

Outcome of the Promotion of Activities to Improve
Malnutrition Among the Children in Sonaraithadi Block,
Deoghar District, Jharkhand

By

Ankit Kumar Nirala

*Dissertation submitted for the partial fulfillment of the
MBA Rural Management*

Academic year, 2018-2020



The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: www.iihmr.edu.in

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प्रवाह
PRAVAH

Regd. Under SRA-XXI of 1860, FCRA, 12A, 80-G & PAN

Telefax: +91 6432 225456, Mob: +91 9431132568, +91 9631150406, e-mail: admin@pravahjharkhand.org, pravahjharkhand@gmail.com

29th June 2020

Certificate of Dissertation

To whomsoever it may concern

This is to certify that Mr. Ankit Kumar Nirala, S/O: - Sri Dilip Kumar Dubey (College/ University: The IHMR University Jaipur: Course: - MBA - Rural Management) has successfully completed his dissertation study at PRAVAH, Deoghar from 09th March to 9th June 2020.

During Dissertation Ankit had closely worked as a part of the nutrition project team implemented by Pravah specifically "POSHANN" project. In Sonarathari Block of Deoghar District He made valuable contribution to the key projects by helping us to understand the impact of the current projects within a short duration with his "Quasi-experimental case-control pre-post" study design. His creative ideas and findings are valuable for Pravah as well as Project.

We wish him luck for all future endeavors and looking forward for his bright future.

Warm Regards,

Dilip Kumar Dubey

Secretary

PRAVAH, DEOGHAR

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The preparation of this project has been made possible through direct and indirect operations of various persons for whom we wish to express our appreciation and gratitude. Before we get in to thick of the things, we would like to add few heartfelt words for the people who were the part of our project.

I express my deepest thanks **to Professor Dr. Goutam Sadhu, IIHMR University** Jaipur for giving me necessary advice and guidance to make this study easier. I choose this moment to acknowledge their contribution gratefully. this wonderful opportunity.

We also own a great deal to our organization “PRAVAH” we would like to thank **Mr. Padmlochan Choudhary (Nutrition Coordinator)**, and **Mr. Suvankar Chakraborty**, District coordinator of PRAVAH for their support and assistance throughout the study period. We would like to extend our thanks to whole field team of PRAVAH who provided their valuable time and support and made us our study meaningful.

I perceive this opportunity as a milestone in my carrier development. I will strive to use gained skills and knowledge in the best possible way and I will continue to work on their improvement in order to attain desired carrier objectives. Hope to continue with all of you in the future.

Ankit Kumar Nirala

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ABBREVIATIONS

WHO	World Health Organization
NFHS	National Family Health Survey
SC/ST	Scheduled Caste/ Scheduled Tribe
CBOs	Community Based Organizations
GHI	Global Hunger Index
HH	Households
ICDS	Integrated Child Development Services
IFPRI	International Food Policy Research Institute
NGO	Non-Governmental Organization
POSHANN	Promotion of Sanitation, Hygiene, Agriculture and Natural Resources for Nutrition
WASH	Water, Sanitation and Hygiene
SAM	Severe Acute Malnutrition
MAM	Moderate Acute Malnutrition

ABSTRACT

Title- A study to outcome of the promotion of Activities to improve Malnutrition among the children in Sonarathari Block, Deoghar District, Jharkhand

Background- The dissertation is planned in one of the most backward state, Jharkhand in India. In Jharkhand 54.6% of the children are underweight, which points to chronical and acute malnutrition. 70% of the women aged between 15 and 49 are anemic, high malnutrition rate is a result of multiple factors such as poverty, food insecurity, inadequate diets, gender inequality, low education, poor health, and sub-optimal caregiving practices. In the long-term therefore other interventions apart from agriculture must be taken into consideration in order to effectively and in particular sustainably reduce malnutrition of small children. Correct activities and strategies are just as important to find out the improvement of child growth in improving the nutrition quality of mentioned areas children.

Objectives-

To compare the status of malnourishment in the children of Santhal Parganas focusing in Sonarathari Block of Deoghar District and to find the best strategic activities to fight the situation of a family through intended planning.

Research Methodology-

A purposive study was carried in Sonarathari blocks of district Deoghar, Jharkhand using secondary data used for the study in desk review and finding a conclusive measures or activities proposed to fight malnourishment. The study includes change of behavior of the families having malnourished child and change in nutritional grade of children practicing several positive practices.

Conclusions-

Several notified actives came across during the study which predominate the cause and effect of malnourishment and can be effective used treating malnourishment in a sustainable manner other than medicines, the practices are as follows which can be a useful tool to mitigate malnourishment: -

- **Development of Kitchen Garden and its impact in improving dietary diversity of the household**
- **Conduct Nutrition Camps in community level**
- **Promotion of “Desi Horlicks” or Nutrimix**
- **Usage of soaps at household level**
- **Promotion of Safe and hygienic drinking water for the families.**

1. Introduction

Malnutrition is a condition that occurs when a person diet doesn't contain enough nutrients to meet the demands of their body, it is possible to eat a diet high in calories but containing few vitamins and minerals. This means you can become malnourished and also be overweight.

"Nutrition is the main cause of deaths and disease in the World".

According to WHO, Millions of people are suffering from different forms of Malnutrition, in fact 1.9 billion adults are overweight while 462 million are underweight. In children also 52 million under-fives are suffering from wasting where they have a low weight against the height. (Branca, 2019)

Around one out of ten children are born with a low weight and in South Asia, it is one in four and approximately 40 to 45 percent of deaths among children under five are linked to under nutrition. These deaths are occurred in low- and middle-income countries where childhood fatness are rising at the same time.

At Global level, progress in underweight and anemia among women has been extremely slow while overweight and obesity among adults is getting very bad, with higher rate of obesity among women than man. 10.8 % man and 15% of women worldwide are obese.

World Bank data shows that India has one of the world's highest demographics of children suffering from Malnutrition. Global Hunger Index India's ranking 102 out of 117 countries with the worst hunger situation places us even below Pakistan, Bangladesh and Srilanka. As per the NFHS 4, 35.7% children below five are under weight, 38.4% are stunted and 21% are wasted in the country. In India young children are suffer from some of the highest levels of stunting, underweight and wasting observed in any country and 7 out of 10 young children are anemic. Although Poverty is also an important factor in the poor nutrition situation.

Adults in India suffer from a dual burden of Malnutrition (abnormal thinness and overweight). 48% of Indian women (15-49 years) and 43% of men (15-49 years) have these two nutritious problems.

In India, issue is not only a lack of food but rather a lack of toilets, most of the population defecates outside. According to WHO estimates that 50% of malnutrition is associated with repeated Diarrhea or intestinal worm infection from unsafe water or poor sanitation or hygiene.

Children who are exposed to open defecation or who don't have a clean water supply may ingest bacteria, fungi, viruses that causes intestinal infection and puts children at risk poor early childhood development.

To improve the nutrition the primary focus of nutrition intervention has been on food supplementation, and on nutrition treatment versus prevention. There is inadequate attention to the critical non-food determinants of nutrition, such appropriate infant feeding

and caring practices, health and hygiene, water and sanitation, immunization, micronutrient supplementation.

Jharkhand is one of the most backward states in India with a large rural and SC/ST population. Compared with other states malnutrition is wider spread here. Jharkhand is one of the most backward states in India with a large rural and SC/ST population. Compared with other states malnutrition is wider spread. According to the **National Family Health Survey (NFHS) 4 (2015-16), in Jharkhand about half (45.3%) of the children under five years are stunted or too short against their age, an indication of undernourishment.** One-third (29%) children weigh too little for against height (wasted), which results from inadequate recent food intake or a recent illness. 70% of women in age-group 15 to 49 and more than 67% of adolescent girls in age-group 15 to 19 are anemic. (NFHS 4, 2015-16)

Government schemes are working to make the curse out of state as well as India through various measures but somehow the programs are not reaching to the grass root due to lack of proper implementation planning. Though India has seen economic growth and poverty reduction in last few years but still the curse hindering a clear picture to the steady growth of India's economy. In Jharkhand, nine out of every 10 children aged 6-23 do not get an adequate diet. The nutrition and health status of children in this State has been found to be "critically low" in comparison to the national standard. According to National Family Health Survey (NFHS-4, 2015-16) data, only 7.5% and 7.2% of children in Jharkhand respectively in this age group receive an adequate diet. So to address the problem out of 10 districts, Deoghar district of which Sonaraithari block has been selected to make the change of the said block. Sonaraithari is a community development block that forms an administrative division in Deoghar district, Jharkhand state, India. It is located 25 km from Deoghar, the district headquarters. As per 2011 Census of India, Sonaraithari CD Block had a total population of 76,116, all of which were rural. There were 39,394 (52 %) males and 36,722 (48 %) females. Population below 6 years was 14,957. [Scheduled Castes and Scheduled Tribes numbered 7,291 and Scheduled Tribes numbered 8,244. Literates of sonaraithadi block was 58% only out of which 65% were males and 35% were females and in the sonaraithadi block health status was very poor. Children under 5 years who are stunted 62% and who are wasted 35% and 60% are underweight.

Reducing chronic undernutrition is a complex challenge because it is caused by a variety of factors such as poverty, food insecurity, inadequate diets, gender inequality, low education, poor health, and sub-optimal caregiving practices. Thus, to address the multiple factors that cause chronic undernutrition, inputs from many sectors are required. This underlines the need for a multi-sectoral response, which includes both direct (nutrition-specific) and indirect (nutrition-sensitive) interventions.

Agriculture has the potential to play an important role in improving nutrition outcomes given that it can address some of the direct causes of undernutrition (inadequate food and nutrient intake) and some of the key underlying factors (e.g. poverty, low income and food insecurity). However, in the long-term other interventions apart from agriculture must be taken into consideration in order to effectively and in particular, sustainably reduce malnutrition of small children. Correct hygiene is just as important as improved access to clean drinking water and sanitary facilities.

Recent literature (IFPRI) points to improper sanitary conditions having a greater influence on malnutrition than originally thought. The ingestion of fecal bacteria (animal or human), a consequence of community and household-level poor sanitation and hygiene, has been hypothesized to cause environmental enteric dysfunction (EED). This asymptomatic syndrome leads to chronic inflammation and to reduced stomach absorptive capacity as also to a weak barrier function of the small intestine, affecting most of all small children. Therefore, increases in diet quality due to successful agriculture programs may be offset by poor WASH practices. Conversely, improvements in these practices may work synergistically with improvements in diet quality to reduce undernutrition among young children. Improving WASH can increase the nutrition benefits of improved diets by reducing disease.

2. Review of Literature

A literature review empowers the researcher to get more power in the research and more extensive pertinence to the issue close by, to give new thoughts, and clarification. The last and explicit explanation behind reviewing on related writing is to know the proposal of the past researchers for further research which have they recorded in their studies. Review of the related writing encourages the researcher to familiarize himself with flow learning in the field or zone in which specialization is going to lead his examination.

The 2020 Global Hunger Index (GHI) ranked India 102th (of a total of 117) countries with a serious hunger situation. Amongst South Asian nations, it ranks below Pakistan, Bangladesh and Srilanka. (Global Hunger Index, 2020) India has 61.5 million children under the age of 5 who are too small for their age and thus under-developed (stunted) due to malnutrition. The prevalence of underweight among children in India is amongst the highest in the world, and nearly double that of Sub-Saharan Africa. Disaggregation of underweight statistics by socioeconomic and demographic characteristics reveals which groups are most at risk of malnutrition. Underweight prevalence is higher in rural areas (50%) than in urban areas (38%); higher among girls (48.9%) than among boys (45.5%); higher among scheduled castes (53.2%) and scheduled tribes (56.2%) than among other castes (44.1%); and, although underweight is pervasive throughout the wealth distribution, the prevalence of underweight reaches as high as 60% in the lowest wealth quintile.

Nutritional status of population has a important role in overall socio-economic development of the country. Diet and nutrition play an vital role in the maintain of health and prevention of diseases. (Food and Nutrition Board on Diet, 1989)

Extensive surveys on diet of people of different regions of India are summarized in 'Diet Atlas of India' by (Gopalan and others, 1993). In India, ethnic group specific nutritional studies are scanty. Initially, nutritional studies were carried out in North Eastern Region (Sengupta, 1952,53,55). Studies on socioeconomic status, dietary habits and nutrient intake were undertaken on tribal groups of India (sengupta, 1960); (sengupta and Biswas, 1956a, 1956b); (Rao and Rao, 1956). The relevant studies pertaining to nutritional status are described in the following:

(Pascual, 1971) analyzed the influence of social and cultural factors on food habits and cause of malnutrition. He discussed the importance of socio-cultural factors like customs, beliefs, food habits and traditions that affect the nutritional status. According to him it is unfortunate that psychological, social and cultural factors, which create barriers against the change in food habits, are not understood properly, while many studies only focused on the impersonal aspects of nutrition and malnutrition.

According to (Heidi Worley, 2014) examined that in Globally, one in four children under age 5 are suffering from stunting, a form of malnutrition in which children are shorter against their age and in India around 48% across all income groups are stunted. Through Stunting and chronic malnutrition suffer in children weak immune system, risk of sickness and disease and in this greater risk of dying before age 5.

A recent story in New York Times high rates of malnutrition in India and the country poor sanitation. The issue is not a lack of food but rather a lack of toilets, in India most of the people defecates outdoors.

According to World Health Organization 45 percent of malnutrition is for diarrhea or intestinal worm infection from unsafe water. Diarrhea is caused by a lack of clean water for proper hand washing, contaminated drinking water. In rural areas most of the people are drinking a water

through handpump, pond, river which is contaminated and mostly people are not wash the hands before eat and after toilet which is caused of diarrhea.

The WHO estimates that 88% of all cases of diarrhea due to poor WASH environment. Diarrhea negatively impacts a child's linear growth (Fewtrell, 2005).

According to (Arne Oshaug and Lawrence Haddad) examined that agriculture and nutrition are linked in many ways. As the conceptual understanding of food security and nutrition, if the agriculture can increase than income is good and nutrition benefits. Kitchen garden is best for the people from this food quality is good, they get the nutritious food, not to go market to buy the vegetables and so many things.

Reducing chronic undernutrition is a complex challenge because it is caused by a variety of factors such as poverty, food insecurity, inadequate diets, gender inequality, low education, poor health, and sub-optimal caregiving practices. Thus, to address the multiple factors that cause chronic undernutrition, inputs from many sectors are required. This underlines the need for a multi-sectoral response, which includes both direct (nutrition-specific) and indirect (nutrition-sensitive) interventions.

It has been observed that the approach to assess the nutritional status varied from one study to another. Agriculture has the potential to play an important role in improving nutrition outcomes given that it can address some of the direct causes of undernutrition (inadequate food and nutrient intake) and some of the key underlying factors (e.g. poverty, low income and food insecurity). However, in the long-term other interventions apart from agriculture must be taken into consideration in order to effectively and in particular, sustainably reduce malnutrition of small children. Correct hygiene is just as important as improved access to clean drinking water and sanitary facilities. Recent literature (IFPRI) points to improper sanitary conditions having a greater influence on malnutrition than originally thought. The ingestion of fecal bacteria (animal or human), a consequence of community and household-level poor sanitation and hygiene, has been hypothesized to cause environmental enteric dysfunction (EED). This asymptomatic syndrome leads to chronic inflammation and to reduced stomach absorptive capacity as also to a weak barrier function of the small intestine, affecting most of all small children. Therefore, increases in diet quality due to successful agriculture programs may be offset by poor WASH practices. Conversely, improvements in these practices may work synergistically with improvements in diet quality to reduce undernutrition among young children. Improving WASH can increase the nutrition benefits of improved diets by reducing disease.

3. Rationale of the study

The dissertation intent to find the best way and measures to cope up the situation where Jharkhand has more than 56% of the children malnourished (underweight) which is over 35.7% as per country report (as published NFHS 15-16) and several agencies including State, India Government and NGO's are trying to meet the situation and making a final strategy to improve the nutritional status, dietary diversity and behavior change of a family towards malnourishment. In the state of Jharkhand "Integrated Child Development Services (ICDS)" under the Department of Women and Child Development (DWCD) as also the "National Rural Health Mission" under the Department of Health with regards to improved mother and child care practices for better health and nutrition "State Rural Livelihood Mission" and "Mahatma Gandhi Rural Employment Guarantee Programme (MGNREGA)" under the Ministry of Rural Development in coordination with the Ministry of Agriculture/Horticulture in order to ensuring a better diversification of food groups and "Swachh Bharat Mission" under the Ministry of Rural Development for improvement of WASH practices but still strategic planning is missing from villagers involvement in eradicating malnutrition from the root.

a. Research Question

1. What are the key positive strategy need to be taken for decreasing the Malnourishment number in Sonarathari Block?
2. What are the key barriers of the community in planning and practicing strategic activities in improving the nutritional status of the children?

b. Objectives

1. To compare the pre and post status of malnourishment in the children of Santhal Parganas focusing in Sonarathari Block of Deoghar District.
2. To understand the key barriers of the community in planning and practicing strategic activities in improving the nutritional status of the children

c. Methodology

Research Design

“Quasi-experimental case-control pre-post” study of changes through interventions with the families of identified malnourished children from the day the household registered with the malnourished children and with the data of strategic intervention done with the same families after six month.

Sampling

Sampling size was taken (N=500) where Sonaraithari block of Deoghar District was chosen, purposive random sampling was chosen as a tool of sampling methodology where focusing on the sample size of Sonarathari purposively and randomly choosing 500 HH from the secondary data of ICDS department where Pravah is currently implementing project named POSHANN in the said block. The researcher has utilized the data as primary source of information for collection of data.

Data Collection Instrument

The source of data collected was secondary as well as primary where the previous stock of data of the malnourished children data was taken from the ICDS department verified by the project coordinator of the project POSHANN which is further question and verified the impact of the change of post-intervention through primary data.

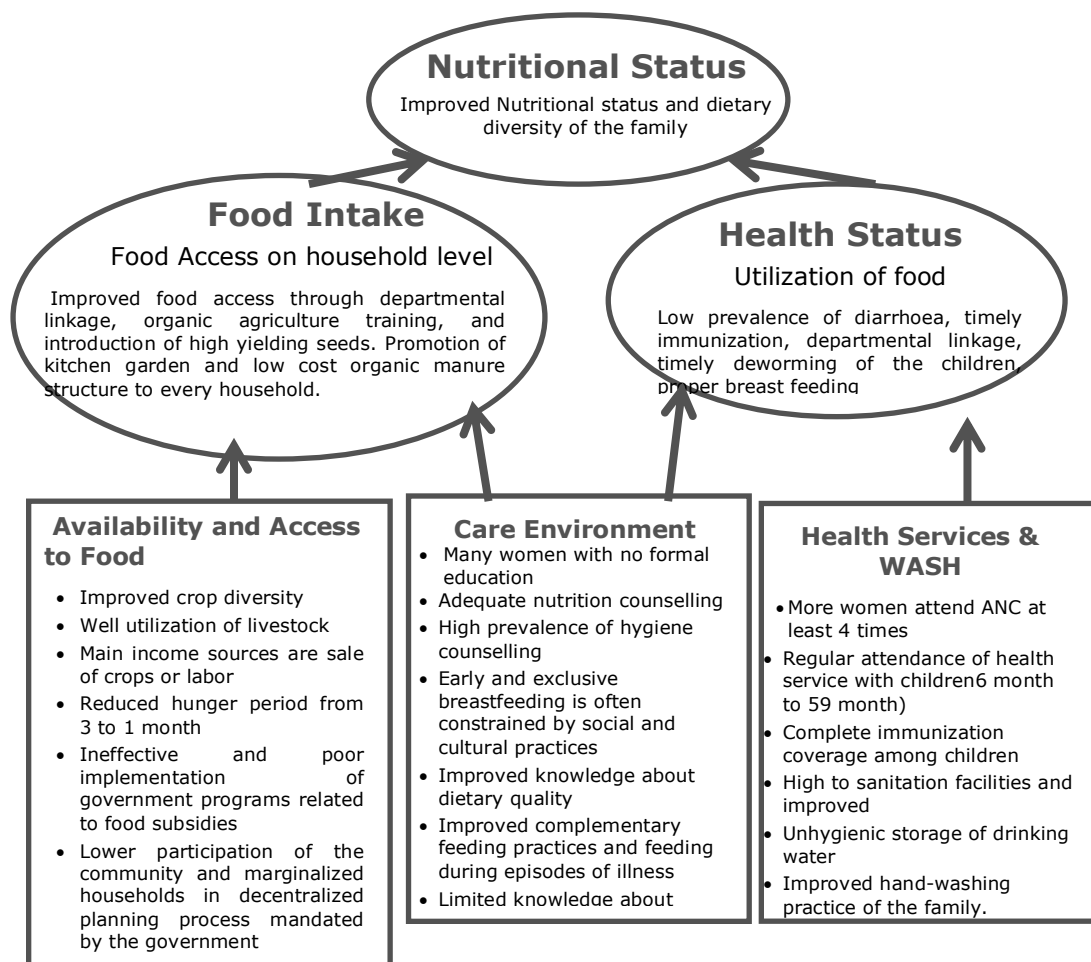
Data Collection Procedure:- Structured questionnaire was prepared by the researcher where pre-intervention data and post-intervention data was recorded in same questionnaire format before and after 3 months of the planned intervention.

Data Analysis Procedure:- Data was compiled and analyzed using Excel.

4. Pre and Post Interventions

So to address the problem out of 10 districts, Deoghar district of which Sonaraithari block has been selected to make the change in selected 40 villages of the said block. Sonaraithari is a community development block that forms an administrative division in Deoghar district, Jharkhand state, India. It is located 25 km from Deoghar, the district headquarters. These 40 villages have been prepared as a model replicating every measure, activities and steps to create a holistic development in those villages which will cover aspects of nutrition, WASH, farming system improvement and behavioural change of the villagers.

The following model is followed by the project staffs of POSHANN project of Pravah to mitigate the root cause of malnourishment from the 40 villages.



Instruments: As mentioned previously, the project POSHANN is designed around the implementation of four major instruments.

1. Participatory Learning and Action Cycles to promote better integration of Agriculture with Nutrition, WASH and Natural Resource Management (PLA)
2. Conducting Nutrition Camps for i) identification of malnourished child, ii) community based management and care, iii) nutrition counselling and iv) referral to Nutrition Rehabilitation Centres
3. Nutrition Sensitive Microplanning with regards to agriculture, natural resources and WASH.
4. Community Linked Total Sanitation (CLTS)

1. **Participatory Learning and Action Cycles (PLA):** Welthungerhilfe with the partner Ekjut has developed and implemented Participatory Learning and Action Cycles (PLA) to initiate behavior change on nutrition, agriculture and mother and child care practices. PLA consists of a series of 17-20 meetings with well-developed

methodology that addresses all the issues related to the care practices for better mother and child health. The PLA meetings are held with existing mother's groups and not restricted to SHG members only.

The PLA involves a four-phase participatory process facilitated by a trained facilitator in which women's groups collectively decide priority actions, and try to organize activities accordingly. The cycle is structured as follows: Phase 1: identify and prioritize problems; Phase 2: plan activities; Phase 3: implement strategies to address the priority problems; Phase 4: assess the activities.

In rural areas with low access to health services the PLA meetings provide room for discussion and information exchange, during which the women can come up with local solutions for improved nutrition and health. The PLA module will be customized as per the local conditions and needs. The focus of this project is on linking agriculture, nutrition, management of natural resources and WASH. The meetings deal thematically with the identification of food groups, cooking demonstrations, kitchen gardening, harvest planning, hygiene practices, etc. Central element for promotion of dietary diversity and resilience is the development of sustainable integrated farming systems

2. **Nutrition Camps:** All the children below 3 years in the project villages will be screened. All children with moderate to severe underweight will attend the nutrition camps with their mothers/care persons. The nutrition camps are organized for 15 days at a stretch to improve the skill and knowledge of mothers on nutrition and health practices and to take care of the children during this time. The camps are also known as "Positive Deviance Camps". The communities steer the process of problem solution in that they identify successful behavioral patterns in the villages, draw up a plan of action and promote this in the community. During the 15 days the mothers come to a central place for approx. 2 hours and attend extensive training in child care practices (nutrition, preparation of food, health and hygiene). They cook and feed their children in the "camp" and take the nutritional supplement Nutrimix for feeding at home. The practices shown at the camps are simple and easy to take-on since they do not necessitate any additional financial cost – such as using nutritious food from local resources, practicing hygiene standards while cooking and feeding small children
3. **Nutrition Sensitive Micro Planning:** Government of Jharkhand is currently implementing the *YojnaBanao Abhiyan* (Village Planning Campaign) where the village committees are facilitated to plan for infrastructure development in their villages for water harvesting, irrigation, soil and erosion control, agriculture, orchard promotion etc. The resources for the implementation of these plans are currently being mobilized under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). Welthungerhilfe along with the partners are facilitating the village level planning process with the communities and also advocating with the local authorities so that the planning processes have significant focus on reducing hunger and malnutrition in the villages and include development of WASH infrastructure.

- 4. Community Linked Total Sanitation (CLTS):** - It is an innovative methodology for mobilizing communities to completely eliminate open defecation (OD). Communities are facilitated to conduct their own appraisal and analysis of open defecation (OD) and take their own action to become ODF (open defecation free). At the heart of CLTS lies the recognition that merely providing toilets does not guarantee their use, nor result in improved sanitation and hygiene. Earlier approaches to sanitation prescribed high initial standards and offered subsidies as an incentive. But this often led to uneven adoption, problems with long-term sustainability and only partial use. It also created a culture of dependence on subsidies. Open defecation and the cycle of fecal–oral contamination continued to spread disease. In contrast, CLTS focuses on the behavioral change needed to ensure real and sustainable improvements – investing in community mobilization instead of hardware, and shifting the focus from toilet construction for individual households to the creation of open defecation-free villages. By raising awareness that as long as even a minority continues to defecate in the open everyone is at risk of disease, CLTS triggers the community's desire for collective change, propels people into action and encourages innovation, mutual support and appropriate local solutions, thus leading to greater ownership and sustainability.

Methodology of implementation of the project

The project is in implementation in the following three stages:

1. Focused interventions in 40 villages on agriculture, nutrition, health and WASH in collaboration with the village committees where community will take the charge of the action and their capacity will be built by the NGO staff.
2. Convergence with ongoing government programmes in the 40 villages through active collaboration with Department of Women and Child Development, Health, Agriculture and Rural Development and by bringing synergy with the flagship programs of the government e.g. National Rural Employment Guarantee Programme (NREGA), National Rural Livelihood Mission (NRLM), SBM to improve extension also better planning and utilization of resources.
3. District and State level advocacy through sensitization of decision makers, policy makers so that the government adopts multi-sectoral interventions linking agriculture, nutrition and WASH as a strategy to fight against prevailing hunger and malnutrition in the state.

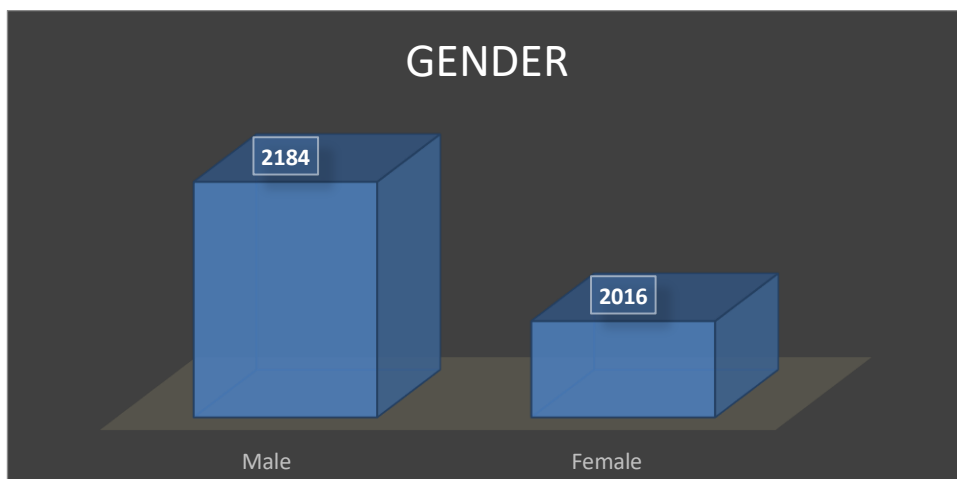
5. Result

This section presents the study results and findings and all the components organized under separate headings which include socio demographic characteristics, knowledge about to improve the nutrition

5.1 Socio demographic Profiles

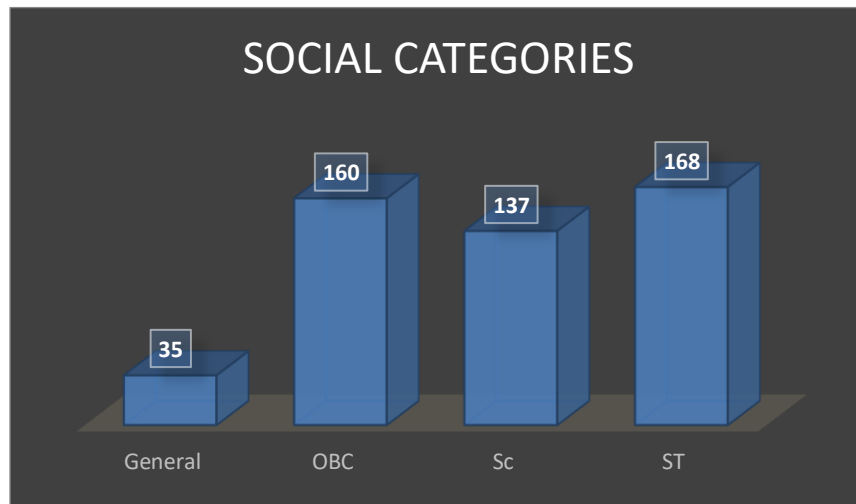
Socio-demographic data for each target group were analyzed using excel. Socioeconomic, demographic distribution of the HH and respondents were analyzed shown in the results. The family size, caste, size of land, average monthly income, decision making information were used to analyze their variation among different categories.

- a. Graph 1 depicts that in 500 HH out of 4200 where 2184 are male and 2016 are Females.



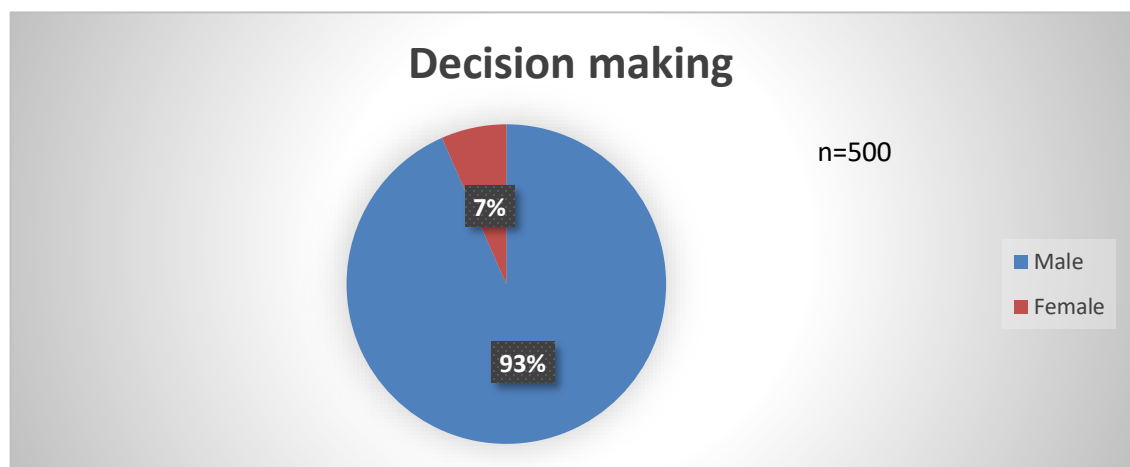
Graph 1

- b. Graph 2 shows that, Sonaraithari is the place of Santhal tribes and is also the part of Santhal Pargana where history says 1.46 million dwelling of tribal people where we can find maximum of the household members are tribal and OBC. Almost 168 of the respondents are ST, 160 OBC and very few general cast around 35 respondent can be found in Sonaraithari block.



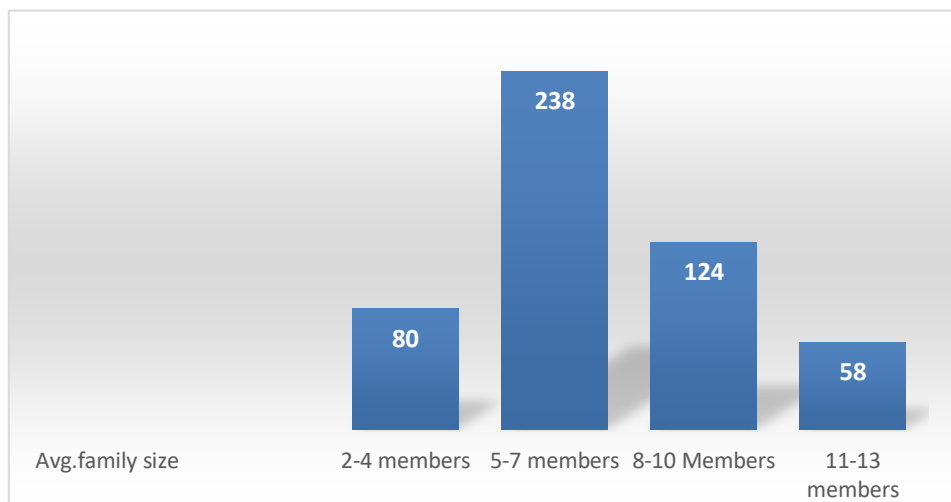
Graph 2

- c. Graph 3 indicates that in which the researcher think can be the best to understand the cause of malnourishment of a family is the person who takes decision for the family on agriculture, education, health, food and monetary management of a family. Where we can see that male member of the family takes majority of the decision of the family where only 7% of the female member of a family takes hardly any decisions.



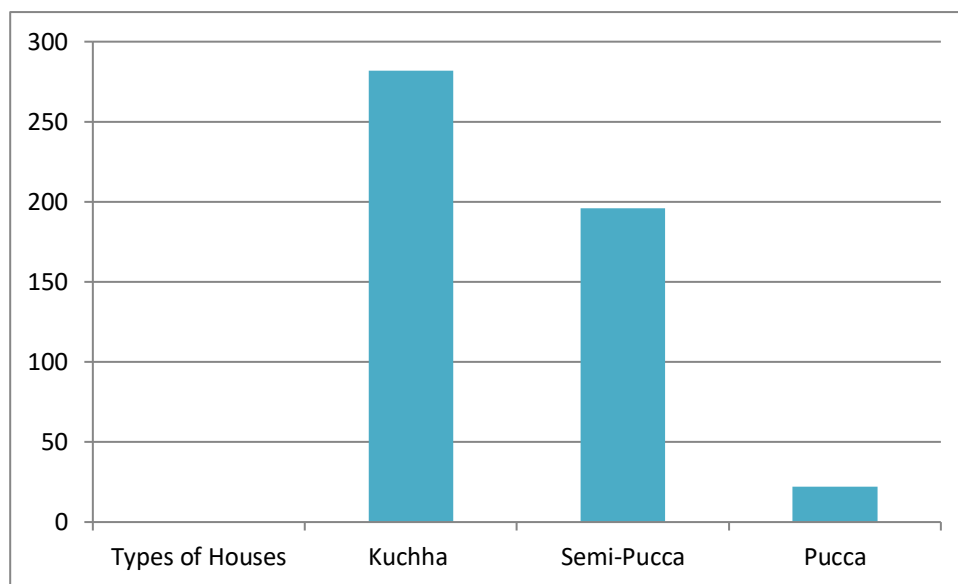
Graph 3

- d. The next indicator to judge the cause of malnutrition is the average family size where it can be hypothesized that size of the family can directly impact on food consumption per head which may directly link with the cause and effect of undernourishment for the children from age group 6m to 59 month. As per capita food consumption may be higher than per capital production of food. 238 respondent has more than 5 and within 7 members of a particular family which includes children of 6m to 59 month which is generally higher than normal.



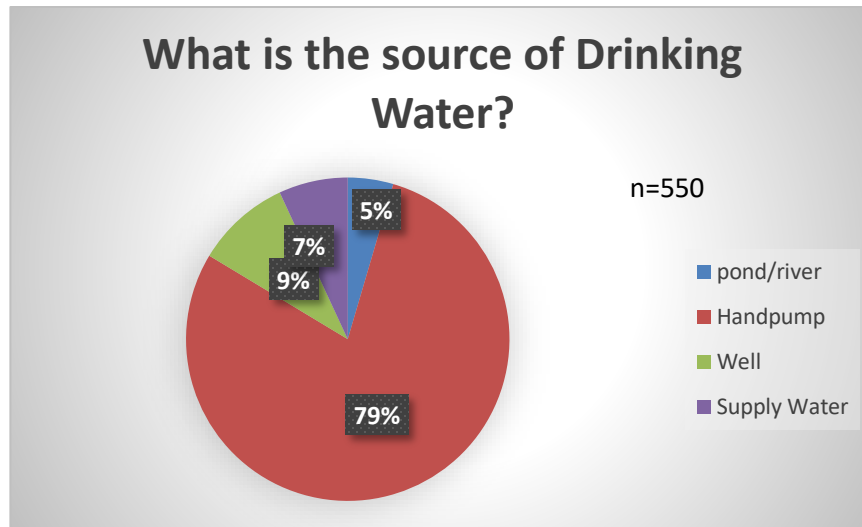
Graph 4

- e. We found that most of the houses are kuchha and semi-pucca, pucca houses are very less in the villages.



Graph 5

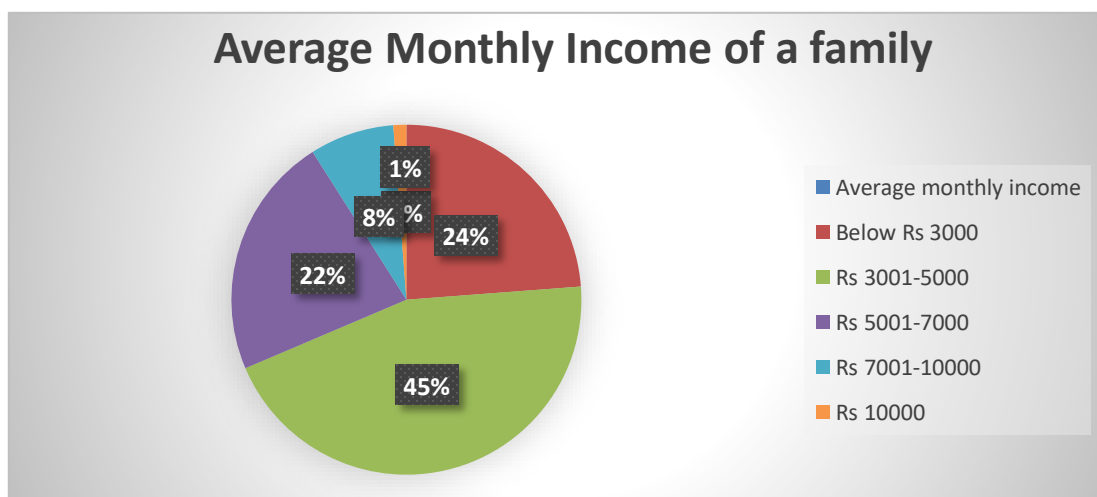
- f. In these villages, sources of drinking water are Handpump, river, supply water and well and in these sources most of the villagers use the handpump but around the handpump there are so much dirty and handpump water are not clean from these water effect on health.



Graph 6

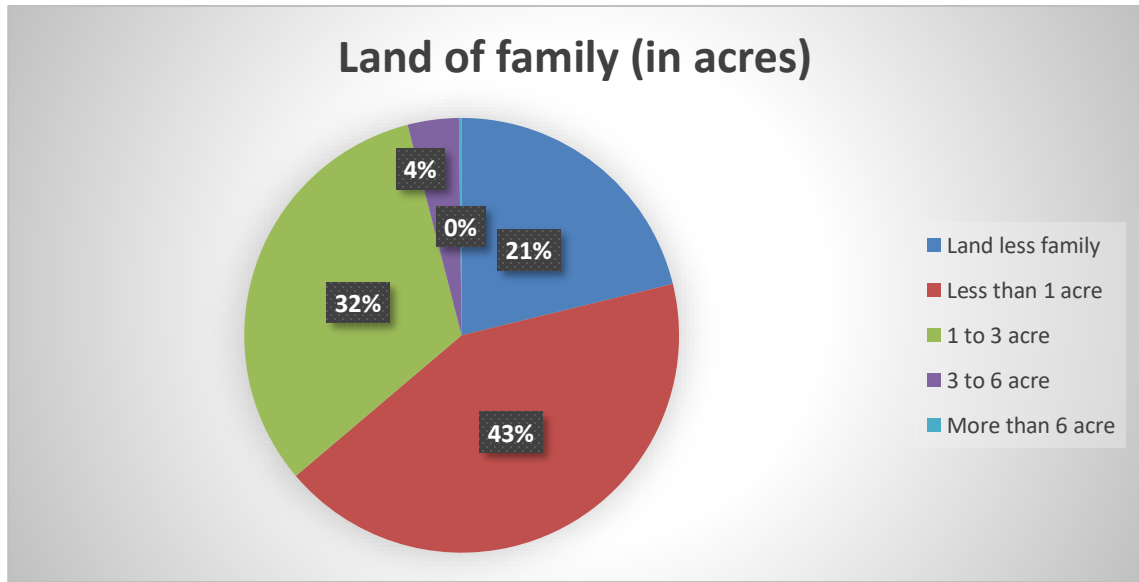
- g. Monthly income of HH is the key indicator used to understand the economic status of the HHs. Where we found that 45% of the average income of the family is between Rs. 3000 to Rs. 5000 and only 8% of the respondent is between Rs 7000 to Rs 1000.

Monthly income of a family plays a critical role in managing malnourishment.



Graph 7

- h. Next Indicator we came across is land of agriculture a family must have to maintain a minimum 5 food group diversity for family consumption along with commercial agriculture, so we found 43% of the respondent has less than 1 acre of land and 32% of the respondent has up to 3 acre of land so land can also act as an indicator for the families having poor diversity of crops or no diversity



Graph 8

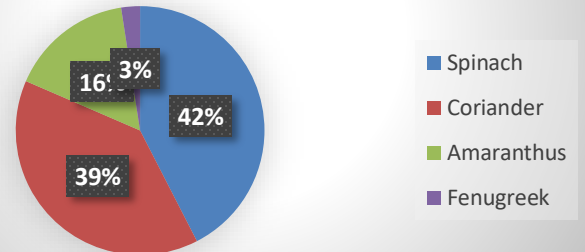
6. Findings from Pre and Post Intervention of project

As the researcher tried to study the strategic intervention and its effects to the lives of the families so the situation has been divided into two category namely pre intervention and post intervention. Pre intervention data has been taken from organization's project MIS data and the post intervention has been studied and calculated by the researcher to find out the notable change in attitude and behavior.

- A. **Pre-Intervention:** - The diversity of vegetable pre intervention can be found from the response of the family that most of the family consumes only saag where fenugreek takes the most percentage 42% and 39% of the family cultivate coriander in Rabi season, there is no such place of other vegetables for the families who cultivate previously which is the main sources of vitamins. From here we can also find no such diversity of vegetables.

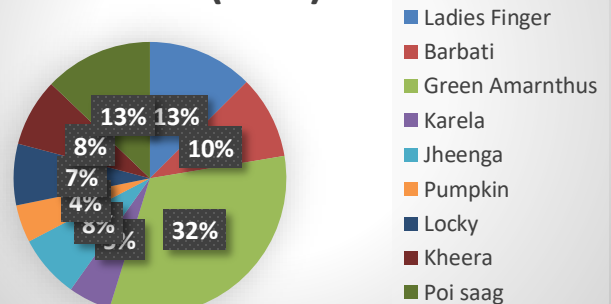
Green Leafy vegetables did you grow last six months? (Pre)

n=735

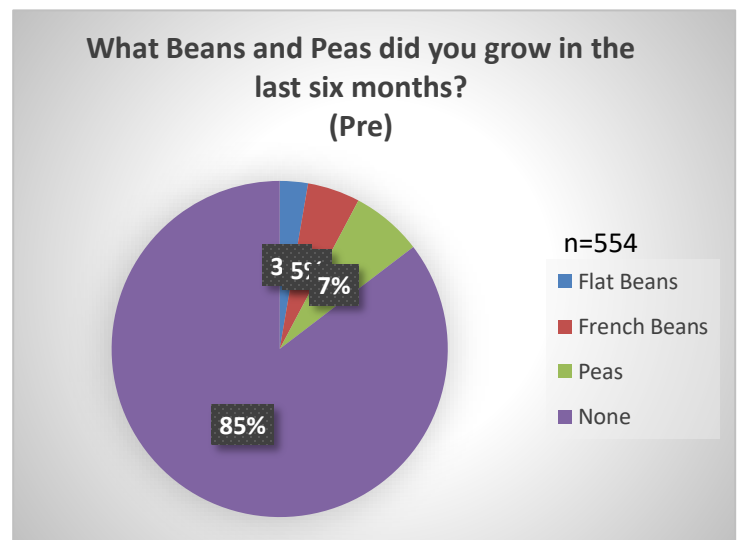


Post-Intervention:- Support through variety of seeds and making them aware of the dietary diversity of children leads the family to cultivate different vegetables in Kharif season, Variability proves the change in attitude towards undernourishment of the families and decrease food pressure and availability per head.

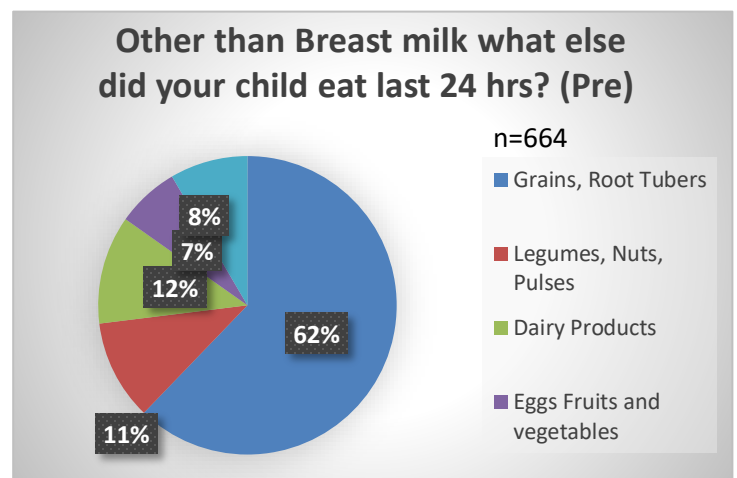
Green Leafy vegetables did you grow last six months? (Post)



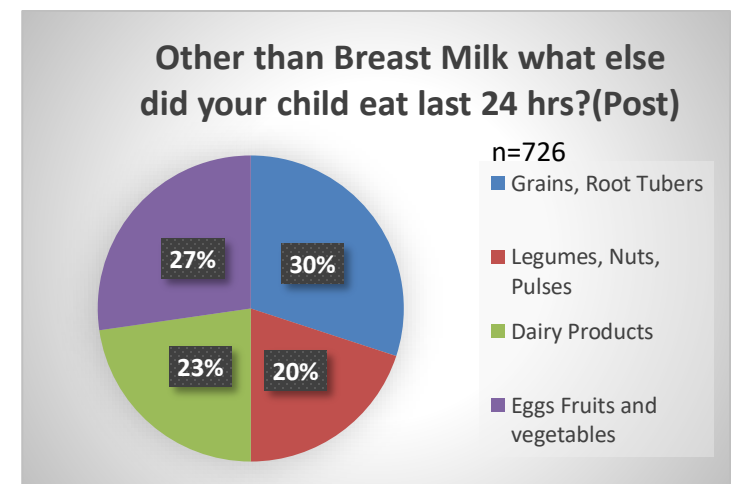
- B. As we all know that pulses are the sources of protein where 85% of the respondent don't grow pulses diversified in any season and don't receive pulses from PDS also so it's proven less source of protein to the family as well as children is a cause of poor GROW food.



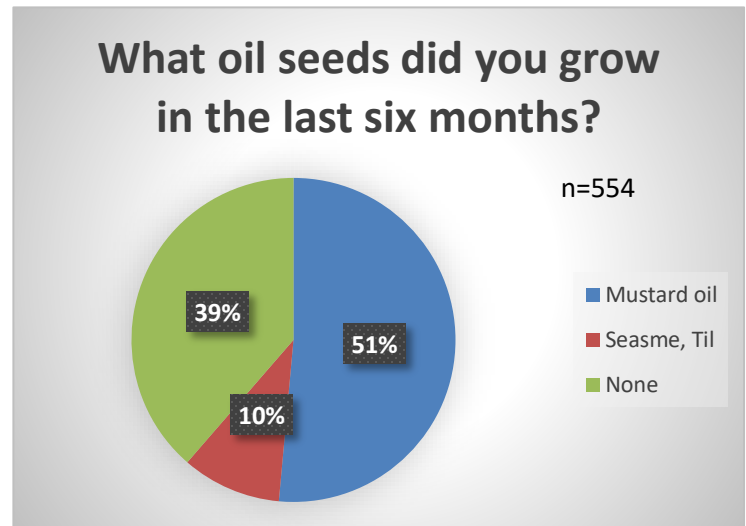
- C. **Pre-Intervention:** - It was also found 62% of the child mostly feed grains and tubers which is the only source of carbohydrate, only 11% legumes and 7% of the vegetables get consumed by the children through family and 12% of the respondent consumes. There is no such concept of kitchen garden in the families and the farmers only practice commercial agriculture like rice, wheat and other seasonal vegetables.



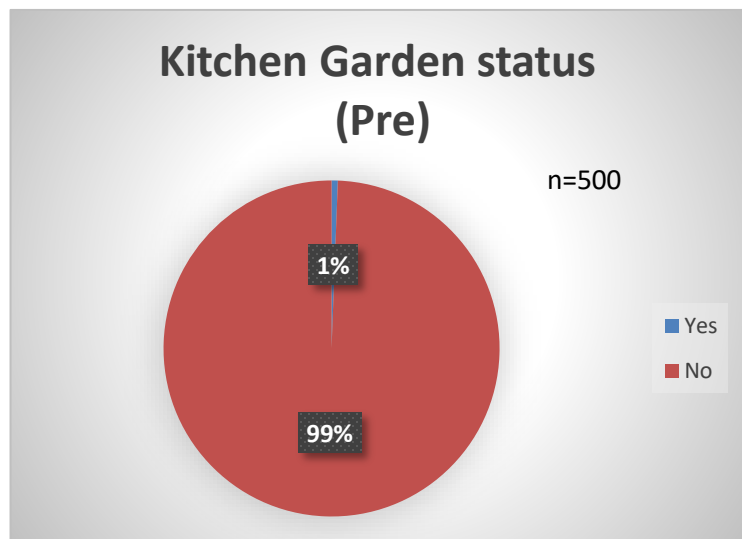
Post- Intervention: - Dietary diversity of the family and children has increased after 3 month where there is 27% increase of the respondent consumes vegetables, 20% of the respondent consumes animal protein and 23% of the respondent consumes dairy products. From the above data we can conclude that there is a variability of food for the family where the family does not concentrate on only energy providing food rather they are cultivating food which both has GO/GRO/GLOW quality.



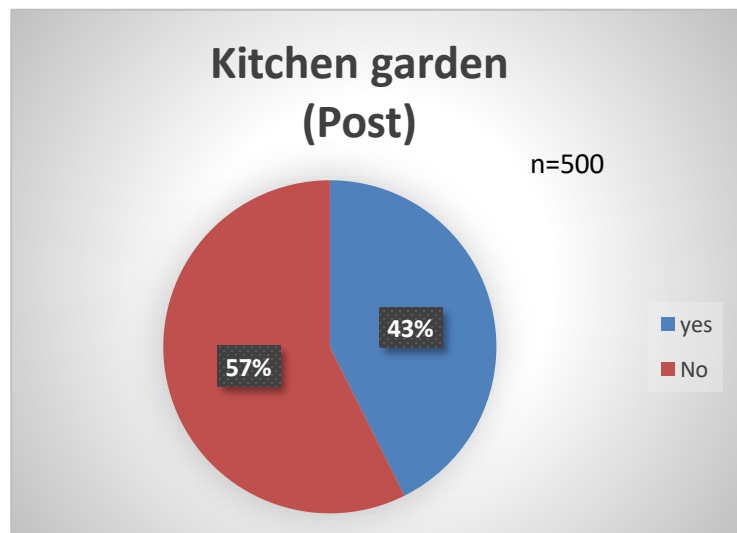
D. In case of oil seeds 51% of the respondent cultivate Mustard in their field which is a commercial cropping and sold completely in the market, as we all know mustard is the source of fat which complete the brain development of a child during first 1000 days. 39% of the respondent don't cultivate any oilseeds and only 10% of the respondent only cultivate Sesame in their field.



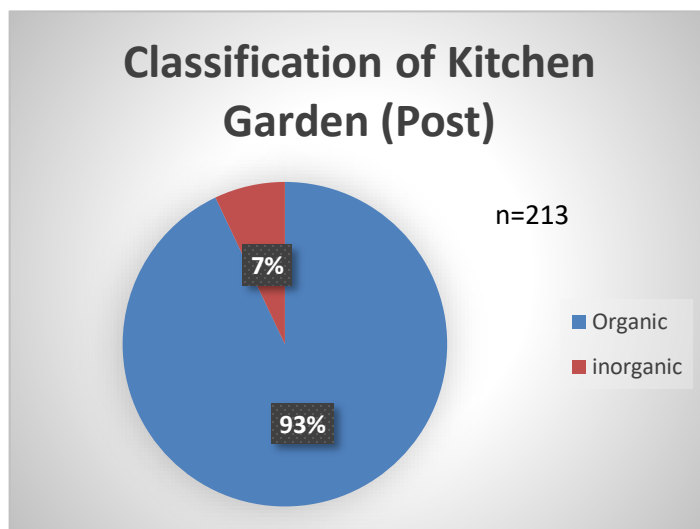
E. **Pre Intervention:** - As we have seen in the previous distribution that the families having land for agriculture don't take diversity of crops. Kitchen Garden plays a key role which is also called as homestead garden. It was found that 99% of the families don't have kitchen garden so the variability of pure natural and diversified food is not available to the families having malnourished children.



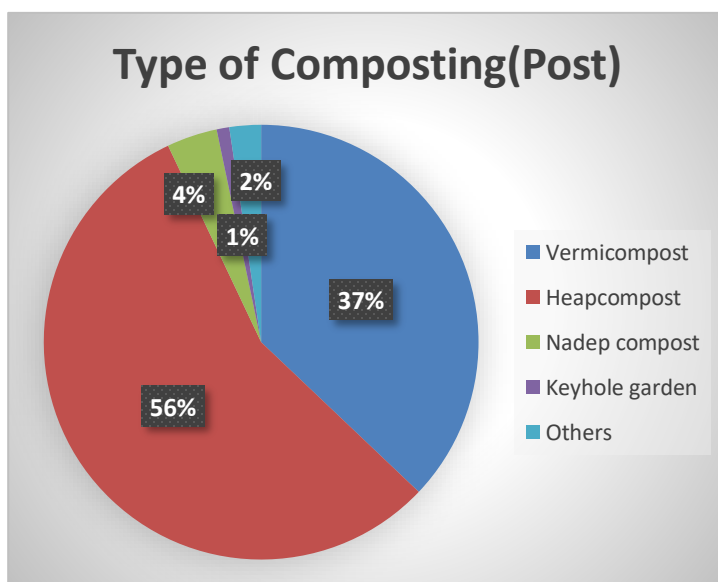
Post – Intervention: - The percentage of kitchen garden found 43% from the previous condition where most of the family's i.e 99% of the families don't have Kitchen Garden previously. It was also found the classification and type of composting the family are now using post intervention. The families change their view on farming pattern focusing a lot on Natural Farming.



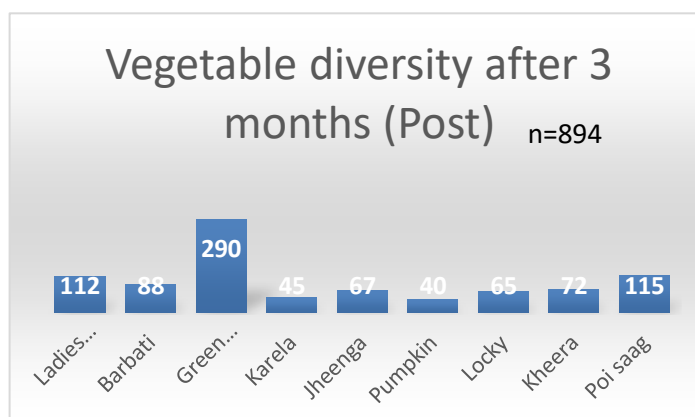
Most of the kitchen Garden found in the household are practiced organic where only 7% of the families practice inorganic manner and 93% of them practice organic manner. Natural agriculture for household consumption of vegetables can put a good impact on diversity of food for the families.



Type of composting the families prefer where 37% of the families understood the utilization of Vermi composting and 56% of the families practice heap composting. It proves that families can change the behavior of chemical farming and they themselves understood the hidden secret of using kitchen garden and organic composting for better and safe health of children as well as family.

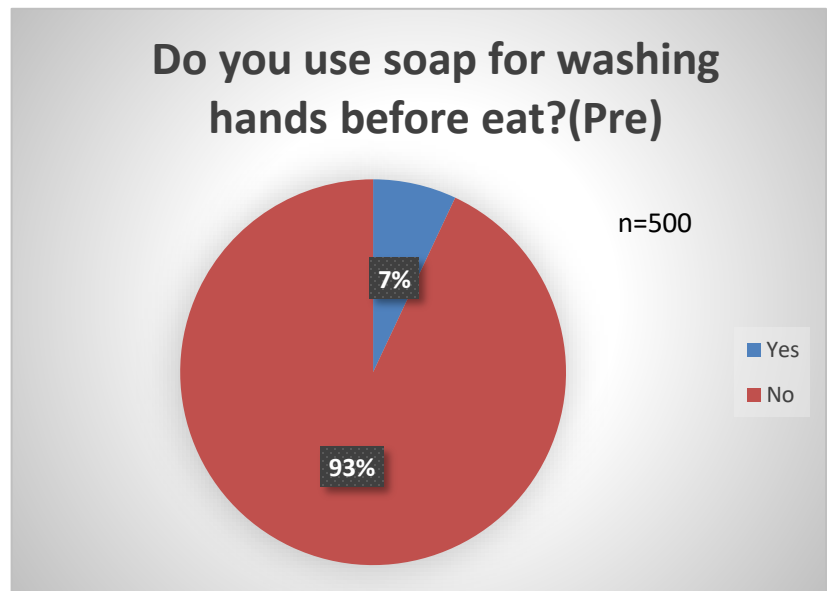


Diversity of crops has also increased where the variability of crops can be prominently visible as all respondents are cultivating vegetables enriched in vitamins not only focusing the one and only root and tubers in Kitchen garden.

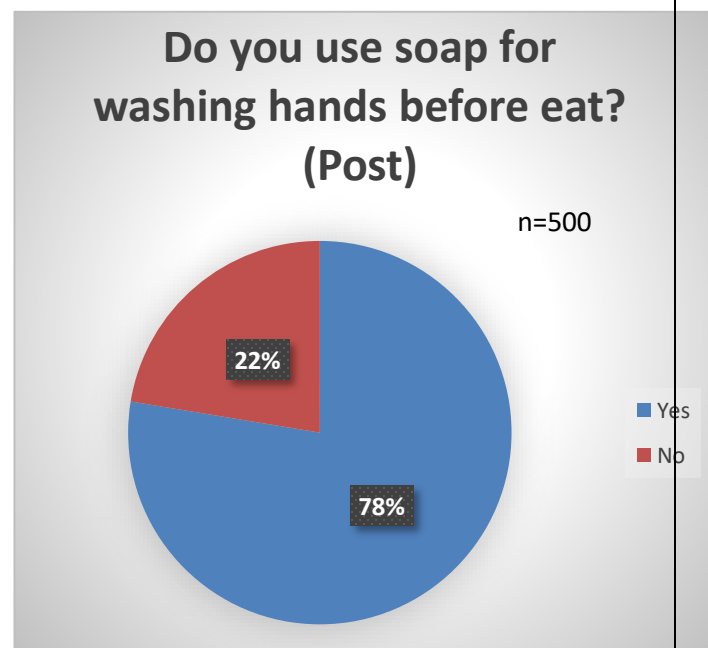


F. **Pre Interventions:** - Water and sanitation plays a critical role in mitigating malnourishment as utilizing of soap, consuming safe drinking water can help a family and its child to keep healthy. So it is found that 93% of the families don't wash hands before eating which is a main cause of behaviour and attitudinal problem of a family to resist

malnourishment only 7% of the respondent completely has no response on usage of soap which is a main cause from the side of hygiene that they are the carriers of germs to the families causing poor health conditions of the children's.

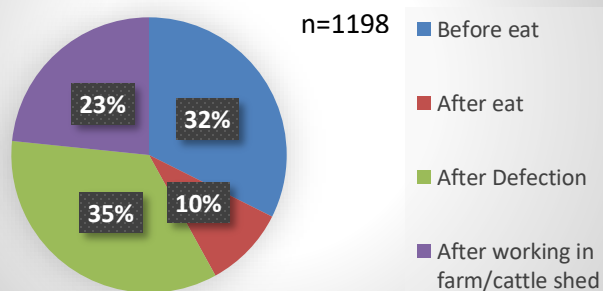


Post Interventions: - It was found that 76% of the respondent now use soaps before eating which was not in practice before the interventions. This represent community behavior change is a best process to find a change in attitude towards WASH



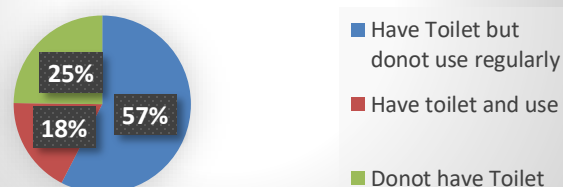
Respondent was asked with the same question with the variety of using soaps where 32% of the respondent use soap before eating, 35% of the respondent use soap after defecation. It is very clear that the families are now aware and can stratify the use of soaps after awareness drive and campaigns.

When do you wash your hands with soap?



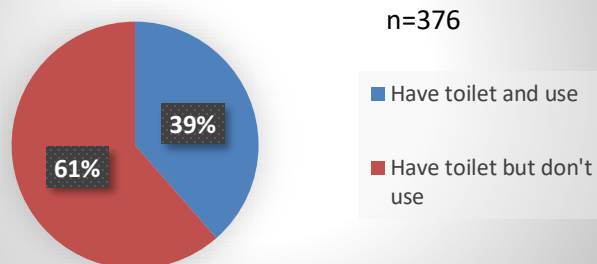
G. **Pre Intervention:** - 57% of the respondent have toilets but not in use and only 18% of the families have toilets, it also proves behaviour change of open defecation is a big challenge till date for the families and need to aware the families on no open defecations.

Does the HH have access Latrine & use regularly?(Pre)

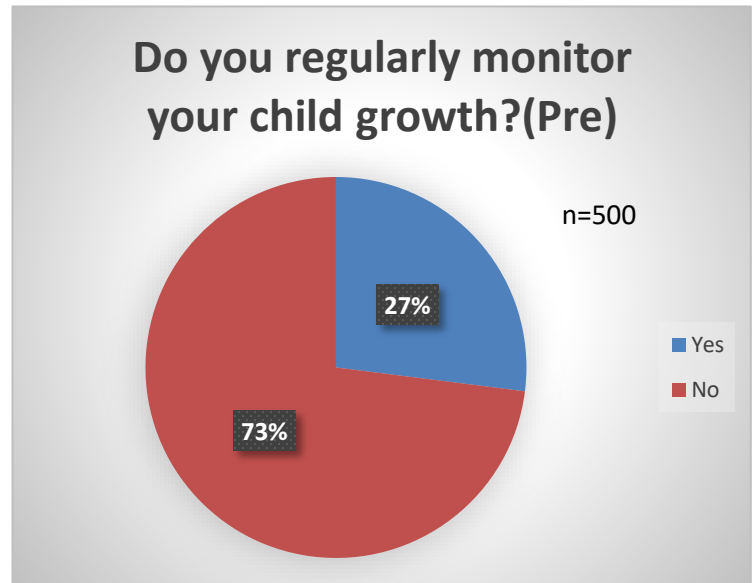


Post Intervention: - After community linked total sanitation campaign and awareness generation on effect of open defecation the respondent start using the toilets constructed by the government. Change in attitude is notable thereafter. 39% of the respondent have toilet and now in use.

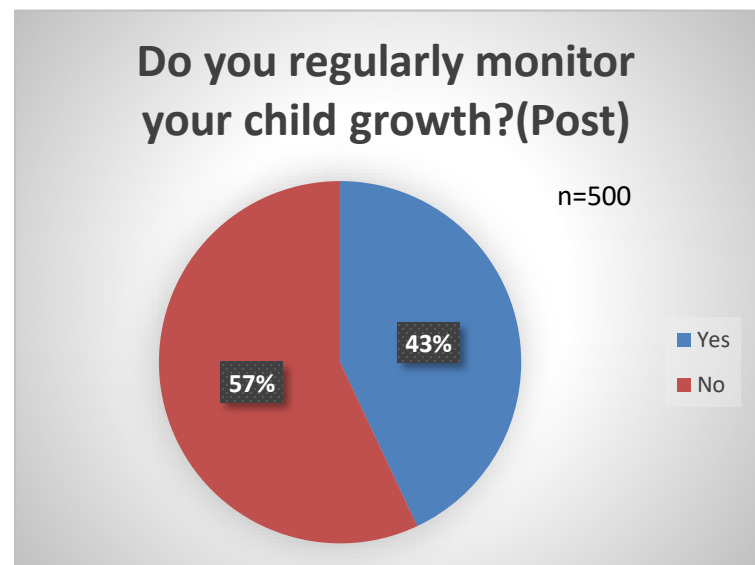
Does the HH have access Latrine & use regularly?



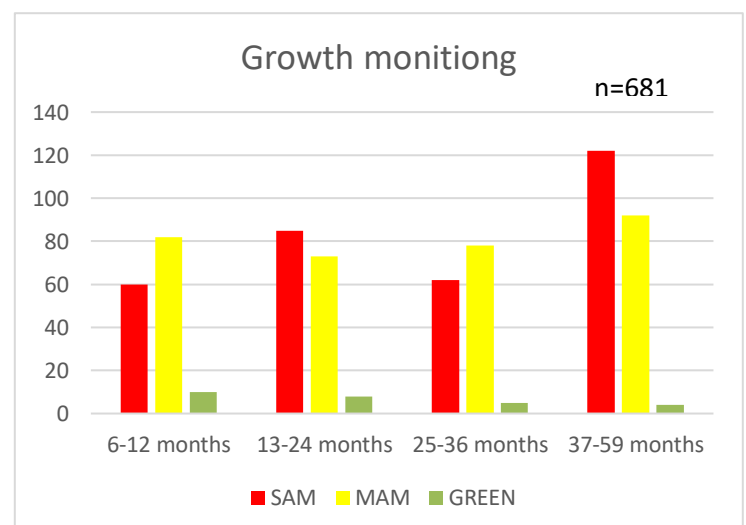
H. **Pre-Interventions** : - The families have the access to anganwari and some them don't have the access of regular child monitoring but still kits and indicator for a family specially mother of the child that weather she monitors the growth and keep a track out of it. It was found that 73% of the mothers don't have child monitoring attitude.



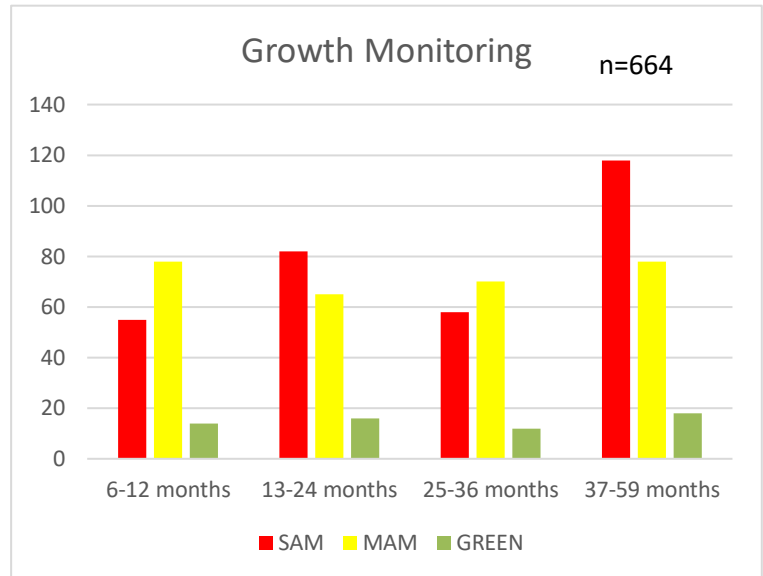
Post Interventions: - After intervention and making the utility of growth monitoring 43% of the respondent now maintain a proper growth monitoring of their children in anganwadi centers.



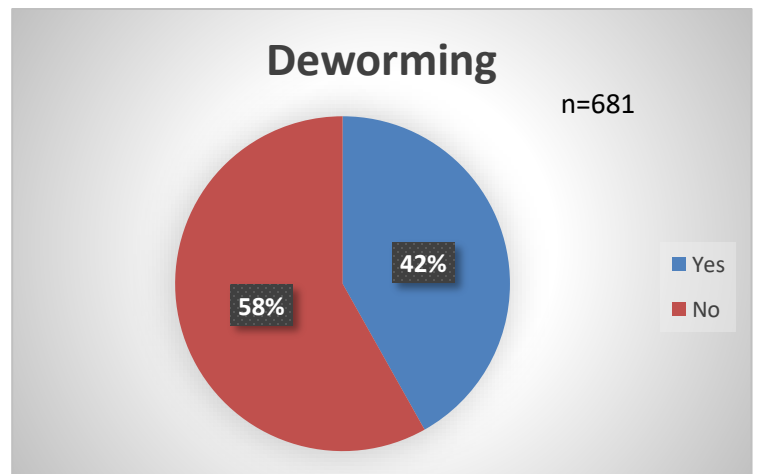
I. **Pre-Intervention** : - The growth monitoring secondary data was taken from anganwadi to find the status of the malnourishment where it is found that out of children only 27 of the child is in green 325 children in MAM and 329 of the children is in SAM category. So it can be concluded that most of the mothers don't follow strict growth monitoring in a regular interval to track the progress of children.



Post – Intervention : - After intervention to find the status of the malnourishment where it is found that out of children 60 of the child is in green 291 children in MAM and 313 of the children is in SAM category. There is a sharp change in growth of children where there is a change in SAM and MAM children post interventions.



After intervention data shows the change that 42% of the children take the tablet for Deworming in Anganwadi center and still 58% of the children are not take the tablet which will change slowly.



Table

This table shows the status of the following activities in terms of pre and post intervention strategies.

Sno.	Name	Pre		Post	
		Yes	No	Yes	No
1	Kitchen Garden status	3	497	213	287
2	use soap for washing hands before eat	35	465	388	112
3	the HH have access Latrine & use regularly	88	288	145	231
4	regularly monitor your child growth	135	365	215	285
5	Deworming	238	443	285	396

7. Discussion

The purpose of the discussion is to interpret and describe the significance of findings considering what was already known about the research problem being investigated and to explain new understanding or insights about the problem after taken the findings from the present study into consideration.

In Jharkhand, nine out of every 10 children aged 6-23 do not get an adequate diet. The nutrition and health status of children in this State has been found to be “critically low” in comparison to the national standard. According to National Family Health Survey (NFHS 4, 2015-16) data, only 7.5% and 7.2% of children in Jharkhand respectively in this age group receive an adequate diet. So, to address the problem out of 10 districts, Deoghar district of which Sonaraithari block has been selected to make the change of the said block. Sonaraithari is a community development block that forms an administrative division in Deoghar district, Jharkhand state, India. It is located 25 km from Deoghar, the district headquarters. As per 2011 Census of India, Sonaraithari CD Block had a total population of 76,116, all of which were rural. There were 39,394 (52 %) males and 36,722 (48 %) females. Population below 6 years was 14,957. [Scheduled Castes and Scheduled Tribes numbered 7,291 and Scheduled Tribes numbered 8,244. Literates of Sonaraithadi block was 58% only out of which 65% were males and 35% were females and in the sonaraithadi block health status was very poor. Children under 5 years who are stunted 62% and who are wasted 35% and 60% are underweight.

The present study illustrated that poor nutrition of children influenced by certain socioeconomic factors such as lack of awareness, lower consumption of diversified food, drinking water, lack of knowledge about nutritious food, immunization schedule, hygiene, sanitation, protein, vitamin, calcium and iron food, they don't regular growth monitoring of child.

It was observed that in sonaraithadi block only 7% of female took decisions about health care and food to be cooked. In a study in North Kivu, over half the participants reported that their

father had the final say in the majority of HH decision. Women decision making power has been shown to be associated with child nutritional status where found that women with lower decision-making power had higher odds of having children who were undernourished.

Family income is also a factor that influences the dietary factor in the nutrition of children. The study of (William A Master) economy causes the malnutrition and family income showed a significant impact on dietary intake.

The studied of Sonaraithadi showed that most of the children consumed the cereals, wheat followed by rice. Intake of pulses and nuts and oil seeds was very less whereas potato, onion, garlic, ginger were the major intake in roots & tubers. The leafy vegetables consumed were spinach, fenugreek, mustard, coriander. There was a low consumption of fruits, there was not much consumption of milk and milk products.

The kitchen garden status illustrates that families having land for agriculture don't take diversity of crops. Kitchen Garden plays a key role which is also called as homestead garden. It was found that 99% of the families don't have kitchen garden so the variability of pure natural and diversified food is not available to the families having malnourished children.

WASH is also a factor of malnourished children. The study of (Heidi Worley) one in four children under age 5 suffer from stunting, a form of Malnutrition in which children are shorter than normal for the age. Stunting or chronic malnutrition is accompanied by a host of problems-weak immune system, risk of sickness and disease and a greater risk of dying before age 5.

A recent story in New York Times explored the high rates of child Malnutrition in India and the countries poor sanitation. For India, the issue is not a lack of food but rather a lack of toilets.

The journal of (Shivangi, 2019) conducted on the nutritional status of children in Uttar Pradesh are the most populous state in India and the highest number of malnutrition in country. Azamgarh is the highest number of malnutrition around 60 percent children lead by Shahjahanpur 54 percent children. In this report also reported that feeding habits. It doesn't take the proteins, iron food, energy which was prescribed in recommended dietary intakes. The consumption of Fats and oils was significantly higher.

In Kerala nutritional status of children are 19% of children are underweight and 28.6% of total population are undernourished. In Kerala 93.91% are literate where men are 96% and women are 91% are literate. In Kerala most of the women took the decision related to health care and food to be cooked. In Kerala they aware about the health-related program, they regular growth monitoring their child. They were many positive things as compared to the studies done on the children of Jharkhand and other States.

Children who take the nutrients diets as given in the Recommended Dietary then their health status is good, but result of the study shows that children unlikely to consume adequate amounts of protein, vitamin, iron and nutritious food, milk and milk products.

As we all know that the first 1000 days from pregnancy through to a child second birthday is a critical moment where a child nourishment determines the child destiny but In the recent studies

illustrate that in the pregnancy women unlikely to consume adequate amounts of fat, calcium, iron, vitamin A, vitamin C, and zinc, from this effect on the child health and women also.

According to the journal of (Stuart Gillespie), Malnutrition is a global challenge with huge and social economic costs, in every country is facing a serious public health challenge due to Malnutrition.

Child malnutrition includes under nutrition and over-nutrition, both of which are deficiency diseases caused by inadequate nutrition (Ge & Chang , 2001). In under-nutrition will also affect physical growth and maturation thus affecting growth rate, body weight and ultimate height.

Obesity is a special form of malnutrition, as this type of diet is likely to have a low nutrient density and high fat and high carbohydrate.

The nutritional status of children is directly related to mother's nutritional status. A recent study in Gujarat "impact of nutrition education among pregnant women with low body mass index" shown that prospective weight gain among women in the intervention had significance over those in the non-intervention group by 2.1 kg. it was also reported that women who take participate a nutrition education program were taking proper nutrition, including consumption of vegetables etc. Hand washing practice before eat and after toilet. So, if the pregnant women health is good than children is also good.

It is clear from above the result that awareness of nutrition plays a vital role of in consuming food items. Women having awareness on nutrition are more likely to consume more of the nutritious food items, milk & milk products.

Kitchen Garden also play a vital role to easily available of nutritious food, without any expenses and good quality of food and from we can choose food according to our choices.

WASH is also play a important role for good nutrition because according to WHO 50 percent of malnutrition is associated with repeated diarrhoea or intestinal worm infection from unsafe water and poor sanitation or hygiene.

So, we found that in the studies that Agriculture, WASH, Nutrition education, Awareness about nutrition, women decision making is playing a vital role to make a good nutrition in children.

8. Conclusion

This section contains conclusions drawn from the study on “outcome of the promotion of activities to improve Malnutrition among the children in Sonaraithari Block of Deoghar District”

Background Information

- In 500 HH out of 168 families are belong to ST and 160 families are belong to OBC.
- In decision making women participation in HHs are very less as compared to Male, 93% of Male take the decision of all thing such as health care. Cook the food in house etc.
- 45% of HH income are 3000-5000 only and monthly income of a family plays a critical role in managing malnourishment.
- We found 43% of the respondent has less than 1 acre of land and 32% of the respondent has up to 3 acre of land so land can also act as an indicator for the families having poor diversity of crops or no diversity.
- Kitchen garden status is only 1% of family have the kitchen garden and 99% of the family don't have the kitchen garden.
- 465 families have not washing the hand with soap before eat from this they are eating foods using unwashed hands which is a bad practice and causes some diseases.

Case Study

A Case Study

Name: - Urmila Devi

Husband: - Puran Rai

Child: - Saraswati Kumari

Age: - 29 month

Village: - Parasboni B



Urmila Devi with Saraswati

Urmila devi of Parasboni village who belongs from the remotest part of the santhal parganasi.e Jharkhand was living a normal life with her family without knowing that her youngest daughter of her three children Saraswati sliding slowly in the lap of malnutrition. She was not well aware of the cause and effect of malnutrition which prevails in Saraswati's daily life. Saraswati was 28 month of age when she was found Severe Acute malnourished with only 7.4 kg which made her to worry for her child. Urmila devi was requested to be a part of the Positive Deviance camp organized by Pravah to rehabilitate Saraswati in her correct Weight: Age. Urmila Devi was in attendance throughout the camp for 15 days and learned lot of things which was previously unknown to her. Her active participation in the camp helped her to bring Saraswati in normal grade retaining a healthy life for her as well as for her family. She was overwhelmed with the

concept of kitchen garden which she learned from Positive Deviance camp and responded to prepare for her family also. “Tirangabhojan” concept was a main attract to her where she showed special interest in cultivating different crops including pulses and vegetables in Kharif



Pre condition

season before she was practicing only mono cropping.

Urmila Devi focussed her village sanitation committee and asked them to clean the village making a proper drainage system for the excess



Post condition

water from the hand pump as she came to know that sanitation is also a vital part to retain Saraswati and other children’s of the village away from malnutrition and severe diseases. She exposed herself in preparing soak pit and its benefit to a village keeping the “moholla” free from mud, smell and diseases. She rushed to Parasboni and asked Jalsahiya (Jalsahiya is a selected member of Village Water and Sanitation Committee / VWSC who looks after water and sanitation of the village) to prepare same soak pit for their village. Taking confidence from the villagers she initiated the work of soak pit with the help of Pravah in her village making phenotypic fabulous change in Parasboni. Villagers appreciate her thought to make Parasboni healthy to uphold.



Soak pit prepared in Parasboni

Pravah also appreciates her inner spark of change which is altering many lives from the hand of severe diseases.

ADDITIONAL INFO.

1. Income: - Her husband Puran rai works as a labour in grossary shops of Sonarathari Block during the months of MAHFP (Months of adequate household food Provisioning) and rest of the time they cultivate Rice, maize and potato in their 1 acre of land. Annual income approx in the range Rs 55000 to Rs 60000.
2. Family Strength: - Seven (7) members of which 4 females and 3 males.
3. Flow Chart of daily activities in PD Camp of 15 days: -





•Day 11: - The day involves reflection of the camp in mothers along with their childrens, where they are given a chance to speak and comment on the proceeding of the camp and sharing the improved knowledge of the mother regarding child care and nutritive care. mascot preparation and rice, dal and egg was the menu for the day. the menu for some village had to be changed according to cultural need as some of them demanded fruits rather than egg. So in replacement we provided fruits replacing egg for the days. Mungjoria had to face the menu change which they replaced with banana and other fruits,



•Day 12 : - Balance diet and its advantage was the main discussion for the day. the material used for the discussion was balance diet flex and tri clour chart.

•Day 13 : - Anganwadi Services and its importance was the main focuss dicussion of the day, where they made to learn with snake and ladder games that what are the basic services of AW centres in the villages.



•Day 14 : - Experiance of the camp and reflection was again shared within the community regarding the useful of ness of the camp and how suistainable it could be done to make the process run with in the family. nutrix preparation with in the community was also done mainly with the mothers of the SAM and MAM childrens. Nutritive Khichri was prepared with in the camp and fed to the children.

•Day 15 : - Conclusion and listing out different measures learnt to fight against malnutrition and practicing these steps in sustainable measures in daily life.

9. Annexure

9.1 Organizational Profile

The organization with whom I worked with is PRAVAH, which is a Non Profit making organization working since 1992 in Santhal Pargana Region of Jharkhand for poor and vulnerable sections of the society. PRAVAH was founded by a group of dynamic social activists and intellectuals with the leadership of Mr. Dilip Kumar, inspired by the ideology of freedom fighter M.K. Gandhi, prominent social thinker Dr.R.M. Lohiya and Jai Prakash Narayan. With the goal to establish Gram Swaraj, influenced by Gandhian philosophy PRAVAH initiated its development mission in 10 villages of Sarwan block in Deoghar district with vulnerable target groups especially women and children of tribal and Dalit communities. Poverty and hunger in the marginalised groups have been deep rooted problems in the area which became the key focus of organizational intervention and most of its programs have been to alleviate poverty and increasing food availability in a sustainable manner. Gradually PRAVAH scaled up its development initiatives through programmatic abilities and its rapport with the local community from 10 villages to 200 villages, where several successful development models have been established in Santhal Parganas region of Jharkhand and have also spread its root in 4 district of Bihar and 1 district of West Bengal.

Vision of the Organization

Establish an equity and just social order based society where everyone must have a dignified and respectful life.

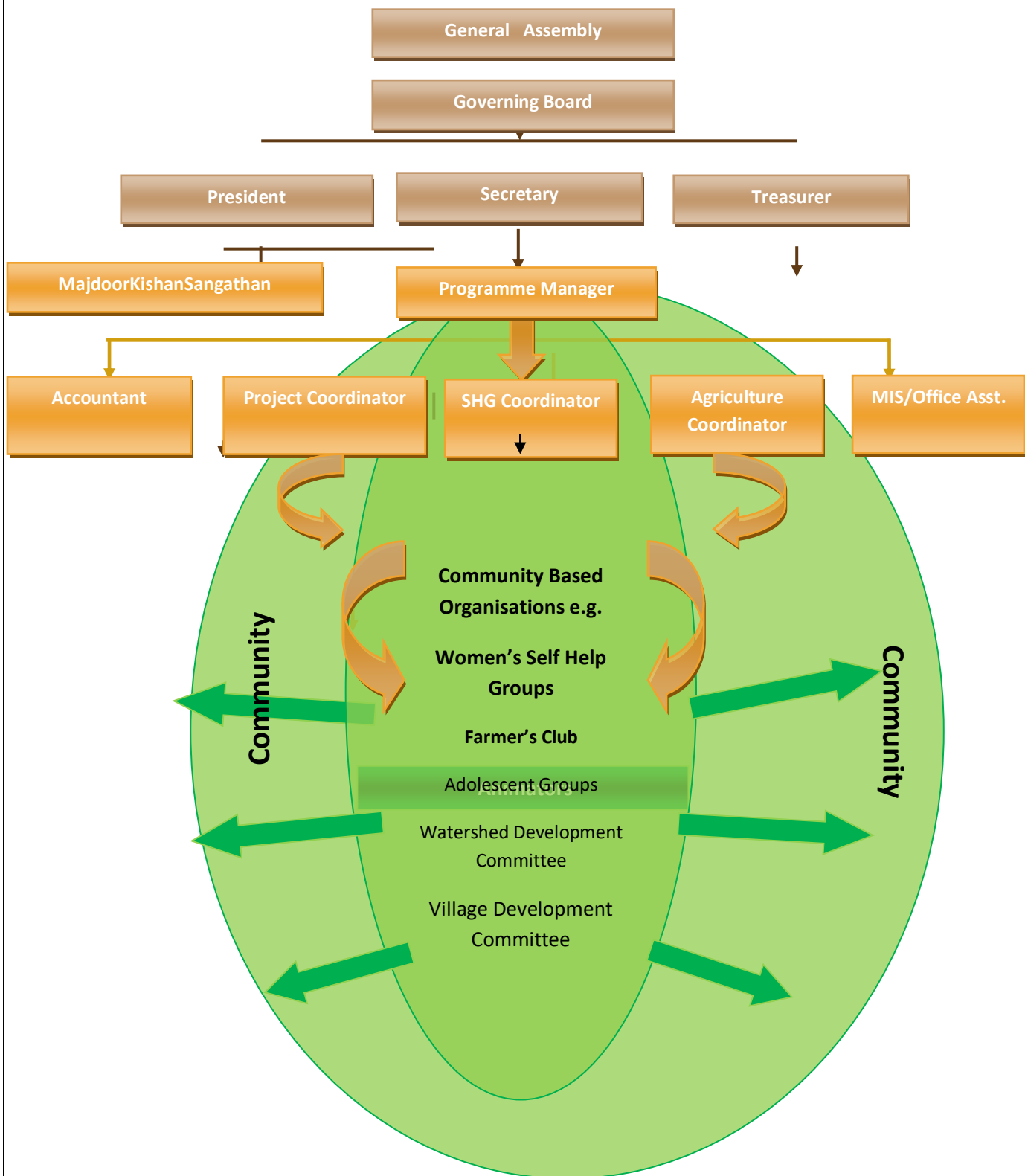
Mission of the Organization

To empower target communities with ensured positive deviance in all respects through transparency, cooperative and participatory approach.

Objectives of the organization

- To form and strengthen community-based organizations (CBOs) for active participation in creative and developmental activities
- To sensitize government officials for mobilizing government sponsored programmes and schemes
- To manage natural resources effectively through active participation of CBOs
- To promote food availability through providing input support and developing irrigation facilities
- To promote agriculture practices including incorporation of both modern and scientific components
- To promote women empowerment to follow the principle of gender equality
- To drive for policy advocate on people centric community based issues.

9.2 Organogram of the organization



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