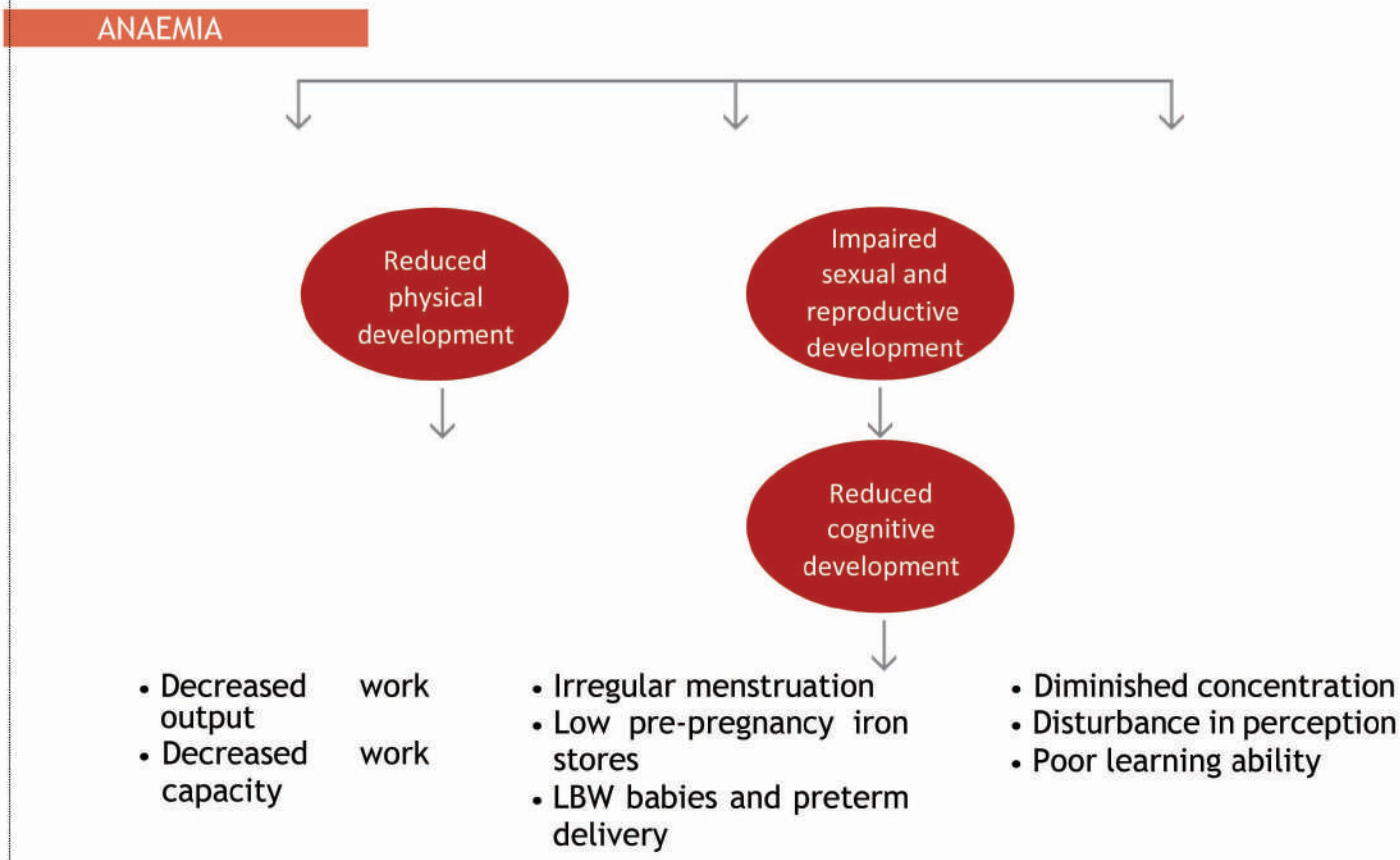
Finally, a qualitative analysis to identify country-relevant barriers and enablers in anaemia reduction efforts is presented. To obtain detailed feedback, key informants were approached from countries with the most improvements or most difficulties with their efforts to reduce anaemia.

What is Anaemia?

Anaemia is a condition in which the number of red blood cells (RBCs), and consequently their oxygen-carrying capacity, is insufficient to meet the body's physiological needs. **The function of the RBCs is to deliver oxygen from the lungs to the tissues and carbon dioxide from the tissues to the lungs. This is accomplished by using haemoglobin (Hb), a tetramer protein composed of haem and globin. Anaemia impairs the body's ability for gas exchange by decreasing the number of RBCs transporting oxygen and carbon dioxide.** Anaemia results from one or more of the following process: defective red cell production, increased red cell destruction or bloodloss. Iron is necessary for synthesis ofhaemoglobin. Iron deficiency is thought to be the most common cause of anaemia globally, butother nutritional deficiencies (including folate, vitamin B12 and vitamin A), acute and chronic inflammation, parasitic infections, and inherited or acquired disorders that affect Hb synthesis,red blood cell production or red blood cell survival can all cause anaemia. Iron deficiency anaemia results in impaired cognitive and motor development in children and decreased workcapacity in adults (Figure 1.1). The effects are most severe in infancy and early childhood. Inpregnancy iron

deficiency anaemia can lead to perinatal loss, prematurity and low birth weight (LBW) babies. Iron deficiency anaemia also adversely affects the body's immune response.

Adverse effects of anaemia



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Haemoglobin levels to diagnose anaemia (g/dl)

Age groups	No Anaemia	Mild	Moderate	Severe
Children 6-59 months of age	≥11	10-10.9	7-9.9	<7
Children 5-11 years of age	≥11.5	11-11.4	8-10.9	<8
Children 12-14 years of age	≥12	11-11.9	8-10.9	<8
Non-pregnant women (15 years of age and above)	≥12	11-11.9	8-10.9	<8
Pregnant women	≥11	10-10.9	7-9.9	<7
Men	≥13	11-12.9	8-10.9	<8

Source: Haemoglobin concentration for the diagnosis of anaemia and assessment of severity. WHO

Aetiology of Anaemia

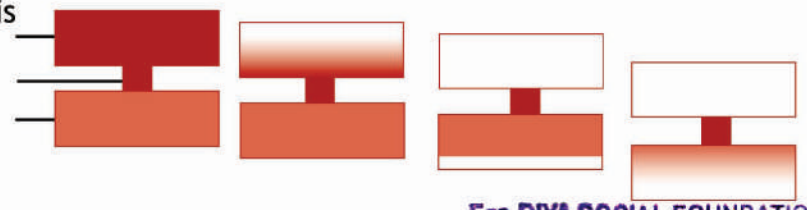
The commonest causes of anaemia in developing countries, particularly among the most vulnerable groups (pregnant women and preschool age children), are nutritional disorders and infections. Hence the causes of anaemia could be segregated as nutritional and non-nutritional, underscoring the aetiological importance of dietary deficiency as the major causative factor.

Iron deficiency

Iron status can be considered as a continuum from iron deficiency with anaemia, to iron deficiency with no anaemia, to normal iron status with varying amounts of stored iron, and finally to iron overload which can cause organ damage when severe. Iron deficiency is the result of long-term negative iron balance. Iron deficiency anaemia (IDA) should be regarded as a subset of iron deficiency, that is, it represents the extreme lower end of the distribution of iron deficiency.

Storage iron Transport iron RBC iron

Normal Iron depletion
Iron deficient erythropoiesis



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Iron deficiency adversely affects

- The cognitive performance, behaviour and physical growth of infants, preschool and school-age children;
- The immune status and morbidity from infections of all age groups;
- The use of energy sources by muscles and thus the physical capacity and work performance of adolescents and adults of all age groups.

Iron requirements are highest for pregnant women -1.9 mg/1,000 Kcal of dietary energy in the second trimester and 2.7 mg/1,000 Kcal in the third trimester. These are followed by iron requirements in infants (1.0 mg), adolescent girls (0.8 mg), adolescent boys (0.6 mg), non-pregnant women (0.6 mg), preschool and school age children (0.4 mg), and adult men (0.3 mg).

Iron deficiency is a consequence of:

- Decreased iron intake
- Increased iron loss from the body
- Increased iron requirement

Iron requirements increase during the period of active growth in childhood, especially from 6 months to 3 years. In infancy, iron deficiency is most often the result of lack of exclusive breast feeding and use of unsupplemented milk diets which contain inadequate amounts of iron. Milk products are very poor sources of iron and prolonged breast or bottle feeding of the infant without complementary feeds after 6 months of age frequently lead to iron deficiency unless there is iron supplementation. Iron requirements are proportionately greater in premature and underweight babies. In older children, a predominantly milk and cereal based diet and food fads can also lead to IDA. Blood loss during menstruation and increased iron requirements during pregnancy and lactation predispose women to poor iron stores. Traditionally, the Indian housewife eats last, after all male members and children have eaten and in many families, the women eat only the leftovers. Hence, even though the food prepared for the family is the same, women are more prone to develop IDA than other members of the family.

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Other micronutrient deficiencies

Vitamin B12 is necessary for the synthesis of RBCs and its deficiency has been associated with megaloblastic anaemia. Diets with little or no animal protein, asis often the case in our country, coupled with malabsorption related to parasitic infections of the small intestine, might result in Vitamin B12 deficiency and anaemia.

Folic acid is also essential for the formation and maturation of RBCs and is necessary for cell growth and repair. Deficiency of folate reduces the rate of DNA synthesis with consequent impaired cell proliferation and intramedullary death of resulting abnormal cells; this shortens the lifespan of circulating RBCs and results in anaemia.

Helminthic infestation

Helminths such as hookworm and flukes cause chronic blood loss and consequently iron loss from the body, resulting in the development of anaemia. A hookworm burden of 40–160 worms (depending on the iron status of the host) is associated with IDA.

Malaria

Malaria, especially by the protozoa ***Plasmodium falciparum*** and vivax, causes anaemia by rupturing RBCs and suppressing production of RBCs. Decreased RBC production results from marrow hypoplasia seen in acute infection. ***Plasmodium falciparum*** is the primary cause of severe malaria in regions where malaria is endemic. Malarial anaemia can cause severe morbidity and mortalityespecially in children and pregnant women infected with ***Plasmodiumfalciparum***. Malaria in pregnancy increases the risk of maternal anaemia, stillbirth, spontaneous abortion, LBW and neonatal deaths.

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Sickle cell disease and thalassemia

Sickle cell disease is an inherited disorder of Haemoglobin. It is among the most common genetic diseases in the world and results in recurrent hemolytic anaemia. Thalassemia is one of the major haemoglobinopathies among the population all over the world. It is caused due to decreased or negligible amount of globin chain of Haemoglobin. About 10 per cent of the world's thalassemia patients belong to the Indian subcontinent and 3.4 per cent of them are carriers. In India, about 32,400 infants are born with haemoglobinopathies every year1.

Infections

Certain chronic diseases, such as cancer, HIV/AIDS, rheumatoid arthritis, Crohn's disease and other chronic inflammatory diseases, can interfere with the production of RBCs, resulting in chronic anaemia. Kidney failure can also cause anaemia.

Women: Causes of Nutritional Anemia

- Insufficient quantity of iron-rich foods and "iron enhancers" in the diet (foods rich in vitamin C such as citrus fruits), and low bioavailability of dietary iron (e.g., foods containing only Non-haem iron)
- Excessive quantity of "iron inhibitors" in diet, especially during mealtimes (e.g., tea, coffee; calcium-rich foods)
- Iron loss during menstruation
- Poor iron stores from infancy, childhood deficiencies and adolescent anemia
- Iron loss from post-partum haemorrhage
- Increased iron requirement due to tissue, blood and energy requirements during pregnancy
- Teenage pregnancy
- Repeated pregnancies with less than 2 years' interval
- Iron loss due to parasite load (e.g., malaria, intestinal worms)

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Children: Causes of Nutritional Anemia

- Low iron stores at birth due to anemia in mother
- Non-exclusive breastfeeding
- Too early introduction of inappropriate complementary food (resulting in diminished breast milk intake, insufficient iron intake, and heightened risk of intestinal infections)
- Late introduction of appropriate (iron-rich) complementary foods
- Insufficient quantity of iron and iron enhancers in diet, and low bioavailability of dietary iron (e.g. non-haem iron)
- Increased iron requirements related to rapid growth and development during infancy and childhood
- Iron loss due to parasite load (e.g. malaria, intestinal worms)
- Poor environmental sanitation, unsafe drinking water and inadequate personal hygiene

Impact of Anaemia on Health Outcomes

Anaemia has major consequences on human health as well as social and economic development. Anaemia is the world's second leading cause of disability and is responsible for about 1 million deaths a year, of which three- quarters occur in Africa and South-east Asia. In terms of lost years of healthy life, Iron Deficiency Anaemia causes 25 million cases of Disability Adjusted Life Years (DALYs); this accounts for 2.4 per cent of the total DALYs worldwide. In the World Health Organisation (WHO)/World Bank rankings, IDA is the third leading cause of DALYs lost for females aged 15-44 years. Physical and cognitivelosses due to IDA cost developing countries up to 4.05 per cent loss in gross domestic product (GDP) per annum, thereby stalling social and economic development. When results are expressed as a percentage of GDP these losses are 1.18 per cent of GDP in India. In absolute dollar terms, the losses in South Asia are staggering: close to $4.2 billion annually in Bangladesh, India and Pakistan.

In young children, iron deficiency is due to increased iron requirement during periods of rapid growth, which are almost 10 times higher per kilogram of body weight than that of an adult male. In addition, infant and toddler diets are often

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poor in bio-available iron, particularly post- weaning. Children who suffer from anaemia have delayed psychomotor development and impaired performance; in addition, they experience impaired coordination of language and motor skills, equivalent to a 5–10 point deficit in intelligence quotient. Even though retarded psychomotor and cognitive development may be subtle in an individual child and therefore not really a presenting symptom as such, there is increasing evidence that marked iron deficiency can cause significant central nervous system (CNS) damage even in the absence of anaemia. There seems to be a vulnerable period for these damages particularly between 9 and 18 months of age. An even more important issue is that some research has suggested that thisdamage may not always be reversible even when iron stores are corrected in the early stages of iron deficiency.

The consequences of anaemia in women are enormous as the condition adversely affects both their productive and reproductive capabilities. Among women, iron deficiency prevalence is higher than among men due to menstrualiron losses and the extreme iron demands of a growing fetus during pregnancies, which are approximately two times the demands in the non-pregnant state. Worldwide, it is estimated that about 20 per cent of maternal deaths are caused by anaemia; in addition, anaemia contributes partly to 50 percent of all maternal deaths. First, anaemia reduces women's energy and capacity for work and can therefore threaten household food security and income. Second, severe anaemia in pregnancy impairs oxygen delivery to the foetus and interferes with normal intra-uterine growth, resulting in intra- uterine growth retardation, stillbirth, LBW and neonatal deaths. Therefore, anaemia is a major contributor to poor pregnancy and birth outcomes in developing countries as it predisposes to premature delivery, increased perinatal mortality and increased risk of death during delivery and postpartum.

Action Plan of DIYA SOCIAL FOUNDATION to Eliminate Anaemia Completely

An anaemia supplementation programme across the life cycle is proposed in which beneficiaries will receive iron and folic acid supplementation irrespectiveof their iron/Hb status. The age-specific interventions are based on WHO recommendations, synthesis of global evidence on IFA (IRON AND FOLIC ACID) supplementation and the recommendations of national experts.

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IFA (IRON AND FOLIC ACID) supplementation programme and service deliveryHEALTH WORKERS to be suitably incentivized for provision IFA (IRON AND FOLIC ACID) supplements to beneficiary

Age group	Intervention/Dose	Regime	Service delivery
6-60 months	1ml of IFA (IRON AND FOLIC ACID) syrup containing 20 mg of elemental iron and 100 mcg of folic acid	Biweekly throughout the period 6-60 months of age and de- worming for children 12 months and above.	Through Health Worker & Campaign
5-10 years	Tablets of 45 mg elemental iron and 400 mcg of folic acid	Weekly throughout the period 5-10 years of age and biannual de-worming	In school through teachers and for out-of- school children collaboration with Anganwadi centre (DIYA SOCIAL FOUNDATION HEALTH AWARENESS CAMP) Mobilization by health worker
10-19 years	100 mg elemental iron and 500 mcg of folic acid	Weekly throughout the period 10-19 years of age and biannual de-worming	In school through teachers and for those out-of-school through DIYA SOCIAL FOUNDATION HEALTH AWARENESS CAMP Mobilization by Health worker
Pregnant and lactating women	100 mg elemental iron and 500 mcg of folic acid	1 tablet daily for 100 days, starting after the first trimester, at 14-16 weeks of gestation. To be repeated for 100 dayspost-partum.	Through Health Worker & Campaign
Women in reproductive age (WRA) group	100 mg elemental iron and 500 mcg of folic acid	Weekly throughout the reproductive period	Through health worker during house visit for contraceptive distribution

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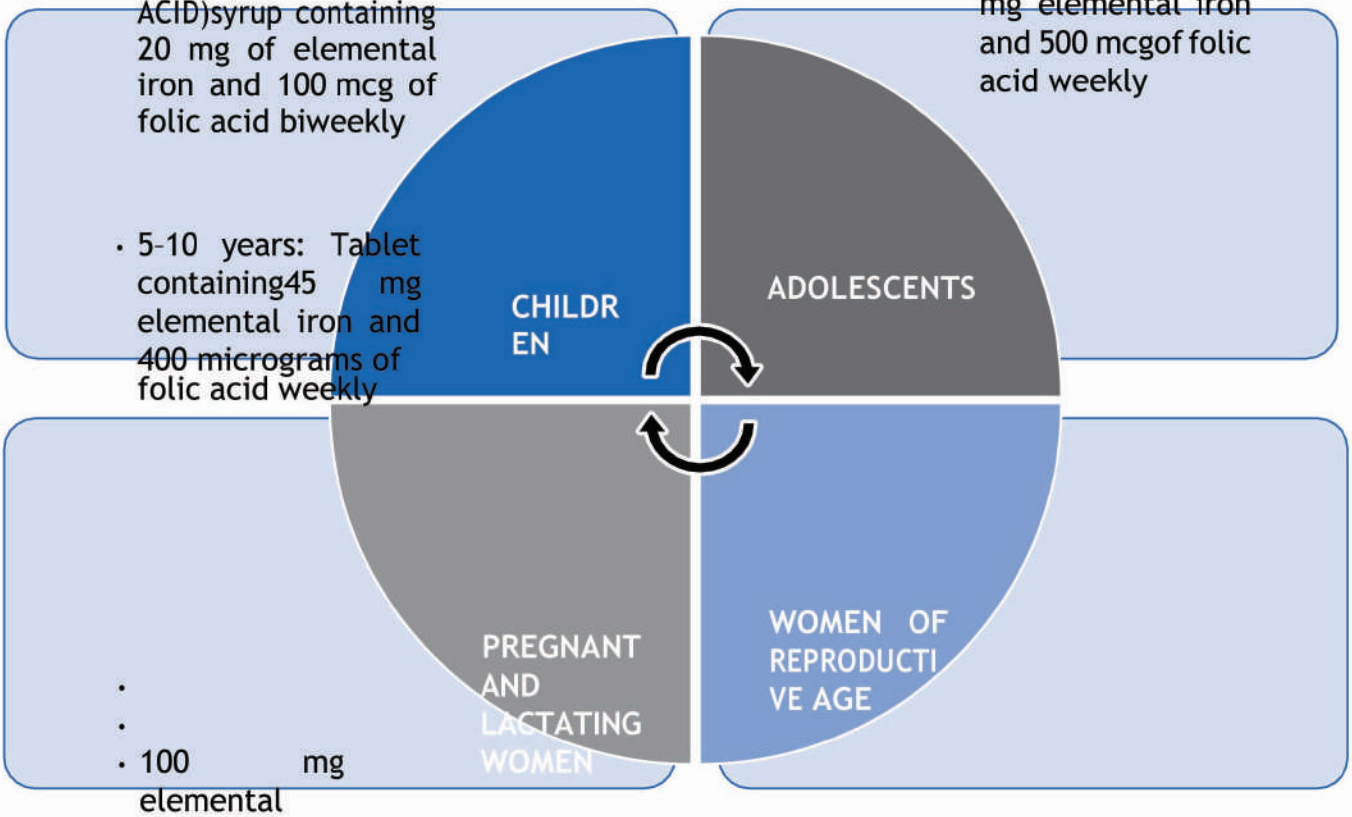
IFA (IRON AND FOLIC ACID) supplementation programme

- 6-60 months: 1 ml of IFA (IRON AND FOLIC ACID)syrup containing 20 mg of elemental iron and 100 mcg of folic acid biweekly
- 5-10 years: Tablet containing45 mg elemental iron and 400 micrograms of folic acid weekly



- 10-19 years: 100 mg elemental iron and 500 mcgof folic acid weekly

- 100 mg elemental iron and 500 mcg of folic acid daily for 100 daysin pregnancy
- Followed by similar dose of IFA (IRON AND FOLIC ACID) supplementation for 100 days in post-partum period

- 100 mg elemental iron and 500 mcg of folic acid weekly

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Overview of Implementation Modalities for IFA (IRON AND FOLIC ACID)Supplementation for Each Target Segment

Supplementation for Children 6-60 months

The onset of anaemia in young children is generally after 6 months of age. Before this, iron in breast milk is sufficient to meet the needs of a breastfed child. Iron from breast milk is also in a form that is more easily bio-available to the young child. Thereafter the incidence of anaemia increases from 6-8 months till the child is 1 year old. In India, diets for children in the age group 6-23 months are predominantly plant-based and provide insufficient amounts of micronutrients to meet the recommended nutrient intakes.

The following intervention is proposed for this target segment.

Dose and Regime

One ml of IFA (IRON AND FOLIC ACID) syrup containing 20 mg of elemental ironand 100 mcg of folic acid biweekly for 100 doses in a year. Iron folic acid supplements will be supplied in bottles of 100 ml each and composition, preparation, dose and duration of IFA (IRON AND FOLIC ACID) supplementationwill remain same as the existing guidelines. The bottles should have an auto- dispenser so that only 1 ml of syrup will be dispensed at a time.

Dosage of Albendazole tablets for biannual de-worming

Age	Dose (Albendazole 400 mg tablet)	Appropriate administration of tablets to children between the ages of 1 and 3 years is important. The tablet shouldbe broken and crushed between two spoons, then safe water added to help administer the drug
1-2 years	Half tablet	
2 years upwards	One tablet	

Note: Prophylaxis with iron should be withheld in case of acute illness (fever, acute diarrhoea, pneumonia etc.), Severe Acute Malnutrition (SAM) and in a known case of haemoglobinopathy/history of repeated blood transfusion.

Implementation

For all children aged 6 to 60 months it is proposed that IFA (IRON AND FOLIC ACID) supplement will be administered under the direct supervision of an NOC Foundation health worker on fixed days on a biweekly basis. The micro plan forreaching out to these children can be worked out at village level. It is recommended that a particular child should receive the supplement on the fixed

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day (Monday and Thursday), though it can vary for the groups of children depending on the home visits schedule prepared at block/district level. The nutritional status of children should be assessed by MUAC (Mid Upper Arm Circumference less than 11.5 cm) to ensure that IFA (IRON AND FOLIC ACID) syrup is not given to children with Severe Acute Malnutrition (SAM).

HEALTH WORKERS would give IFA (IRON AND FOLIC ACID) syrup bottles to mothers for safe storage and to lessen the logistic hurdle of carrying bottles around, but the IFA (IRON AND FOLIC ACID) syrup will be administered under her direct supervision only. During the visits, the HEALTH WORKERS will also advise/inform the caregiver about the following issues:

- Time of administration - half an hour after food if the child has been breastfed (in LBW infants)/fed semisolid/solid food
- Benefits of regular intake of IFA (IRON AND FOLIC ACID) syrup in physical and cognitive development of the child e.g. improvement in well-being, attentiveness in studies and intelligence etc.
- Minor side effects associated with IFA (IRON AND FOLIC ACID) administration such as black discoloration of stools.
- Preservation of IFA (IRON AND FOLIC ACID) bottle - in a cool and dark place, away from reach of children, keeping the lid of the bottle tightly closed each time after administration, etc.

Supplementationfor Children5 (61 monthsonward)-10 years

Iron deficiency during childhood is often caused by inadequate dietary intake, absorption or utilisation of iron, increased iron requirements during the growth period, or blood loss due to parasitic infections such as malaria and soil- transmitted worm infestations.

The following intervention is proposed for this age group.

Dose and Regime

Tablets containing 45 mg of elemental iron and 400 mcg of folic acid would be given once a week throughout the 5-10 years period. In addition to IFA (IRON AND FOLIC ACID) supplements, Albendazole (400 mg) tablets for de-worming are to be administered twice a year for anti-helminthic treatment

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Note: Prophylaxis with iron should be withheld in case of acute illness (fever, acute diarrhoea, pneumonia etc), severe acute malnutrition and in a known case of haemoglobinopathy/history of repeated blood transfusion.

Implementation

The platform of school and **DIYA SOCIAL FOUNDATION** AWARENESS CAMP would be utilised to provide IFA (IRON AND FOLIC ACID) supplementation and de-worming tablets to children in the age group 5-10 years throughinvolvement of teachers and **DIYA SOCIAL FOUNDATION** health workers

Other measures to prevent anaemia in children

Besides the provision of micronutrient supplements, the following measures need to be taken simultaneously as long-term measures to prevent IDA in children:

- Promotion of exclusive breastfeeding for the first 6 months of life
- Appropriate and adequate complementary feeding with iron rich foodstill 2 years of age
- Dietary diversification to include foods rich in absorbable vitamins and minerals
- Diagnosis and control and treatment of parasitic infections

Weekly Iron and Folic Acid Supplementation (WIFS)Programme for Adolescent Girls and Boys (10-19 Years)

Adolescents (age 10-19 years) are at high risk of iron deficiency and anaemia due to accelerated increase in requirements for iron, poor dietary intake of iron,high rate of infection and worm infestation as well as the social norm of early marriage and adolescent pregnancy. During this stage the requirement of nutrition and micronutrients is relatively high. Therefore, adolescents, especially girls, particularly those between the ages of 12-15 years, are vulnerable to iron deficiency mainly because requirements are at a peak. Evidence from many countries across the globe suggests that a weekly IFA (IRONAND FOLIC ACID) supplement is as efficacious as daily supplements with a muchlower rate of side effects.

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For this target segment the following interventions are proposed:

- Administration of supervised weekly IFA (IRON AND FOLIC ACID) supplementation (100 mg elemental iron and 500 mcg folic acid) throughout the calendar year, i.e., 52 weeks each year
- Albendazole (400 mg) tablets for biannual de-worming for helminthic control
- Screening of target groups for anaemia and referring these cases to an appropriatehealth facility
- Information and counselling for improving dietary intake and for taking action for prevention of intestinal worm infestation

Implementation modalities for WIFS (Weekly Iron and Folic Acid Supplementation)

The WIFS programme will be implemented in urban and rural areas for adolescent boys and girls in school (10-19 years) through the platform of Government/Government aided/ municipal schools. WIFS will also reach out- of-school girls in the age group 10-19 years through the platform of **DIYA SOCIAL FOUNDATION**.

The strategy involves a "fixed day - Monday'' approach for IFA (IRON AND FOLICACID) distribution. Teachers and health worker will supervise the ingestion of the IFA (IRON AND FOLIC ACID) tablet by the beneficiaries.

Pregnant Women and Lactating Mothers

Iron and folic acid tablets are being distributed through our -centres, andawareness camp we can also conduct home visit campaign.

Dose and regimen

IFA (IRON AND FOLIC ACID) supplementation (100 mg elemental iron and 500 mcg of folic acid) every day for at least 100 days, starting after the first trimester,at 14-16 weeks of gestation followed by the same dose for 100 days in post- partum period. Nutrition counselling is being provided during antenatal/postnatal check-ups and during monthly Village Health & Nutrition Day (VHND) to pregnant women and lactating mothers.

In addition to this, all women in the reproductive age group in the pre- conception period and up to the first trimester of the pregnancy are advised tohave 400 mcg of folic acid tablets to reduce the incidence of neural tube defectsin the foetus.

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Women in Reproductive Age Group (WRA) (15-45 Years)

Women of reproductive age are at increased risk of anaemia because of chroniciron depletion during the menstrual cycle, inadequate dietary intakes and recurrent infections. Given the intensity of the problem in the country, intermittent IFA (IRON AND FOLIC ACID) supplementation to all menstruating women would be a cost effective strategy to build up iron stores and prevent anaemia.

The following intervention is proposed for them:

- IFA (IRON AND FOLIC ACID) supplementation (100 mg elemental iron and 500 mcg of folic acid) throughout thecalendar year, i.e., 52 weeks, each year
- Albendazole (400 mg) tablets for biannual de-worming for helminthic control

HEALTH WORKERS to distribute IFA (IRON AND FOLIC ACID) supplements to women in reproductive age group during doorstep distribution of contraceptives.

Note: All health facilities to have adequate supply of IFA (IRON AND FOLIC ACID) supplementsfor WRA.

NEED OF THIS PROJECT

As enumerated in earlier chapters the following are a few areas where the non-governmental agencies can intervene and supplement the efforts of the governmentin the context of developing health sector.

a. National programme on mother, child care, immunisation.
b. Primary health care and prevention of communicable diseases.
c. Mobile clinics for slum care.
d. Mobile first aid and trauma care.
e. Field publicity campaigns on family planning, health and hygiene.
f. Training centres for nurses and paramedical staff.
g. Counseling cum post treatment care centres for drug and psychotrophic substance abuse.

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PROJECT METHODOLOGY

This project is proposed to set up a mobile clinic for attending the health care of slumdwellers and it will have the following elements of approach

a. Weekly clinics
b. Home visits by health workers
c. primary health care and pre-natal and post-natal mother and child care
d. growth monitoring of children through parent retained cards
e. Treatment to common childhood illness, preventive measures and immunization.
f. Referral services

Further, strong emphasis will be laid on preventive care. Safe drinking water, proper disposal of human waste, personal hygiene and oral rehydration are given due propaganda to prevent communicable diseases.

Project objectives

The basic objective of this scheme is to,

- Develop and implement a community based, low cost primary health care programme formothers and children supported by referral services.
- Organise effective action oriented health workers who will initiate and manage mother and childhealth programme.
- Train the health workers for the community.

Project components

a. Identification and training of health workers
b. Setting-up mobile health clinic with basic facilities, emergency care
c. organising weekly health camps
d. home visits by health workers
e. Ante-natal, and post-natal services.
f. Family planning and free distribution of contraceptive pills.
g. Treatment to common childhood illnesses, preventive measures
h. immunisation camps
i. Awareness programmes on sanitation and health care.

Salient features

a. Child care through distribution of parent retained cards to each mother and monitoring the growthof the child periodically
b. Regular home visits by trained health workers
c. Special emphasis on prevention of communicable diseases through awareness on safe drinking water, proper disposal of human waste, personal hygiene and oral rehydration.
d. Free distribution of Iron and Folic Acid Syrup & pills for women and Children's, in their age Category.

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AREA OF WORK (GEOGRAPHICAL AREA)

For the implementation of project, we have selected **West Bengal.**

S. No.	States	Area/ Districts
1	West Bengal.	1.Uttar Dinajpur

BUDGETING

The total cost of the project including all type of funds for full program.

S. No.	Area	Block
1	1. Uttar Dinajpur	1.Chopra,2.Islampur,3.Goalpokhar - I,4.Goalpokhar - II, 5.Karandighi,6.Raiganj,7.Hemtabad,8.Kaliaganj, 9.Itahar.
		Total Blocks in all these Districts

Sl.	Description	Cost per unit (in Rs.)	Total
A)	**Key Programmes**		
1.	**Distribution Of IFC (Iron and Folic Acid syrup & Tabs.)** as per the schedule.		
2.	**Poster and Wall painting** **Per 1 District Per Month**	30000 X 1 Approx	30,000
3.	**Women Awareness camps** **Per 1 District per Month**	20000 X 1	20,000
4.	**Nukad & Natak programmes** **Per 1 District Per month**	100000 X 1	1,00,000
	Health Worker & Other Team... Member (for implementation of Projects for 1 District)	150000 X 1	1,50,000
Total cost			3,00,000
	Total cost for Uttar Dinajpur		2,70,0000

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S. No	Heads	Unit Cost	Total 1st Year
A	**Human Resource**		
A. 1	Project Manager	35,000.00	420,000.00
A. 3	Social worker (Full Time)	15,000.00	180,000.00
A. 4	Pharmacist (Full Time)	15,000.00	180,000.00
A. 3	Account & Admin (Part Time)	8,000.00	120,000.00
A. 4	Community Health worker (2)	20,000.00	240,000.00
	Total (A)		**1,140,000.00**
B	**Transportation Cost**		
B. 1	Transportation Cost @2500per visit	5,000.00	1,80,000.00
B. 2	Staff conveyance through other mode	25,000.00	3,00,000.00
	Total (B)		4,80,000.00
C	**Administration Cost**		
C. 1	1 Desktop or Laptop with printer	50,000.00	50,000.00
C. 2	Communication	1,500.00	18,000.00
C. 3	Stationery	30,000.00	3,60,000.00
C. 4	Audit fee	30,000.00	30,000.00
	Total (C)		4,58,000.00
D	**Program Delivery**		
1	**Cost of Centre**		

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1.1	Rent & Electricity	15,000.00	180,000.00
1.2	One time set up cost (Furniture Equipment)	1,40,000.00	1,40,000.00
1.3	Medicine kit (Iron and Folic Acid Tabs & syrup)	3,500,000.00	3,500,000.00
	Sub total		3,820,000.00
2	**Behavior Change Communication**		
2.1	Awareness campaign (1 event per month per Block)	...	1,600,000.00
2.3	IEC Materials, Posters, Banners, Pamphlets , wall writings etc.	...	1,800,000.00
	Subtotal		3,400,000.00
3	**Capacity Building**		
3.1	Orientation trainings /refresher trainings	1,00,000.00	1,200,000.00
	Sub Total		1,200,000.00
4	**Community Mobilisation**		
4.1	25 community meetings in eachvillage at initial stages	....	2,800,000.00
4.2	VHSC meeting on monthlybasis	500.00	60,000.00
	Sub Total (D)		2,860,000.00
E	**Situational analyses & Evaluation**		
E.1	Situational Analyses & Evaluation		1,250,000.00
	Total (E)		1,250,000.00
F	**Documentation**		

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F.1	Documentation		5,00,000.00
	Total (F)		5,00,000.00
	Sub Total (A+B+C+D+E+F)		1,49,08,000.00
	Grand Total		1,49,08,000.00

OPERATIONAL DEFINITION OF KEY TERMS

- Awareness means alertness or knowledge about health and hygiene among women and elementary school children.
- Health means a state of complete physical, mental and social well- being and notmerely the absence of disease or infirmity.
- Hygiene means practices that prevent spread of diseases and its infections.
- Elementary School Children are the students who are studying from first standardto eighth standard in the coastal villages and towns.

PROJECT IMPACT

The following objectively verifiable indicators marks the achievement of the project.

- Comparison of pre-development and post-development scenario.
- Increased level of awareness amongst the beneficiaries about the programme.
- Increased participation.
- Increased community action.

Marked improvement in health and hygiene awareness of the society.

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TIMELINE

Months	1 June'23	2 July'23	3 Aug'23	4 Sept'23	5 Oct'23	6 Nov'23	7 Dec'23	8 Jan'24	9 Feb'24	10 Mar'24	11 Apr'24	12 May'24	13 June'24
Proposal submission, approval, and receipt of	■	■											
Hiring and Training		■	■										
Distribution of medicine			■	■	■	■	■	■	■	■	■	■	
Nukkad Natak			■	■	■	■	■	■	■	■	■	■	
Health & Hygiene Awarene ss			■	■	■	■	■	■	■	■	■	■	
Poster and wall			■	■	■	■	■	■	■	■	■	■	
Monitoring and			■			■			■			■	
Reporting				■			■			■			■

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