



Government of Karnataka

DISTRICT ADMINISTRATION RAICHUR



Department of Women
and Child Development



Central Warehousing Corporation

REPORT

PROJET ON MALNUTRITION ERADICATION. USING SUPER FOOD SUPPLEMENT

MORINGA OLEIFERA

August 2023 to October 2023
Raichur District, Karnataka, India



INTRODUCTION

Malnourishment among kids is acute in Raichur. It is at the bottom of the 31 districts of the state. Around 27000+ children are suffering from severe or moderate malnutrition who are age below 6 years.

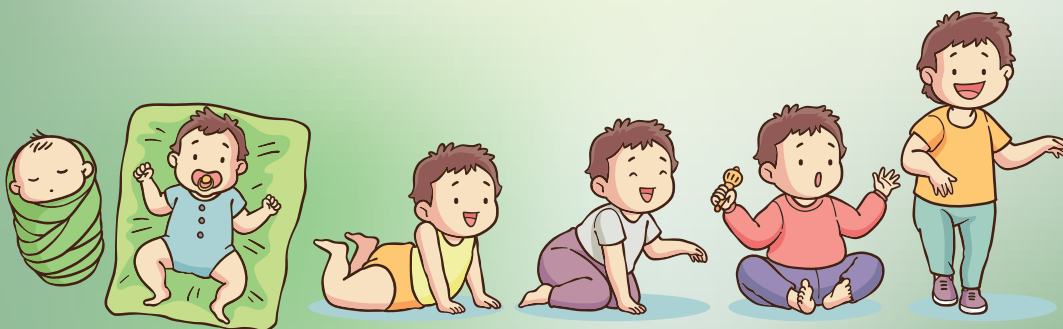
Based on the successful trial conducted in the district, this malnutrition eradication project was initiated by district administration and Zilla Panchayat through Department of Women and Child Development, Raichur. As a part of Central Warehousing Corporation's CSR activity for supporting malnourished children in Raichur District with leadership of Deputy Commissioner & Chief Executive Officer Zilla Panchayat.

Malnutrition is seen in children whose consumption of protein and energy is insufficient to satisfy the body's nutritional needs. Malnutrition may also occur in persons who are unable to absorb vital nutrients or convert them to energy essential for healthy tissue formation and organ function. Malnutrition is a major factor in causing infant mortality in India and other developing countries. Current treatment for children involves the use of specially formulated foods.

Moringa, added daily to a child's food, has demonstrated its ability to bring recovery from moderate and severe malnutrition. In developing tropical countries, Moringa trees have been used to combat malnutrition, especially among infants and nursing mothers. As an example, Haiti and Senegal, health workers have been treating malnutrition in small children, pregnant and nursing women with Moringa leaves powder.

For children between the age group 6 months to 6 years of age the daily requirements of calcium, iron and half of protein can be obtained in 100 grams of fresh Moringa leaves. The Moringa leaves are an excellent source of vitamin A, the raw leaves are rich in vitamin C and they also have vitamin B and other minerals. It is also rich in potassium, copper and B complex vitamins. Moringa Oleifera can be used as a food additive with multiple purposes for enriching Proteins, Fatty acids, Minerals and Vitamins.

Scientists have published papers on benefits of Moringa across the globe and results have shown that the Moringa Oleifera leaves powder has improved the nutritional status of children to recover from malnutrition.



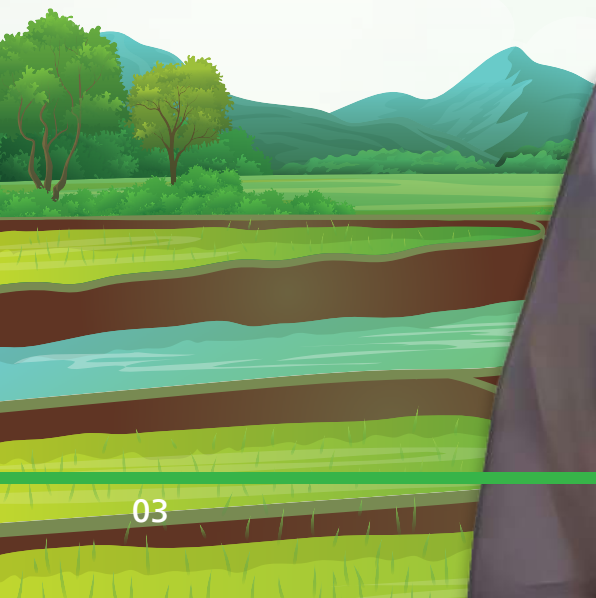
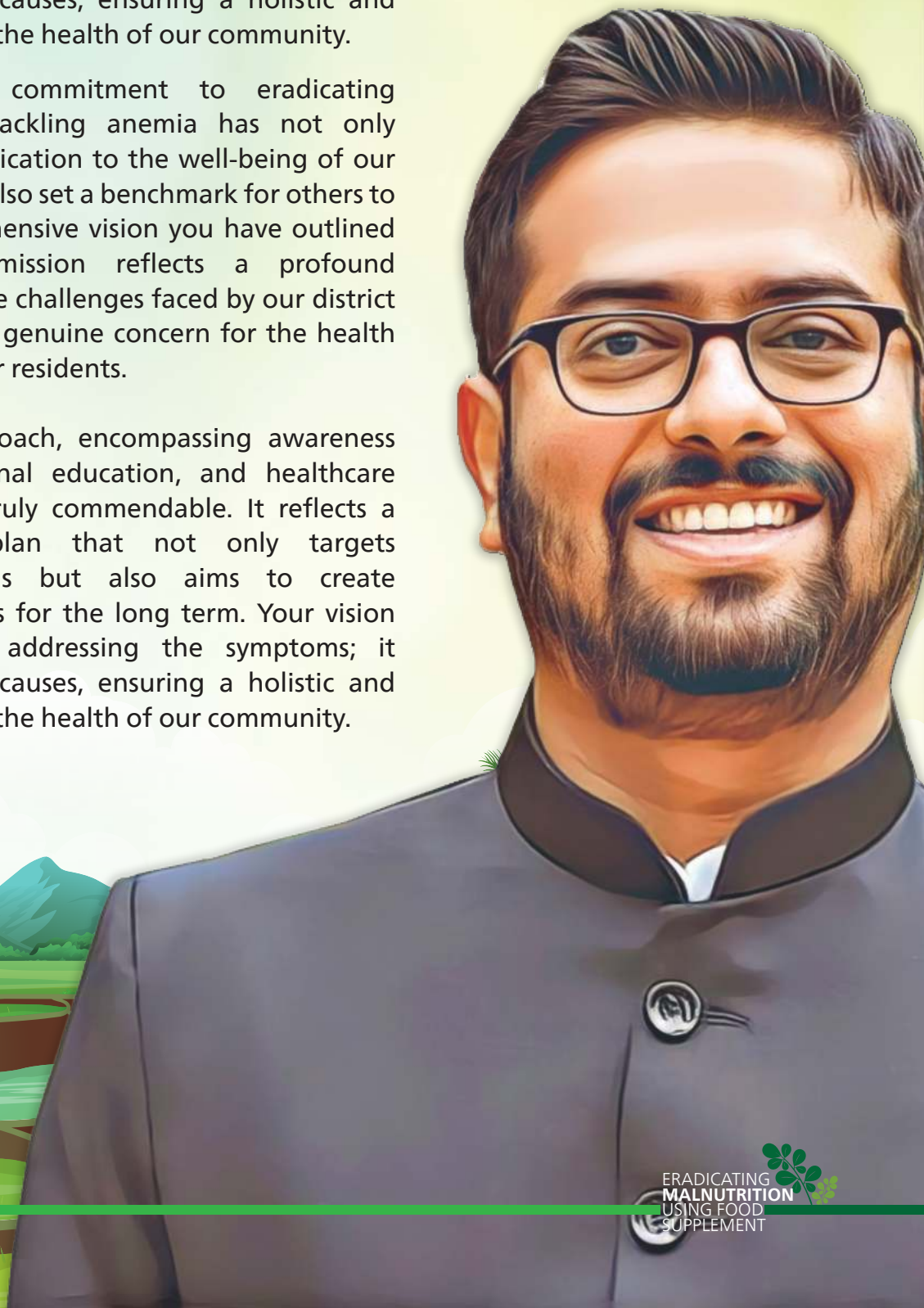
Sri. Chandrashekhar Nayaka L, IAS

Deputy Commissioner & District Magistrate

Deepest appreciation and gratitude for your exemplary leadership and visionary initiative in addressing the critical issues of malnutrition and anemia in our district. A well-thought out plan that not only targets immediate concerns but also aims to create sustainable solutions for the long term. Your vision goes beyond just addressing the symptoms; it addresses the root causes, ensuring a holistic and enduring impact on the health of our community.

Your unwavering commitment to eradicating malnutrition and tackling anemia has not only showcased your dedication to the well-being of our community but has also set a benchmark for others to follow. The comprehensive vision you have outlined for this crucial mission reflects a profound understanding of the challenges faced by our district and demonstrates a genuine concern for the health and the future of our residents.

Your strategic approach, encompassing awareness campaigns, nutritional education, and healthcare interventions, are truly commendable. It reflects a well-thought-out plan that not only targets immediate concerns but also aims to create sustainable solutions for the long term. Your vision goes beyond just addressing the symptoms; it addresses the root causes, ensuring a holistic and enduring impact on the health of our community.



Sri. Pandve Rahul Tukaram, IAS Chief Executive Officer, Zilla Panchayat, Raichur

CEO's outstanding initiative in spearheading the reporting efforts toward eradicating malnutrition and analysing the trend of improvement to create a holistic approach to solve the problem and take it an example solve country wide such problem in different parts. The impact of your proactive approach in highlighting and initiating action against malnutrition is truly commendable. Your leadership in this endeavor is inspiring, and it reflects your genuine concern for the well-being of Raichur district people.

CEO's tireless efforts and initiative serve as a catalyst for change, fostering hope and progress toward a healthier and more nourished society.



OBJECTIVES

Consideration of SAM (Severe Acute Malnutrition) grade, MAM (Moderate Acute Malnutrition) and Normal categories children listed as per Department of Women and Child Development, Raichur District Karnataka.

MATERIALS & METHODS

- This program includes a total of 221694 children i.e 300 SAM children, 27317 MAM children and 194085 Normal children categories from entire Raichur district.
- 5 grams of dry Moringa leaves powder was included in the children diet under the guidance of his/her mother.
- Conducted the initial medical test by recording Weight, HbA count and Height.
- Reassessment of nutritional status was done by conducting medical test by recording weight, HbA count and height at end of every month.

RESULTS

In SAM category it was found that 88.5% Weight, 78% HbA and 62.5% of Height improvements happened. MAM category showed improvement in their nutritional status over period of 3 months and No. of MAM children reduced from 27317 to 26248.



RAICHUR

RAICHUR DISTRICT SAM CHILDREN STATISTICS

TOTAL
PLANNED
CHILDREN
FOR TRAIL

300



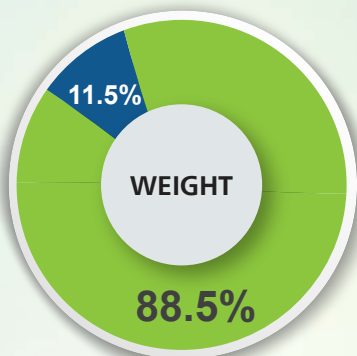
TOTAL
PARTICIPATED
CHILDREN
FOR TRAIL

296

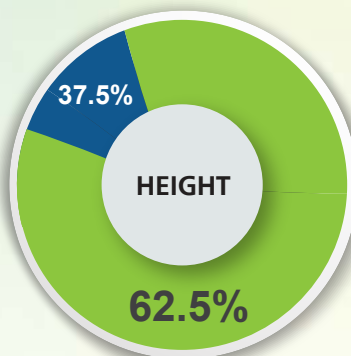


Total	221694
Total Boys	111605
Total Girls	110089
Total Normal	194085
Total MAM	27317
Total SAM	300

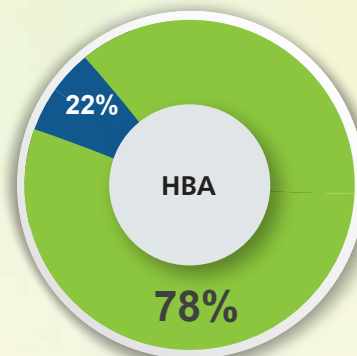
*Few children dropped from program due to health issues and moving out of station



■ Improved ■ Not Improved



■ Improved ■ Not Improved



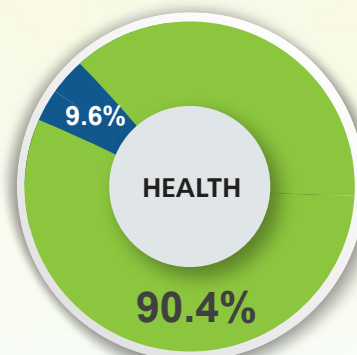
■ Improved ■ Not Improved



■ Improved ■ Not Improved



■ Improved ■ Not Improved

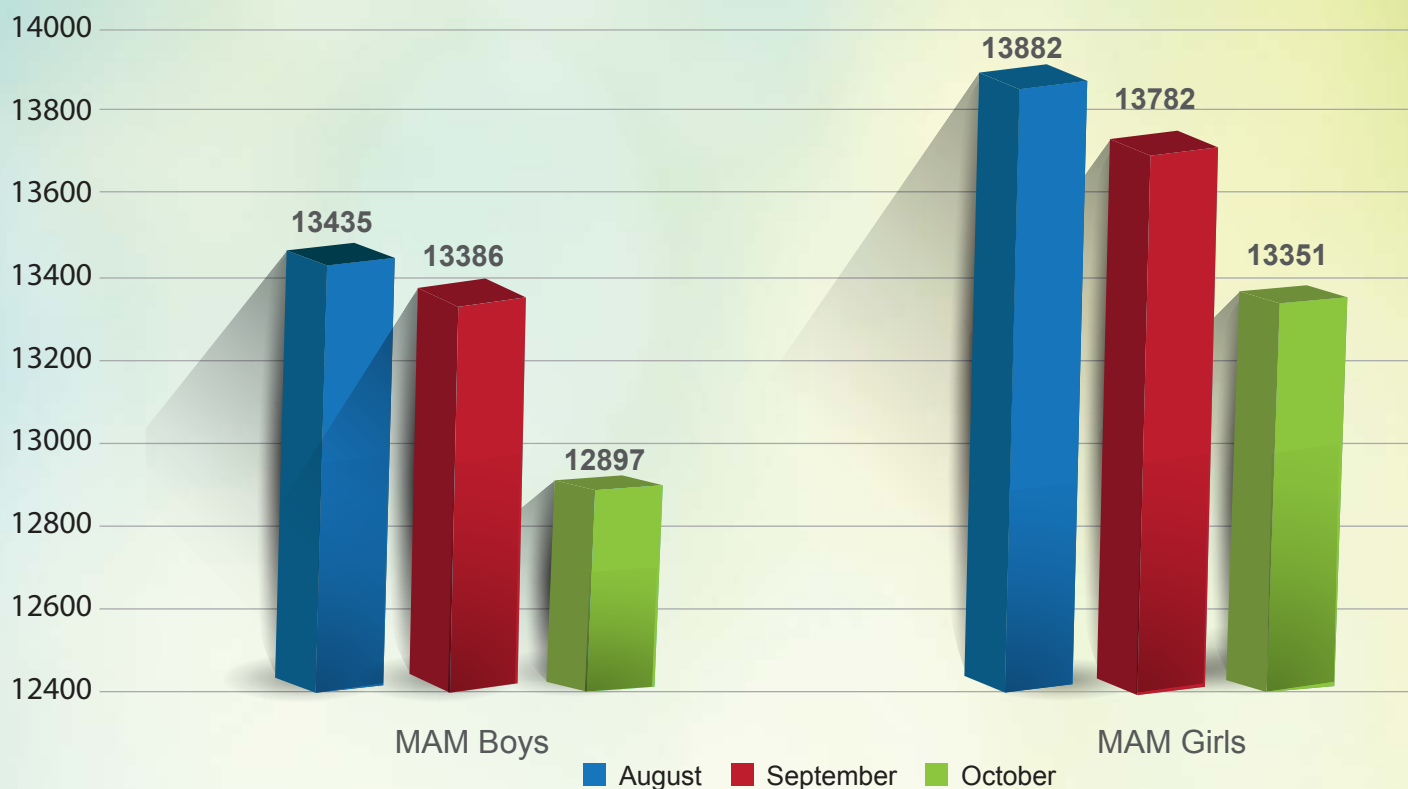


■ Improved ■ Not Improved

RAICHUR

RAICHUR DISTRICT MAM CHILDREN STATISTICS

No. of MAM children reduction on monthly basis



*Month on month health improvement observed in MAM children due to consumption of moringa

MONTHLY STATUS: AUGUST-2023

0 - 6 YEARS GRAND TOTAL

	Normal		MAM		SAM		TOTAL		TOTAL
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	
Raichur	12360	11974	891	980	10	11	13261	12965	26226
Gillelingasugur	10854	10913	1391	1499	7	11	12252	12423	24675
Manvi	9721	9444	1815	1826	6	14	11542	11284	22826
Siriwar	8045	7863	1426	1482	13	19	9484	9364	18848
Sindhanur	12441	12264	1863	1789	30	37	14334	14090	28424
Turvihal	7422	7507	911	898	16	13	8349	8418	16767
Lingasugur	19818	19319	2021	2150	23	13	21862	21482	43344
Devadurga	17363	16777	3117	3258	41	42	20521	20077	40598
Total	98024	96061	13435	13882	146	160	111605	110103	221702

MONTHLY STATUS: SEPTEMBER-2023

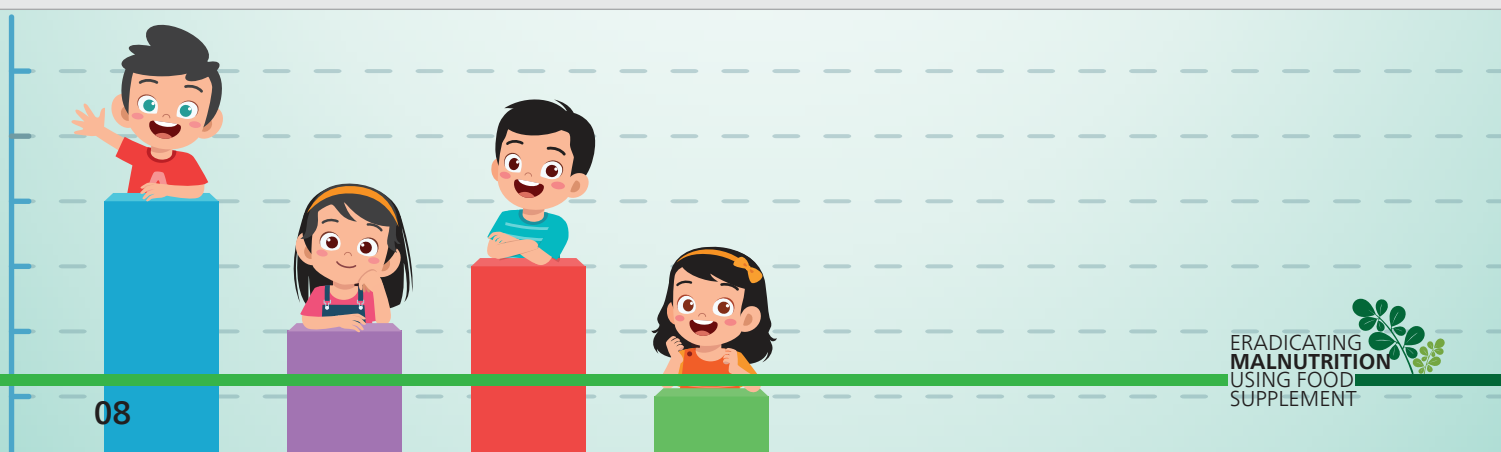
0 - 6 YEARS GRAND TOTAL

	Normal		MAM		SAM		TOTAL		
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	TOTAL
Raichur	10925	11006	875	965	12	09	11812	11980	23792
Gillelingasugur	11662	11482	1325	1458	4	11	12991	12951	25942
Manvi	9510	9316	1559	1544	9	15	11078	10875	21953
Siriwar	7717	7576	1569	1558	14	12	9300	9146	18446
Sindhanur	12450	12132	1796	1764	33	32	14279	13928	28207
Turvihal	7313	7428	899	846	15	14	8217	8288	16505
Lingasugur	18776	18453	2300	2440	26	11	21102	20904	42006
Devadurga	17551	16832	3073	3207	39	41	20663	20080	40743
Total	95904	94225	13386	13782	152	145	109442	108152	217594

MONTHLY STATUS: OCTOBER-2023

0 - 6 YEARS GRAND TOTAL

	Normal		MAM		SAM		TOTAL		
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	TOTAL
Raichur	11430	11478	846	884	13	6	12289	12368	24657
Gillelingasugur	12258	12189	1293	1418	5	9	13556	12368	27172
Manvi	8900	8590	1717	1800	6	9	10623	10399	21022
Siriwar	7948	7862	1431	1452	10	14	9389	9328	18717
Sindhanur	12525	12186	1763	1781	30	30	14338	13997	28335
Turvihal	7373	7564	888	851	14	12	8275	8427	16702
Lingasugur	19901	19600	1837	1989	23	8	21761	21597	43358
Devadurga	17861	17091	3102	3176	39	36	21002	20303	41305
Total	98196	96560	12897	13351	141	124	111233	1100353	221268

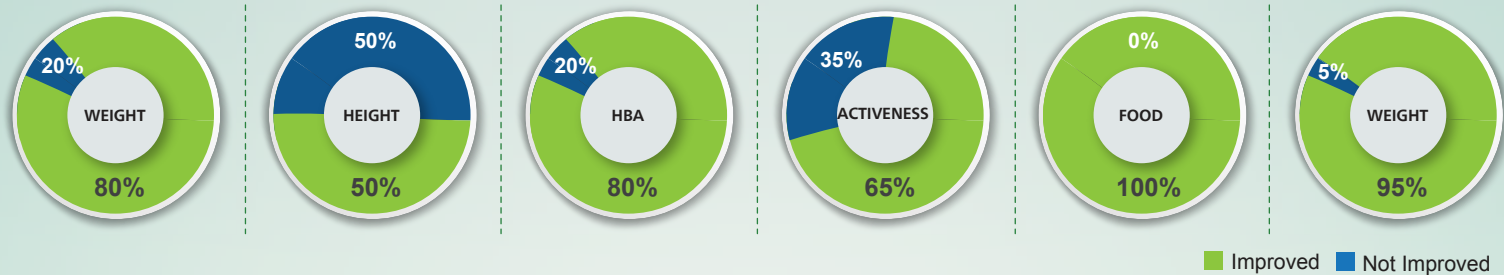


RAICHUR

RAICHUR

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS

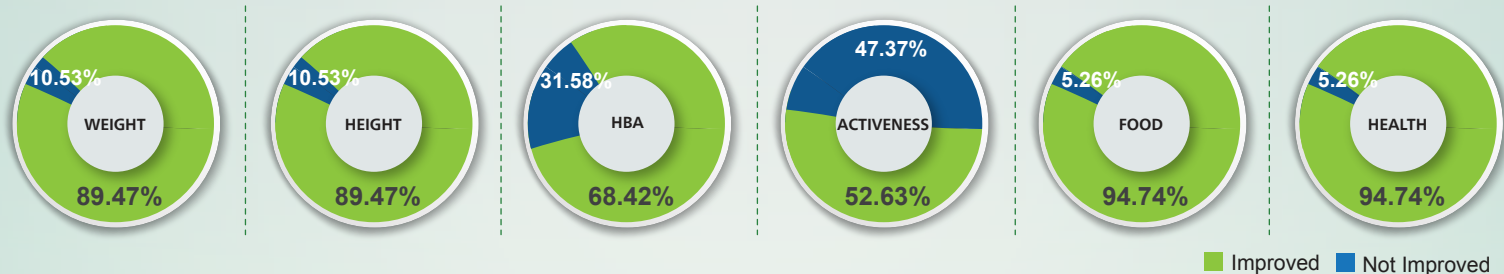


GILLESUGUR

GILLESUGUR

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS

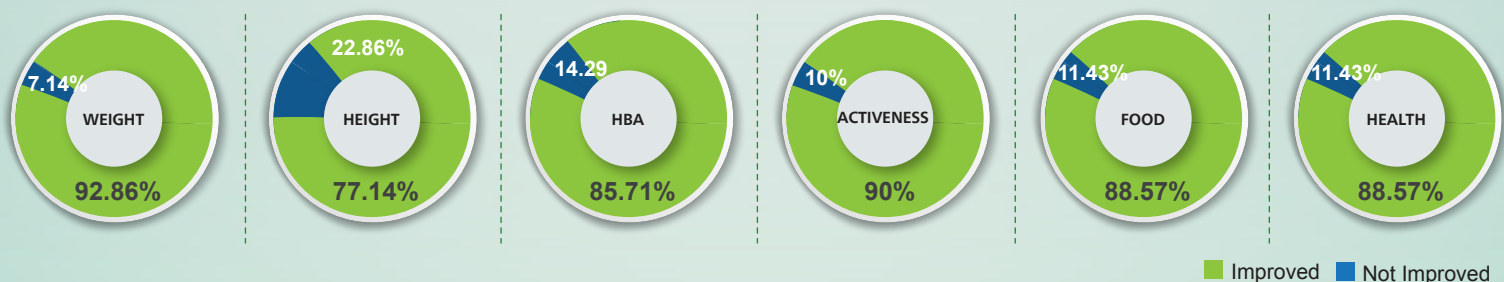


SINDHANUR

SINDHANUR

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS

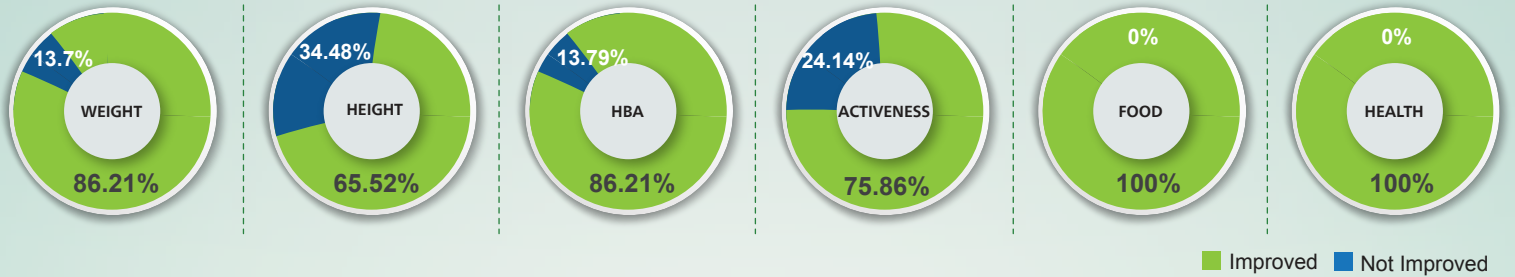


TURVIHAL

TURVIHAL

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS

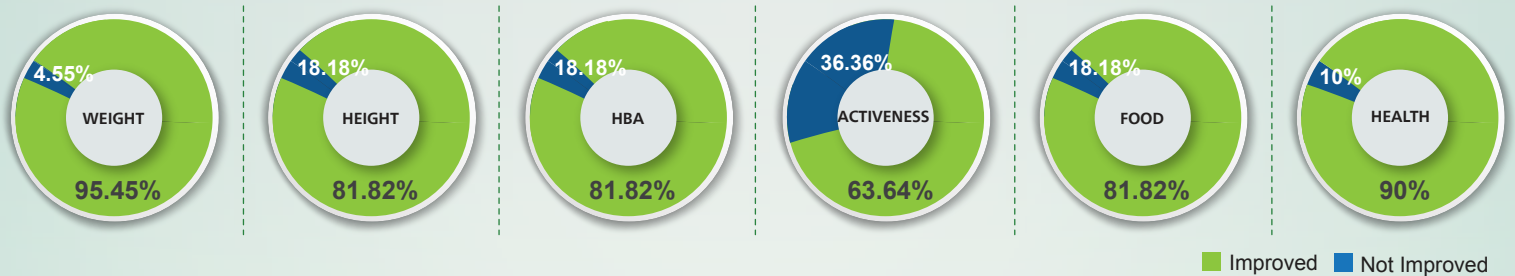


MANVI

MANVI

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS

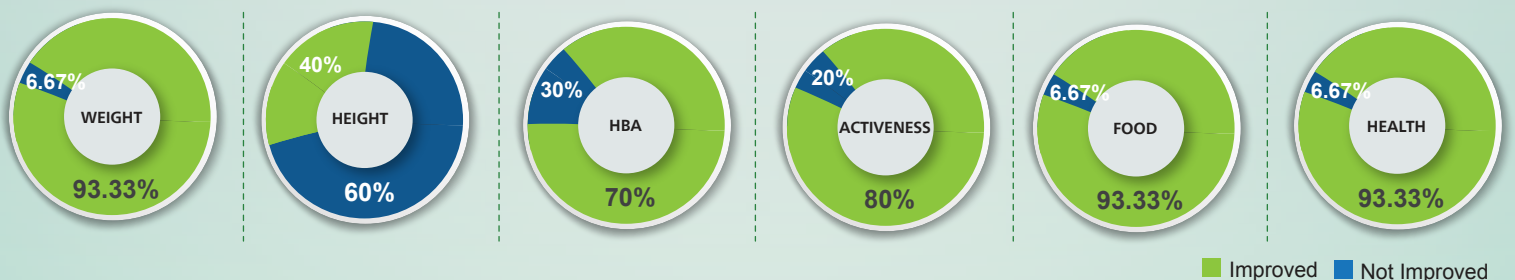


SIRIWAR

SIRIWAR

TOTAL SAM CHILDREN: 20

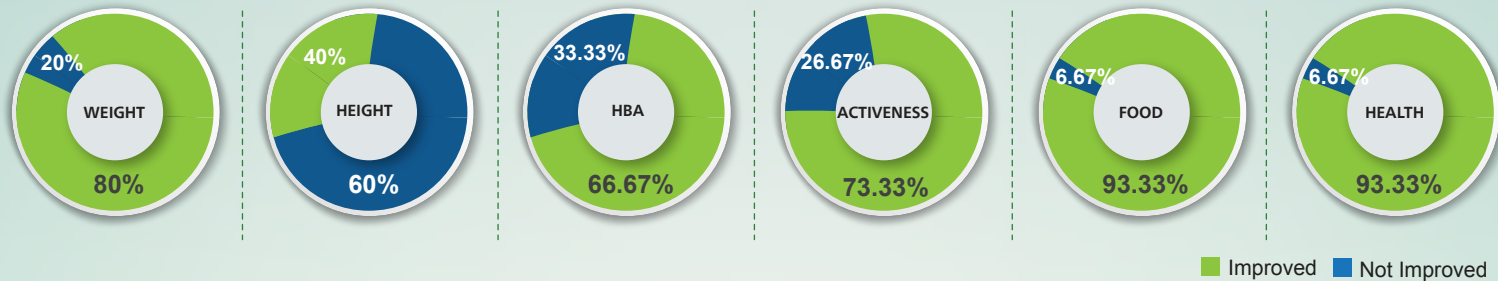
IMPROVED STATISTICS



LINGASUR

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS

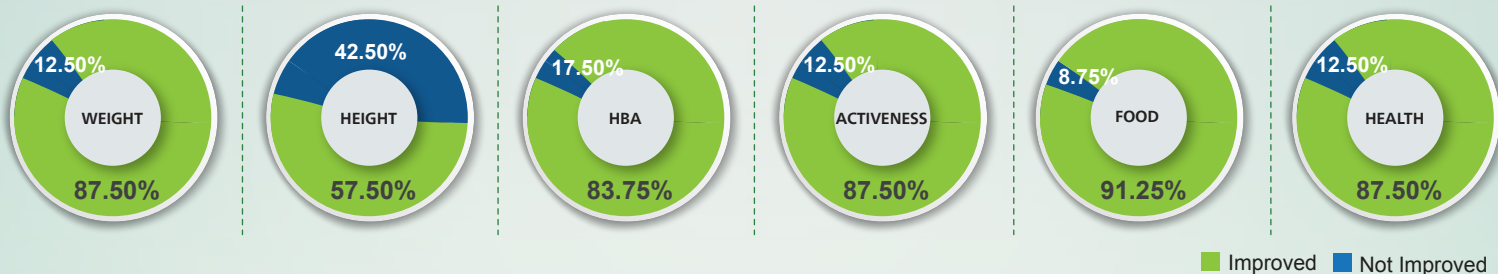


DEV

DURGGA

TOTAL SAM CHILDREN: 20

IMPROVED STATISTICS



RAICHUR DISTRICT MALNUTRITION ERADICATION CHALLENGES

- In the entire district, 11 children were found with severe diseases.
- Couple of children not included in follow up medical test as children migrated to other locations from few taluk places like Gillesugur, Sindhanur and Devedurga
- Few children did not attend the HbA test due to the non-availability.
- A couple of families did not give Moringa powder to their children because of severe health issues and they have vomited after consuming Moringa due to the weak body conditions.

DISCUSSION

Moringa leaves powder rich in flavonoids, stacked with nutrients, antioxidants vital proteins, vitamins and various phenolics. As one of the rare tree whose leaves can be eaten as vegetables, the Moringa's nutrients are easily absorbed, and no allergy has been reported. Most of the nutrients of the Moringa trees are in its leaves, which can be made into a powder that can be added to the regular diet to add essential nutrients.

Moringa leaves also are rich in vitamins and minerals such as B-complex vitamins, vitamin C, calcium, potassium, magnesium, selenium, zinc and amino acids namely arginine and histidine which is especially important for infants.

In this program, the results observed after administration of Moringa leaves powder consumption after 90 days on regular basis, It was found that 88.5% of children with SAM category showed improvement in weight gain and 78.% of children with SAM category showed improvement in HbA in their nutritional status. Therefore, Moringa leaves powder will be a good supplementation for combating malnutrition in under 5 children.

This program was already trials completed by the Department of Women and Child Development Raichur, Koppal and Bagalkot districts. Implemented Moringa as nutritional super food supplement in their regular basis food program successfully supplied from NOFH Pvt Ltd. Similar study conducted in Bangalore used moringa powder by the Vydehi Institute of Medical Sciences and Research Centre, Bangalore, Karnataka, India and other studies conducted in West Africa. In 1996, the Church World Service office in Dakar began studying the potential of the Moringa oleifera tree to combat the problem of malnutrition, on a pilot project.



This program conducted with the help of Central Warehousing Corporation implemented by the District Commissioner with the Department of Women and Child Development to eradicate malnutrition successfully.

Nutritional intervention with Moringa oleifera dry leaves powder showed significant weight gain among children with malnutrition. The Moringa dry leaves powder can be effectively utilized for treatment of malnutrition by mothers of children with malnutrition.

ACKNOWLEDGEMENT

The authors are incredibly grateful to the following officials of Raichur District.

- Deputy Commissioner
- Chief Executive Officer, Zilla Panchayat
- Central Warehousing Corporation
- Deputy Director, Department of Women and Child Development, Programme Officer and CDPO's
- District Health Officer and Taluk Health Officers
- All taluk place Tahsildar's
- NOFH Private Limited



Thanks to Central Warehousing Corporation for all the support and encouragement given for the Malnutrition eradication program.

We are highly grateful to Deputy commissioner and Chief Executive Officer, Zilla Panchayat for this initiative and Deputy Director, Department of Women and Child Development and its officials for complete support and also mothers/children participated in this program.

Thanks to NOFH PVT LTD management team for regular supply of chemical free organic Moringa powder for the malnutral children of Raichur district.



Trial program conducted by the
Department of Women and Child Development
team with support and supply of moringa
from NOFH Private Limited



Department of Women and Child Development officials and all supervisors visit to Organic Moringa Processing unit of NOFH Private Limited



Thanks to Central Warehousing Corporation for providing CSR support to Raichur district.



Malnutrition Eradication Program Launched by Deputy Commissioner along with Central Warehousing Corporation with support of Department Women and Child Development, Raichur.



Deputy Director of Women and Child Development along with official and supervisors visit to Organic Moringa processing Unit.



Malnutrition Eradication Program Execution Photo Gallery



A background image of green moringa leaves on a dark green background. The leaves are pinnate and have a smooth, oval shape.

Moringa (Drumstick) health benefits

MORINGA IS MAGICAL PLANT FOR ITS MANY BENEFITS. REGULAR CONSUMPTION OF MORINGA IS NOT ONLY KNOWN TO WARD OFF DISEASES BUT THE NUTRITIONAL QUALITIES OF THIS PLANT MAKE IT A PERFECT FOOD SUPPLEMENT FOR BUILDING HEALTH AND NUTRITIONAL DEFICIENCIES.

HIGHLY NUTRITIOUS: Moringa is loaded with nutrients and minerals and is an excellent source of fibre. It is widely used as an ingredient in health supplements in India and Africa.

ANAEMIA PREVENTION: Moringa has also been suggested to be effective in preventing anaemia.

BENEFITS FOR NURSING MOTHERS: Moringa has been evidenced a galactagogue. It improves milk secretion and flow in lactating mothers.

PROMOTES WEIGHT LOSS: Moringa contains bioactive agents that have been suggested to possess weight loss benefits. They reduce body weight and improve BMI without any side effects.

BENEFICIAL FOR SKIN AND HAIR: Moringa is an all-encompassing solution for your skin and scalp problems. It hydrates and nourishes your skin, improves hair growth, prevents UV damage and delays ageing signs like dark spots, wrinkles and hair greying.

REDUCES BLOOD PRESSURE: Research evidence suggests that moringa juice contains hypotensive (reducing blood pressure) properties, which is attributed to the flavonoids present in it. Improves Alzheimer's symptoms: In studies indicate that the antioxidants present in moringa are effective in improving memory and delaying cognition loss in case of Alzheimer's treatment.

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