LEADING IN MALNUTRITION: A CASE OF MADHYA PRADESH IN INDIA

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ABSTRACT

This paper is an outline of the status of malnutrition in Madhya Pradesh with a scholastic view. It summarizes various empirical evidences encountered by the author's interaction with the grass root level activist to find out the causes of malnutrition in the state of Madhya Pradesh, with the help of certain incidental facts and figures. It brings out the fact that there is an integrated failure of the system, and hence offers a conceptual model of integrated approach in coordinated with all the government as well as non government machinery to combat malnutrition.

***Key words**: Malnutrition, hunger index, nutrition.*

INTRODUCTION

The dotted mud houses in Shahadole are pitch dark at night, the children in the village with lean limbs, swollen bellies and dirt all over them, are a perfect picture of malnutrition and the disastrous condition that exists in the village. They do not have enough food to keep them alive, let alone the fact that they have never ever seen the gates of school. The lesson that these children learn from childhood is, how to survive on a liquid made from a mixture of 8 liters of water in 1 kg of rice, for long periods.

Also, Shyamlal, who lives in Mahalwari village in Khalwa, has a shocking saga of starvation and debt to reveal. Four of his children are severely malnourished and he is not in a position to provide food or medicines to them. In order to save his children from the clutches of death, Shyamlal borrowed some grain from a moneylender in his village and because there was no medical facility available in his village he also borrowed Rs.800 to take his children to private doctor. Never the less after all this his children and now he is heavily indebted to the moneylender to whom he has to pay Rs.800 plus double the amount of grain he borrowed ("A sad picture of chronic hunger and unaccountable system", A Malnutrition Report prepared by, Right to Food Campaign Madhya Pradesh Support Group and Vikas Samvad, 2010)

"Welcome to: India, Towards Global Leadership in Malnutrition"

Today, the number of hungry people has, for the first time in history surpassed the one billion mark and now stands at 1.02 billion. Not only will the goal of the 1996 World Food Summit of halving the number of hungry people by 2015 not be reached, but more alarming is the fact that, the number of hungry people is increasing by about 4 million every year. It would be quite excruciating to know the fact that India contributes and is leading alarmingly in this global syndrome.

In India, around 43% of its children under the age of 5 are malnourished or under-nourished.

Malnutrition is more common in India than anywhere else in the world. It is estimated that one in every three malnourished child (approx. 33% of total malnourished children) in the world lives in India. India's Global Hunger Index (GHI) 2008 score is 23.7, which gives it a rank of 66th out of 88 countries. India has consistently ranked poorly on the GHI. The severity of the situation can be analysed by the fact that in terms of GHI even Bangladesh lies below India.This score indicates the continued poor performance at reducing hunger in India. (Table 1 & 2)

The India State Hunger Index (ISHI) 2008 was constructed in a similar fashion as the GHI 2008 to allow for comparisons of states within India and for comparison of Indian states to GHI 2008 scores and ranks for other countries. The India State Hunger Index (ISHI 2008) score was estimated for 17 major states in India, covering more than 95 percent of the population of India (Table 2). In India, malnutrition however varies in different states from 13%- 55% from Meghalaya to Madhya Pradesh. In terms of the states in India, Madhya Pradesh is in extremely alarming situation with the highest percentage of malnourished children below the age of five.

Madhya Pradesh is India's flag bearer in malnutrition. It carries India's highest malnutrition burden, with 60% of its children under the age of five who are malnourished, and approximately 6 million children whose future is at risk. Madhya Pradesh (MP) with a total population of 60 million is one of the poorest states in India with over 37% of its total population living below the poverty line. Scheduled Castes (SCs) and Scheduled Tribes (STs),

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two of the most marginalised groups, constitute 35% of the population and account for 60% of the poor. The paper therefore delineates the case of Malnutrition in the state of Madhya Pradesh in India and discusses a concept model for identifying the key areas of improvement and integration of various efforts in dealing with the situation.

DESCRIBING MALNUTRITION

To describe "Malnutrition", as per the American Dietetic Association, "is a failure to achieve proper nutrient requirements, which can impair physical and/ or mental health. It may result from consuming too little food or a shortage or imbalance of key nutrients." The definition of the malnutrition accentuates the requirement of proper nutrition for the child for his/her growth. The growth is not only for the physical but also for the mental health of the child. The vicious cycle of the malnutrition is linked with poverty, poor health and over all low productivity of the people. The reasons of malnutrition can be traced as low availability of food/nutrient items due to unawareness of the masses, poor health facility, early and child marriage, improper guidance to the mother and a malnourished mother who is unable to supplement enough colostrums which is essentially required for the growth and development of the child. The cycle of the malnutrition is vicious and is generated out of the poverty; contributing to the poor nourishment with the various social evils such as early marriage, malpractices, criminal incidences etc. Also Early marriage in adolescent girls, who are malnourished themselves and have not, yet attained physical and mental maturity, leads to early pregnancy and birth of undernourished children.

The conceptual framework of the cause of malnutrition was developed by UNICEF in 1990's as a part of UNICEF nutrition strategy in the document *Strategy for Improved Nutrition of Children and Women in Developing Countries.* The two manifestations for the strategy has been the child death due to malnutrition which is the result of low/improper intake of the child as well as the mother. The malnutrition leads to either the non survival of the mother or the infant below the age of five years or both. It is also the immediate cause of diseases of pre-natal, natal or post natal period. The unavailability of the nutrition to the mother and the child results in the inability to fight the disease. UNICEF document *Strategy for Improved Nutrition of Children and Women in Developing Countries* examined the causes of this outcome (Fig2). If seen may find a direct relationship of the diseases with the low availability of minimum food requirement in the region for the mother and the child itself. A poorly nourished mother cannot provide for enough colostrums for the child; nevertheless her own survival is at stake. The poor

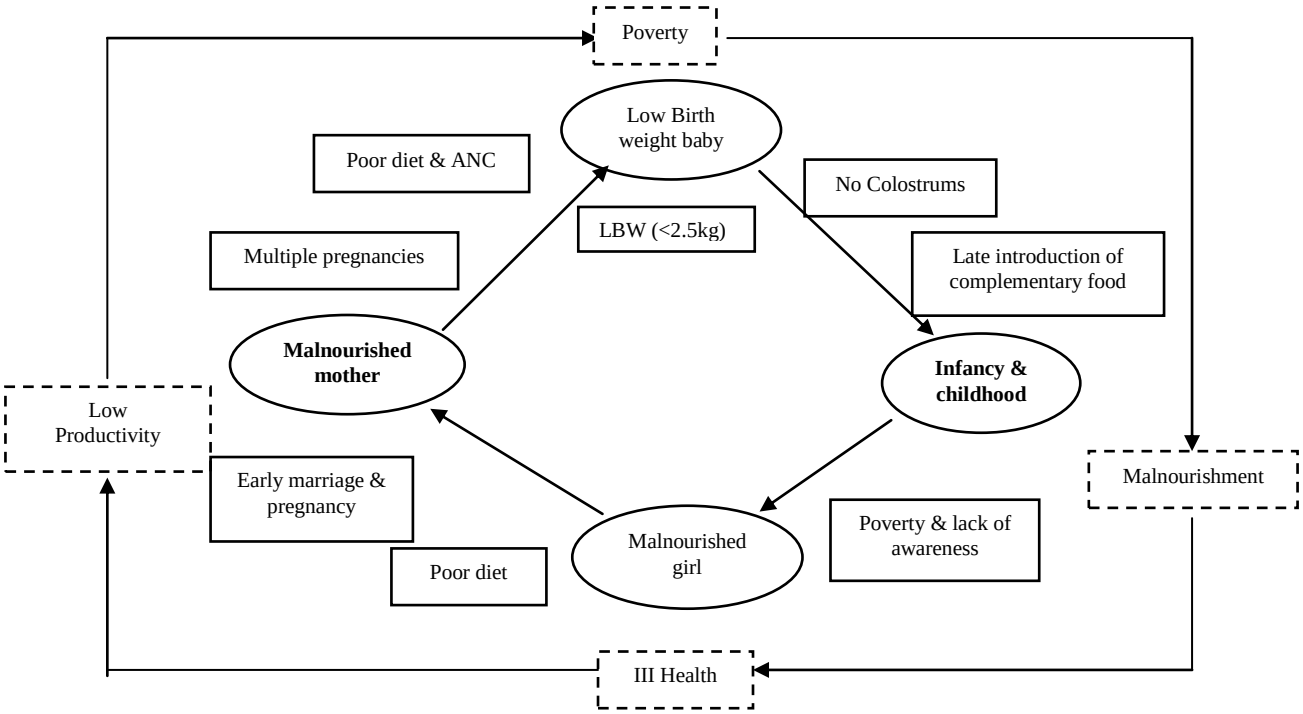

Fig 1. Cycle of Malnutrition

which results in poor health of the manpower in the country (Fig 1). The problem is highly aggravated food infrastructure support is supplemented by the miserable health infrastructure which may provide

for the basic amenities of health services and maternal care.

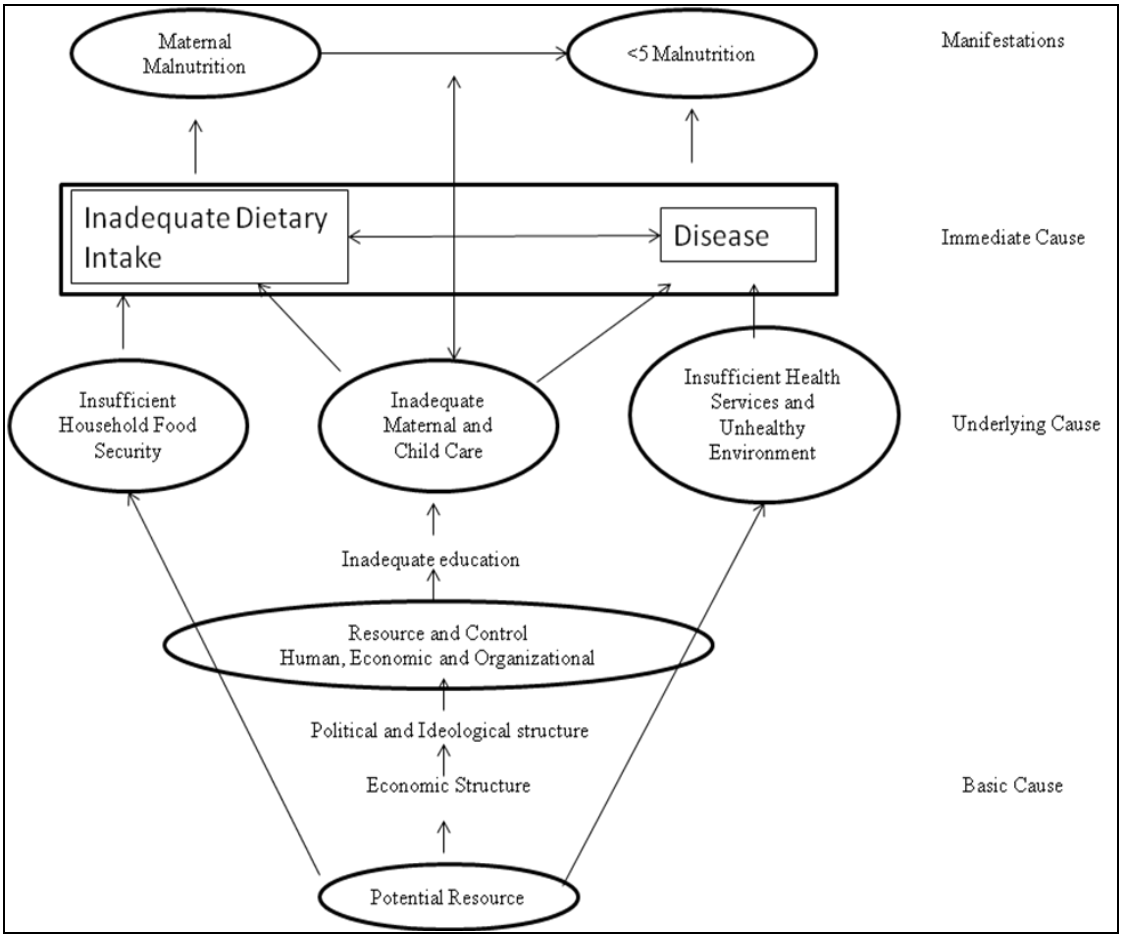

Figure 2 Causes of Malnutrition

Source: UNICEF Document (1990); *Strategy for Improved Nutrition of Children and Women in Developing Countries*

It may be said that the manifestations are an outcome of multilateral under development that may be attributed as the basic causes. The role of formal and the non formal institutions, that include political and ideological superstructure, economic structure and potential resources are important constituents. Although more refined versions of this framework have since been developed, (e.g., adding female education just below the underlying causes and distinguishing human, economic and organizational resources), all of them contain the basic elements which are the root causes in the larger development problem. These issues may be related to the socio-cultural context of the state as well as the geographically heterogeneous states. For instance, food secure households may still contain malnourished children because the burden of women's agricultural and other work (as well as other factors such as inadequate caretaker knowledge) may compromise the quality of child care. Moreover, efforts to *increase* household food security may increase or decrease child (and maternal) malnutrition, depending upon how this is achieved. Similar contingencies exist between Care and Health. If this has been widely appreciated and taken seriously, one would expect to see a strong focus on women's time allocation, household division of labor and community child care arrangements in a wide range of sectoral development work (e.g., agriculture, rural development, income generation, workforce preparation, etc.). Also the basic reason may be the constituent of the emphasis on understanding the causes which reflects a view that the perception of the problem by actors at any level of society has a major influence on which actions are deemed relevant and how resources are deployed.

The UNICEF strategy suggests that an analysis of the *basic causes* may be undertaken, specifically the human, economic and organizational resources potentially available at each level (household through international) and how these resources are controlled at each level (formal and non-formal institutions, political and ideological superstructure

and power). The strategy suggests that the analysis of these basic causes should begin at the household/community levels in relation to the relevant causes in a given setting and only proceed to higher levels when the necessary resources cannot be mobilized at the lower levels. Analysis of these basic causes is to be accompanied by essentially political actions such as awareness-raising, advocacy, cultivation of strategic allies and other actions to build political commitment and re-direct resources in appropriate ways. However in context to the heterogeneous construction of the social and geographical system despite scheme initiative of the national and state agencies their is a significant gap and systematic attention in training, and intrinsically this becomes the most difficult aspect to operationalize any strategy to combat the malnutrition, which becomes very explicit in the case of Madhya Pradesh, India.

STATUS OF MALNUTRITION IN MADHYA PRADESH INDIA AND BASIC CAUSE

The two real stories stated in the beginning of the paper describe the ground level reality of the undernourished families and state of affairs in the state of Madhya Pradesh. The published national statistics (National Family Health Survey (NFHS 3) indicates that MP had the highest rates of under nourished children under 3 years (60%) in the country. (Report Vikas Samvad 2010) The poor quality and low funding of the public health system has resulted in the growth of an unregulated and poor quality private sector. For poor households, use of the private sector has led to high out-of pocket expenditures (often pushing people further into poverty). The score India's Global Hunger Index 2008 score of 23.7 places it in the "alarming" category and Madhya Pradesh thus with a score of 30.87 falls into the category of extremely alarming case of malnutrition. (Table 3)

On survey and exploration of different literature it was found that various districts like Satna, Badwani, Chatterpur, some tribes and villages like Majhgava, Dachera, Hardua, Suapahari, Ramnagar-Khukhla and Nakjher are seriously affected by malnutrition. (Refer Table 5) Most of the adhivasies of Tikamgarh in Madhya Pradesh are dependent on the wild sarnai grass which is their traditional food for survival. Apparently the intake of the grass extinguishes the hunger feeling but gives rise to diseases which ultimately leads to death. In addition, the people of Jatashankar village of Chatarpur district are also depended on wild grass. The children in this village go to school not to study, but to drink water from the drain running through school.

It was very pathetic to find that most of the people in these districts earn their livelihood either from selling the forest product or sometime from the National Rural Employment Guarantee Scheme (NREGA), but NREGA schemes do not offer job opportunities to all and even if some people get jobs through NREGA, they are not timely paid for that. Most of the people complain that the panchayat heads i.e., Sarpanch are not helpful, they keep their job cards with them and do not provide them with adequate and timely payments. Even in most of the cases villagers do not have job cards. As reported panchayat members are hand in glove with govt. officials in swindling the money allocated under NREGA scheme by government of India. People don't have their own land for farming; they live in mud- houses.

Malnourishment and starvation has taken its toll twice on Subash Bheel (a resident of Hingua village, in Badwani district in Madhya Pradesh) who lost 2 of his children (Rakesh and Gaurav) in a period of two months. Subhash is a landless tribal with no means of livelihood. In the year 2010, the panchayat could provide work for only two days and each day's work fetched a meagre amount of Rs 20. Subhash's family consists of 9 members to be fed with barely, ½ a kg of flour (Atta) at his house in a day. Under such deplorable conditions, a helpless and hopeless Subhash said that, he could not even provide medical facility to his dying children. The lives of three more innocent children of this village, had been laid down at the altar of malnutrition and food insecurity.

THE MADHYA PRADESH GOVERNMENT INITIATIVES AND THE REALITY OF INITIATIVES

Due to the daily deteriorating condition, the state government has initiated the following programs to get a hold on to the prevailing situation. The alarming rate of malnutrition in Madhya Pradesh has always kept the government on the scanner. A number of programmes have been chalked out by the state to wash out the problem of malnutrition, but it is found that they are all undertaken by the state only for name sake, since the results are not reflective of the magnitude of the efforts claimed by the state agencies. Some of the efforts and schemes of the Government of Madhya Pradesh are as mentioned ahead.

INTEGRATED CHILD DEVELOPMENT SCHEME MADHYA PRADESH

The integrated child development scheme has been one of the major initiatives supported by the state government. It aims at reaching poorest and the unsupported remote areas of the state with a large network of Anganwadi centres. Along with providing the nutrition services anganwadi centers (AWC) aim at providing: Pre-school education, Health check-ups, Immunization, Referral services, Growth monitoring, Health and nutrition education.

Each Anganwadi centre is scheduled to be opened in every village based upon the strength of village which has an appropriate space of accommodating 40-80 children in properly ventilated rooms. The centre must have appropriate drinking water facility as well as separate toilets for male and female with soap, towel and mirror in it. The centre is provided with enough utensils where the nutritious food can be prepared for all children in a separate room. Each child up to 6 years of age is entitled to get 300 calories and 8-10 grams of protein, each adolescent girl to get 500 calories and 20-25 grams of proteins, each pregnant woman and each nursing mother to get 500 calories & 20-25 grams of protein, each malnourished child to get 600 calories and 16-20 grams of protein. Also the centers are entitled to prepare charts for education and indication of the conditions of malnutrition. The Anganwadi's are provided weighing machines to properly record the weight of young girls, pregnant women and all children. Suitable vitamin, iron and stomach infection tablets are available with the centre's and are to be distributed to all the needful.

Despite the commitments made by the government the actual facts show an entirely different picture. To take care of the health of children and to provide them the benefits of Integrated Child Development Scheme, an Aganwadi Centre was established in the Gaildubba village of Patalkot valley in 2007. District administration took an initiative to establish AWC in remote area. But, the AWC of Gaildubba is now converted into a Guest House for government authorities. The villagers are yet fighting for converting the guest house turned AWC back into AWC for children.

NUTRITION REHABILITATION CENTRE'S MADHYA PRADESH

Malnourished children are referred by Anganwadi workers to Nutrition Rehabilitation centres in order to rehabilitate the nutrition condition in children. The centre works on the guidelines of IAP where a malnourished child is kept for 14 days under the daily observation of a child specialist. The centre records all the information regarding the child including the status of health nutrition as well as socio economic conditions and accordingly the child is categorized on the basis of the age, height and weight. The centres are facilitated by the health department where a child is supposed to be completely rehabilitated and provided with best health care.

THE CASE MENTIONED BELOW SHOWS THE REAL GOVERNMENT EFFORTS TOWARDS IMPLEMENTATION OF NUTRITION REHABILITATION CENTRE SCHEME

Although the four districts namely, Satna, Khandwa, Sheopur and Shivpuri where deaths of 325 malnourished children have been reported between May to September 2008, the number of malnourished children admitted in the NRC centers is either nil or negligible. On 30th Sept 2009 in Jawa block of Rewa district 36 tribal children of Kol community from 22 villages were brought to Nutrition Rehabilitation Centre, Jawa for admission but only 10 children could be admitted in NRC and remaining 26 were sent back. Now, these children may survive or die! Government has not taken any responsibility. While National Family Health Survey loudly discloses the situation of the State, it is noticed that there is a lack of coordination among the two departments. Taking children to NRC is the responsibility of Department of Women and Child development and operationalization of NRC is the responsibility of Health Department. If too many children are admitted to NRC it will prove that there is malnutrition, thus the better strategy would not to take the o children to NRC and leave them to die, because if the child dies in NRC Government cannot deny the death due to malnutrition.

PUBLIC DISTRIBUTION SYSTEM MADHYA PRADESH

Another effort by the state government in order to fight malnutrition is by providing appropriate food grains to all the people through its Public Distribution System. Under this scheme a family living below poverty line with a blue card as well as Annaodaya card holders is entitled with 35 kgs of ration. The Chief Ministers ambitious Annapura Yojana where all the poor people need to get appropriate ration below the ration rates is also implemented through Public Distribution System.

But the case below speaks about the truth of government initiatives. Sivram, a landless wage earner from village Medhapani lost his 18 months old daughter, Shivani. He did not possess a ration card and hence was forced to borrow 1000 rupees recently to buy grains but was failed to save his child.

MID DAY MEAL SCHEME MADHYA PRADESH

In Mid-Day Meal Scheme every child in every Government and Government aided Primary Schools is provided with a prepared mid day meal containing a minimum content of 300 calories and 8-12 grams of protein daily in schools for a minimum of 200 days. If the government is providing dry rations instead of cooked meals then within a time period of three months it should not providing cooked meals in all government and government aided Primary Schools in all or at least half the Districts of the State (in order of poverty) and must within next three months extend the provision of cooked meals to the remaining parts of the State.

The Food Corporation of India ensures that fair average quality grain for the Scheme is available on time. The State and the Food Corporation of India both do joint inspection of food grains. If the food grain is found, on joint inspection, not to be of fair average quality, then it will be replaced by the Food Corporation of India prior to lifting.

The case mentioned below speaks a different story. "The main problem is that whatever the state provides under schemes to curb malnutrition can only be supplementary nutrition, whether it is through ICDS (the Integrated Child Development Scheme) or mid-day meals. It is hard to tackle malnutrition if non-availability of food and livelihood is the problem," says Director of Women and Child Welfare Department (WCD) Kalpana Shrivastava.

EMPLOYMENT GUARANTEE SCHEME MADHYA PRADESH

This scheme provides employment to all the young people of the state so that there is an integrated development of village with the employment of the local poor people for at least 100 days a year at the minimum wage rate. Labor Security cards are also issued under this scheme to provide employment security to the laborers.

If the government policy has been implemented properly then why is unemployment still prevailing in these areas? Malnourishment and starvation has taken its toll twice on Subash Bheel (a resident of Hingua village, in Badwani district in Madhya Pradesh) who lost 2 of his children (Rakesh and Gaurav) in the last two months. Subhash is a landless tribal with no means of livelihood. This year, the panchayat could provide work for only two days and each day's work fetches a meager amount of Rs 20. Subhash's family consists of 9 members to be fed with barely, ½ a kg of flour (Atta) at his house. Under such deplorable conditions, a helpless and hopeless Subhash says that, he could not even provide medical facility to his dying children.

DEENDAYAL ANTYODAY UPCHAR YOGANA MADHYA PRADESH

Deendayal Antyodaya Upchar Yojana was instituted on 25th September 2004. This scheme was designed for socially and economically disadvantaged people of the society for providing access to quality health care to the needy people like SC, ST and BPL families. This scheme also includes people below poverty line. Government under the scheme gives free health services up to the maximum limit of Rs. 20000 a year in government health centres. Government issues 1 family health card to families below poverty line. The card consists of the photograph of the head of the family with the details of all other family members. All the details of the health check-ups of all the members is recorded in the card.

The real picture regarding the implementation of this scheme is depicted below. Lalanman son of

Madhu Mavasi is a resident of Bhatnala Majhgava M.P. His daughter couldn't even survive one year after her birth as she was very weak at the time of her birth and moreover they could't get any support from Anganwadi . Presently he has 2 sons, they too are very weak. There financial condition is not so sound .He doesn't have any job card , ration card, Deen Dayal Antyodaya card and voter- Id card.

BAL SAJEEVNI SCHEME MADHYA PRADESH

Under Bal Sanjeevni Scheme, campaign is organized in Madhya Pradesh in two rounds every year. In the campaign, records are made of the children falling under Grade 4 and grade 3 level of malnutrition. Once data is recorded, they focus on reducing the number of children falling under these categories by 1 percent. This is done by providing medical treatment to these children, providing counselling to the parents of malnourished children by telling them the significance of nutritious food and training them to prepare nutritious diet from low-cost and locally available food material.

Here is the real picture of the implementation of the Bal Sanjeevni Scheme. If we calculate the number of children malnourished according to Bal Sanjeevni report and taking 0.92 percent as the severe malnutrition percentage in the District, the number comes to 2941, it reduces to 2546 if apply the rate of severe malnutrition as 0.80 percent. This clearly shows that the Government is directly vanishing off 395 children out of the records. This is the reality of Balsanjeevni Abhiyan the promising program to eradicate child malnutrition or eradicating Children itself? Similarly, in Khandwa district, 12th round of Balsanjeevni Abhiyan claimed malnutrition to be around 47 percent but when the grass root organizations working in the area conducted a sample survey, the figures turned out to be around 70 percent. Likewise the Government of Madhya Pradesh has been claiming that the ratio of undernourishment has come down to somewhere around 49 percent while according to NFHS III malnutrition proportion for the state of Madhya Pradesh is at 60.3 percent.

ANTYODAYA ANNA YOGANA MADHYA PRADESH

Under this scheme government provides food grains to the Antyodaya beneficiaries at affordable (low) prices. In this scheme the government issues cards to the poor people. Only card holders can claim for the food grains. Sometimes in a condition where an Antyodaya beneficiary is unable to purchase the food grains due to punery then in such cases they are provided food grains free of cost. But to provide free food grains government needs to verify the situation.

The present situation is entirely different. In Bhainsa Tola village of Damoh district, within a span of two months, 7 tribal children died due to malnutrition. The lack of availability of medical facilities in the village, adds to the difficulties of these tribals. Around 10 families here are on the verge of collapse due to starvation and they have not yet been given Antyodaya cards.

The state of Madhya Pradesh requires a thrust of understanding of the issues that are related to malnutrition. We may not find any gap in the intentions of the state as per the layout of the schemes and policy interventions. But somehow the results of the schemes do reflect the inaccuracy of the implementation of the schemes. On search of the literature and the various plans of the government the authors could not find any specific strategic campaign to combat malnutrition. There have been national level exercises such as NAREGA or ICDS supported by UNICEF but they fail due to the state level commitment of outreaching these schemes as per the discussions in above section.

CONCEPTUAL MODEL TO COMBAT MALNUTRITION IN MADHYA PRADESH

Perhaps the state has to reflect back to the framework of UNICEF as per Fig.2 and develop a core concept and level of understanding for the areas of improvement and coordination for the implementation of various schemes at local level. Fig 3 provides for a perceptive reflection of the causes of sustained malnutrition in the state of Madhya Pradesh, based on the various analyses of the schemes and their cases. The conceptual model below Fig.3 explicitly describes the cause of malnutrition in India. If one superimposes the framework of cause of malnutrition Fig2 as described by UNICEF, it will be found that the basic issues of malnutrition in the state of Madhya

Pradesh are only an outcome of inadequate alignment of state policy and schemes.

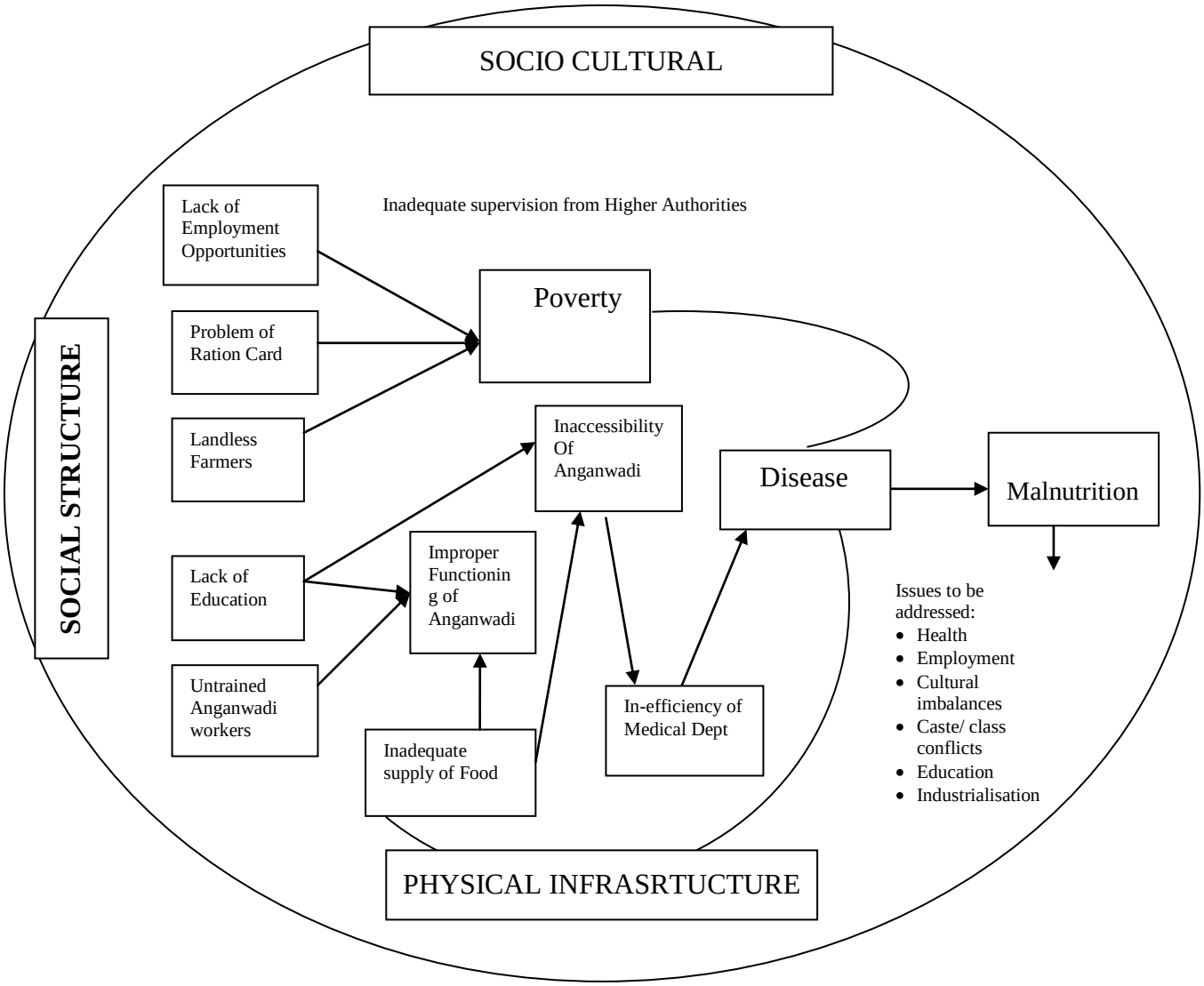

Figure 3 Conceptual Model for reference of State to Combat Malnutrition

Source: Self

The situation becomes more critical when the causes are traced back to the inadequate supervision of the higher authorities. Perhaps the state has never been vigilant in defining the key indicators of imbalances of social infrastructure, industrial infrastructure, agricultural produce as well as rise in socio-cultural heterogeneity. As per the cases above and the Fig3; malnutrition in Madhya Pradesh is a manifestation of an un-harmonized effort of the government machineries. The failure of delivering at all fronts has made the population susceptible to all the ironies of poverty, hunger and suffering. The tribals and the population are still trying to believe and have pride in being the part of the largest state of the biggest democracy. Though India has been dubbed as a welfare state, little is done for the welfare of the poor, as is evident from the situation of the state of Madhya Pradesh. The state spends fortunes on trifle and inane things, but it seems very little responsible for the ever increasing deaths occurring due to malnutrition. It has been aptly said that, hunger is now considered as a curse which some in the society have to live with, though actually, it is the reflection of our misplaced emphasis towards growth for a few. If we go by the data provided by the Government of Madhya Pradesh, about 57 lakhs of children in Madhya Pradesh are malnourished. Government seems to be having its siesta and still claiming to achieve Millennium Goals. It means that government wishes to watch dreams but there are no ground schemes to make them a reality. The state of Madhya Pradesh though claims to have strategies to contain the situation but perhaps the

issues are related to the operationalization of these strategies. The harmonization of the efforts of government is some of the major concerns along with the prioritization of the goals along with adequate supervision.

If the Government does not initiate talks on child health today, the future of the State is likely to deteriorate. A billion people are hungry because they do not have the means to produce food for themselves or purchase it. The majority of these hungry people are rural small-scale food providers, workers and their families, who are unable to grow sufficient food or earn enough income from their production and labour to meet their food and health needs. Hunger and malnutrition are chronic structural problems and worsening in the wake of the food price, financial, energy and climatic crises. The food price crisis has hit particularly hard. Those who depend on markets are affected by global prices for their access to food. Not only have most governments and international institutions failed to reduce hunger and poverty and build on the findings of international processes designed to find ways forward but they have, instead, adopted and implemented policies that have exacerbated the problems. There is an urgent need to change the power and economic structures and policies that have caused the current crises. No sincere efforts are being made by the State for remedy of malnutrition. 82% percent tribal children in the State are suffering from anaemia – as per the report of Prashant Kumar Dubey. The state has been clearly indifferent in dealing with the situation. Starvation deaths are a shame for a country hoping for an 8% GDP growth and a respectable place in the international community.

Therefore, guaranteed employment days under NREGA need to be increased so that people can get better job opportunities. The state should focus on the working of the panchayat heads i.e., Sarpanch, whom most of the villagers complain of not being helpful, and that they keep their job cards with them and do not provide adequate and timely payments.

The performance of the public health delivery system in MP faces several constraints: vacancies of staff and infrastructural gaps, particularly in the poorest 10 districts and tribal areas; lack of drugs and other essential supplies at local levels; weak implementation and monitoring systems; poor accountability of staff and low staff motivation and management capacity. Poor quality and low funding of the public health system has resulted in the growth of an unregulated and poor quality private sector. The state of Madhya Pradesh needs to give emphasis on the day to day decline of the ration quota for the people of below poverty line. Farmers should not be forced to grow crops as in the case that the traditional cultivation of Kodo and Kutki has been replaced by soyabean, cotton and hybrid food crops in many districts which has its impact on the growing food insecurity and deteriorating health of tribes of the people living there. Also at present PDS card holders are receiving only 20 kg of ration instead of 35 kg. This amount is inadequate to meet the average food requirement of a household. There must be increase in this amount so as to ensure their minimum food rights.

The Anganwadi centres require of basic facilities like growth monitoring charts, growth registers, playing kits, utensils and medicine kits, facility of safe drinking water, proper toilets and proper space for cooking food. Moreover Anganwadi workers also need to be responsible for maintaining all this. Anganwadi centers do not have adequate weighing scales; these equipments should be made available immediately. Each and every Anganwadi Centre needs to provide hot cooked meal based on locally produced and procured food grain. Community involvement should be ensured in procurement of grain along with its monitoring.

The dismal functioning of Nutritional Rehabilitation Centre (NRC) has been a glaring example of negligence and inefficiency. Apart from this, there is a complete lack of coordination amongst Health Department, Women and Child Dept., ICDS, Anganwadi centre, Panchayati Raj Institutions and Social Welfare department. There is a need of proper coordination amongst these departments in addition to fixed accountability.

The state needs to ascertain the key areas of focus and develop a synchronized campaign with short term targets across the districts. The areas of focus are health, education, employment and reduction in caste and class conflicts. They need to

be addressed and a technology based indicator of the performances of these areas may be developed. However the model above signifies limitations of the state machinery towards combating malnutrition. As it is the integrated failure of the system, therefore an integrated approach needs to be developed where the focus for addressing the malnutrition has to be a coordinated effort of all the government as well as non government machinery. In short we can conceptualize a public private venture for addressing the issue, the possibilities of which need to be explored.

CONCLUSION

Madhya Pradesh is the largest state (in terms of size) of one of the largest democracies of the world. The state has large varieties of tribal areas as well as the population that is below the poverty line. The dismal state of the poverty and the health is evident across all the reports as well as the evidences across the state. Whether it is district of Satna or Khandwa or Morena or Chatterpur, all are significantly ailing with the issues related to malnutrition. The state has the highest maternal mortality rate; infant mortality rate as well has highest number of undernourished children. The figures are much above the average all India figures. On the contrary the institutional delivery rate of the state is highly low as compared to the other states. The cases as discussed above and the gaps in the various schemes of the government do reflect the inconsistency in the planning and the implementation of the schemes across the state. It seems that the state has to work out for a model of consistent delivery of the health, employment as well as nutritious food for the people of Madhya Pradesh. Schemes better than PDS and Anganwadi, are required in the state. More and more participation of the people from the private sector and NGO's committed for the implementation of the schemes and the solutions may be explored in the state. The key areas that need immediate attention can be summarized as education, health, employment through agricultural development as well as industrialisation. However the requirement is to develop a composite indicator in a form of an index where the performance of all the above can be translated to the final accomplishment of the goal i.e. to combat and bring down malnutrition.

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ANNEXURE I:

Table 1—GDP per capita in relation to scores on the Global Hunger Index 2008

Country	GHI 2008	GDP per capita*
Nigeria	18.4	1,977
Cameroon	18.7	2,124
Kenya	19.9	535
Sudan	20.5	2,088
India	**23.7**	**2,753**

Source: World Bank 2007&Von Grebmered al.2008.

Table 2—The Indi a State Hunger Index and its underlying components Under-five

State	Prevalence of Calorie under-nourishment(%)	Proportion of underweight among children<5(%)	Under 5 mortality Rate(Deaths per 100)	India state hunger index score	India state hunger index rank
Punjab	11.1	24.6	5.2	13.6 3	1
Kerala	28.6	22.7	1.6	17.63	2
Andhra Pradesh	19.6	32.7	6.3	19.53	3
Assam	14.6	36.4	8.5	19.83	4
Haryana	15.1	39.7	5.2	20.00	5
Tamil Nadu	29.1	30.0	3.5	20.87	6
Rajasthan	14.0	40.4	8.5	20.97	7
West Bengal	18.5	38.5	5.9	20.97	8
Uttar Pradesh	14.5	42.3	9.6	22.13	9
Maharashtra	27.0	36.7	4.7	22.80	10
Karnataka	28.1	37.6	5.5	23.73	11
Orissa	21.4	40.9	9.1	23.80	12
Gujarat	23.3	44.7	6.1	24.70	13
Chhattisgarh	23.3	47.6	9.0	26.63	14
Bihar	17.3	56.1	8.5	27.30	15
Jharkhand	19.6	57.1	9.3	28.67	16
Madhya Pradesh	23.4	59.8	9.4	30.87	17
India	20.0	42.5	7.4	23.30	

Note: The India State Hunger Index represents the index calculated using a calorie undernourishment cutoff of 1,632 kcals per person per day to allow for comparison of the India State Hunger Index with the Global Hunger Index 2008. The ISHI score for India using this cut-off is 23.3 and corresponds more closely with the GHI 2008 score for India of 23.7 than any other calorie cut-off.

Sources: Calorie undernourishment: IIPS 2007; child underweight: IIPS 2007 and authors' calculations; under-five mortality rate: NSSO 2007

Table 3—Severity of India State Hunger Index, by state

<4.9 (low)	<5.00-9.9 (moderate)	10.00-19.9 (Sever)	20.00-20.9 (Alarming)	30 or more (External Alarming)
None	None	Punjab	Haryana	Madhya Pradesh
		Kerala	Tamil Nadu	
		Andhra Pradesh	Rajasthan	
		Assam	West Bengal	
			Uttar Pradesh	
			Maharashtra	
			Karnataka	
			Orissa	
			Gujarat	
			Chhattisgarh	
			Bihar	
			Jharkhand	

Note: The categorization of states is done using the same cutoffs for severity as the Global Hunger Index 2008. India's GHI 2008 score of **23.7** places it in the "alarming" category.
Sources: Table 2 and von Grebmer et al. 2008.

Table 4: Health Outcomes: Madhya Pradesh in Comparative Perspective

	Maternal Mortality (per 100,000)	Infant Mortality (per 1,000)	% of Institutional Deliveries	Undernourished children under 3
All India	300	57	41	46
MadhyaPradesh	**379**	**70**	30	60
Maharashtra	149	38	66	40
Kerala	110	14	100	29

(Source: Right to Food Campaign Madhya Pradesh Support Group And Vikas Samvad)

Table 5: Showing malnutrition deaths in different districts in Madhya Pradesh in the past eight months of children belonging to the age group 0-6.

S.No.	District	Village	No of Deaths	Cause of Deaths	Period
1	Badwani	Hingua	5	Malnutrition	October'04
2	Chatterpur	Jatasankar	8	Malnutrition and Measles	August.'04
3	Damoh	Bhaisatola	7	Malnutrition	August'04
4	Khandwa	Saidabad Mohalkheri	8	Malnutrition	March-Sept'04
5	Morena	Maanpur,Mara, Jaderu,Khora and Dhaundha	5	Malnutrition	June–August'04
6	Shivpuri	Different parts of Shivpuri	50	Malnutrition and Measles	March–May'04

(Source: Right to Food Campaign Madhya Pradesh Support Group And Vikas Samvad)