PM POSHAN: ENSURING SOCIAL & ECONOMIC JUSTICE FOR SCHOOL GOING CHILDREN IN INDIA

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Abstract

Hunger among school going children deprives them of attaining a fully functional adulthood. Such children seldom attend schools; difficulty in focusing on classroom education, results in higher dropout rates. Provisioning of meals in schools is part of socio-economic justice initiative for improving attendance rates, learning ability, self-esteem & reducing dropout rates of the student, eventually diminishing hunger and malnutrition. Patriarchal and gender norms in families dictate that available food is first accessed by the male child and then by female child. Anemic and weak, these malnourished young girls after matrimony constitute the bulk of underweight pregnancies leading to high infant mortality and maternal mortality rate perpetuating this vicious cycle of poverty. Caste, class, religion and gender discrimination are a stark reality of India. Mid-Day Meal(MDM) scheme attempts to eradicate poverty and ensure that socio-economic barriers are diluted as children of all caste, religion and gender sit and dine together. Lamentably, due to factors of insufficient support from the government, rampant corruption, hygiene issues etc, the implementation of MDM was suboptimal. Thus central government decided to re-launch MDM as Poshan Shakti Nirman (POSHAN) Scheme, renewing focus on addressing hunger and improving the nutritional status of students. However without significant overhaul POSHAN too may underperform failing to achieve hunger free India. Child hunger and malnutrition varies across country, hence comprehensive vulnerability mapping based on anthropocentric data involving community and families must be undertaken to develop holistic understanding and solution to the problem. The top heavy model of PM POSHAN should be rearranged to equip & strengthen all stakeholders to analyse, identify, plan, implement and monitor the scheme helping in preventing child wasting, stunting and other factors. Emerging technologies such as Artificial Intelligence and Machine Learning can be used in detection, prediction and prevention of malnutrition, arresting India's slide in Global Hunger Index and Global Food Security Index.

Keywords: school meals, mid day meals, PM POSHAN, malnutrition, artificial intelligence, social justice

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Introduction

Children are some of the most vulnerable populations in the world (United n.d.). In any event of natural disasters, wars, armed conflicts etc, children form a disproportionate section of the victims (United Nations Global Compact, n.d.). Being unable to speak and fend for themselves, children have to bear the brunt of hunger and malnutrition. According to World Health Organization data, globally 2.3 million children died within 20 days of their birth in 2022 (WHO, 2024). In a study conducted by the drafting group of the Advisory Committee on the right to food on discrimination in the context of the right to food, it is estimated that almost a third of these deaths are linked to malnutrition (Golay et al., 2010). Many surviving children face diseases such as beri-beri, rickets, night-blindness etc caused due to deficiency of nutrients such as Vitamin A, B1, B2, B12, C, D, K, Iron phosphorus etc. (British Association for Parenteral and Enteral Nutrition, n.d.).

These catastrophes can be prevented or reduced with a proper nutrition and health care plan focused on children. Interestingly, the patterns of hunger and malnutrition in children are not uniform. A girl child in a poor and marginalized section of society is much more vulnerable to hunger. Cultural and patriarchal norms often dictate that available food is first accessed by the male child and then by the female child of the family (Baig-Ansari, 2006). This lack of nutrition and balanced diet severely hampers the growth and development of girl child often resulting in anaemia due to lack of Iron (Kumari et al., 2017). Parents see the girl child as a burden and deprive them of educational and vocational support rendering such females unable to eke out a living. Many of these girls are married at a young age where they face underage pregnancies. A combination of factors of anaemic underage-underweight mother with nutrient deficient diet coupled with lack of proper medical infrastructure causes many women and neonatal to perish during or after the child birth. This is one of the primary causes of high maternal mortality rate and infant mortality rate (UNICEF, 2008). Even if that girl child survives, she will grow up to be an underage-underweight mother continuing this cycle of poverty (Elder & Ransom, 2003). Over time the entire malnutrition affected community lags behind and becomes impoverished (Elder & Ransom, 2003).

No wonder child malnutrition has been termed as a silent emergency by

UNICEF (UNICEF, 2014). While diseases such as cancer and AIDS attract a lot of medical field and media attention, issues such as child nutrition and hunger fail to garner proper interest and attention from government and international agencies. Agencies like World Food Program struggle to secure proper funds to continue initiatives against hunger & malnutrition such as school feeding programs. Lamentably such a state exists despite the widespread knowledge that hunger and malnutrition ruin the productivity and earning potential of affected children. Hunger prevents the child from attaining a fully functional adulthood (Ke & Ford-Jones, 2015). A severely malnourished child is not able to lead a normal, healthy and happy life (Ke & Ford-Jones, 2015). In short hunger and malnutrition are a curse on the affected individual, family, society and nation. Experts estimate that low-income agricultural countries lose approximately 2-3 % of its GDP per year to malnutrition (Gragnolati, 2006).

It is in this light that school feeding programs have gained prominence. Over time they have emerged as a proven initiative to combat childhood hunger & malnutrition (Ke. & Ford-Jone, 2015). The practice of providing meals as part of school nutrition programs in the world is quite old. These programs have a documented history of being run in an organized manner in the city of New York since 1905(Alessandro, 2019). The vision of the pioneers of this program was clear to improve the health and educational prospects of some of the poorest children of the city. Since then such programs have gathered more steam across the world. According to estimates of the World Food Program an organization of United Nations, approximately half of the children of the world receive meals in their schools with many countries across the globe running their own school feeding program (WFP, 2019).

Objectives

The research was undertaken by the researcher to evaluate the new scheme of PM POSHAN. The practice of provisioning of nutrition to children through school feeding program in India is in practice from 1950s. However despite this the issue of childhood malnutrition in India continues unabated. One of the reasons for the uneven outcome of these schemes is that their on-ground implementation is far from ideal and rife with corruption and mismanagement. This study aims to suggest ways in which real time malnutrition can be detected

and timely interventions can be made. Additionally the study aims to identify innovative measures such as use of AI and ML which have been left out of the scheme by the government for addressing child stunting, wasting, anaemia and infant mortality.

Methodology

Research methodology adopted for the research included a detailed analysis of PM POSHAN scheme implemented by the Government of India including primary literature such as guidelines issued by government, press releases and the (PM POSHAN) Automated Reporting & Management System etc. The researcher analysed leading reports on the status of hunger and malnutrition in India such as The State of Food Security and Nutrition in the World (SOFI) 2024 and Global Hunger Index2024 to gain understanding about the major issues such as child stunting and wasting. The researcher also referred to national family health survey data to understand the status of malnutrition and hunger affected children in India.

Analysis

It is important to note that these school education and feeding program that many of the countries, international and civil society organizations operate are not charity rather they are part of distributive justice initiatives. Nutrition, Health and Education form the three pillars of functioning and development of any thriving nation (Food and Agriculture Organization, 2005). A nation with ill citizens cannot function normally and one of the important ways to safeguard health is to ensure optimum nutrition. The provisioning of adequate nutrition at the early age is important as if a person is affected by any deficiency or malnutrition diseases during childhood, then she has to endure the disease throughout her lifetime. Additionally the poor section of the population sees children as helping hands and expects them to share economic and family burdens such as generating additional income for the family or to take care of siblings etc (CRY, 2024). They also believe that sending children to school will pose an economic burden for the family (CRY, 2024). In such scenario they are less likely to send their kids to schools. In the short term the child may be able to earn extra money for her family through use of their labour, but in the long term it poses serious repercussions for the family and society.

Thus the school feeding programs incentivise the parents to send their kids to schools. Even poor parents who are reluctant to invest in the education of their children feel inclined to send their kids to school as it will ensure a quality meal a day for the child. Attending schools brings its own benefits. The researcher believes that access to education makes the population educated and empowered. Education is also helpful in eradicating inequality between different groups and genders. An educated and empowered population is less likely to be exploited and taken advantage of. Such a population is aware of its rights and duties and can effectively participate in the governance of the country. They are more likely to raise voices against societal evils and prejudices. Provisioning of education to a child is an investment in human capital of the society. These endeavours bring multifaceted benefits for the society and the nation in the form of increased human productivity, decrease in the poverty rate etc. Poverty as a phenomenon is not only characterized by lower resources and lower income, but is also related to lower access to education and opportunities (Tilak, 2002). By investing in education, health and nutrition, a nation can over time break the cycle of poverty, remove monopolization of few over resources and uplift entire sections of population from poverty. Nobel Laureate Amartya Sen has heralded primary education as an enlargement of human capabilities, enabling a person to make better choices, reflect on their life, articulate their views as well as be able to enjoy a good life (Rajapakse, 2016). Investment in education also helps in lowering the urban rural gap (FAO. 2010). Lack of quality education is one of the factors which undermines the productivity, employability and the earning potential of the rural population. Investment in education also brings secondary benefits such as drop in crime rate, increased societal cohesion and bonding etc (Crews, 2009). An educated population understands the significance of laws and is more willing to abide by them (Crews, 2009). Thus instead of merely imposing laws, one way to create a law abiding society is to impart education (Crews, 2009).

Despite all these benefits, education did not have widespread acceptance among the poorer sections of the society. The school nutrition programs increased the acceptability and had a multiplier effect in increasing the admission and attendance rate at schools (PM POSHAN, n.d.). They were a major factor in convincing reluctant parents to send their kids to school. In India the practice was first started by Chennai Corporation Council in 1920 by providing 'tiffin' to

students of a local school leading to an increase in the attendance rate (Frontline, 2022). The idea was carried forward by Chief Minister K Kamraj who started free meal scheme in all government & panchayat run primary schools of Tamil Nadu in 1956-1957. The results of this initiative were impressive as during his tenure, the literacy rate increased significantly (Parliament Digital Library, n.d.). Gradually by mid 1980s Kerala, Gujarat & Pondicherry too had initiated their own universalized mid-day meal programs serving cooked meals to school children at primary level (PM POSHAN, n.d.). Finally these state wise initiatives culminated in the centrally sponsored mid day meal scheme.

Mid day meal scheme formally known as Nutritional Support to Primary Education commenced on 15th August 1995 (School n.d.). The scheme focused on providing nutritional support to students of primary classes I-V as the program was launched with the intent of universalizing primary education through increased enrolment, retention and attendance, at the same time also uplifting the nutritional status of the pupils. Initially the program was launched in 2408 blocks of the country which was later expanded to all districts of the country in 1997-1998. In September 2006 the scheme was expanded to include children from classes VI-VIII from the year 2008-2009.

By providing one nutritious meal per day, the central government has attempted to address the fundamental issues of education, nutrition and health, significant for the overall development of the children in the country. Historically too India had been plagued by the issues of caste, religion, class and gender based discrimination. MDM diminished these barriers by making children sit together, sharing a common meal (Samal & Dehury, 2016). Many schools have cooks from the scheduled castes, scheduled tribes & other marginalized communities, who prepare and serve meals to children fostering ties of affection and cordiality which transcend the boundaries of caste and class. As prejudices between the children diminished, the social malpractice and biases slowly eroded leading to a more cohesive society. MDM also had a positive impact of spurring more school enrolment of girl students thereby reducing the gender gap in girls education and nutrition (Si & Sharma, 2008). Uneducated, unempowered, the women had to endure hardships throughout her life. Reformers such as Raja Rammohan Roy, Savitribai Phule tried to mainstream the education of girls but there was a lot of hesitation and resistance to this idea in society (Kamat,

1976). Initially there were some schools catering to girl students, but they were restricted to daughters of affluent families (Kamat, 1976).

Mid day meal has served as a major facilitator of education. The scheme has improved health, life expectancy and quality of life of many beneficiaries across the country (PM POSHAN, n.d.). It has convinced unwilling parents to send their daughters to school (PM POSHAN, n.d.). It was in this light that Supreme Court in the landmark PUCL v UOI 'right to food' case directed all State Governments and Union Territories (UTs) to implement the MDM scheme by providing a meal containing 300 calories and 8-12 grams of protein each day for at least 200 days to all children enrolled in government and government aided schools (PUCL v. Union of India, 2001). The states who were earlier providing dry ration were instructed by the hon'ble court to switch to cooked meals within six months. Understanding the significance of the scheme and its resonating impact on nutritional status of the country, the scheme was made a part of the National Food Security Act 2013 (NFSA). Section 5(1)(b) of the act provided that one mid day meal was to be provided free of cost to all children until class VIII or of age group 6-14 years on all days except on holidays in all government, government aided and local body run schools (NFSA, 2013). This inclusion in NFSA provided legal backing for MDM and also provided the roadmap for its nation-wide implementation. The Act also stated that apart from distribution of meals, every such school would also have facilities for cooking these meals, drinking water and sanitation. While the onus of implementation of NFSA was on the State Government, the Central Government in exercise of powers conferred to it under S 39(1) and 39(2)(b) came up with the Mid Day Meal Rules 2015 to ensure improvement in quality of the mid day meals, better regularity in serving of mid-day meals and overall implementation of the scheme. The Rules provided for responsibilities of various School Management Committees, including the testing of MDM meals by accredited labs. Lamentably, despite consistent efforts by the judiciary, legislature and executive to ensure the effective implementation of MDM, the scheme has failed to achieve optimum outcomes (Kainth, 2013). Whether it be the issue of sub par performance of the scheme in eradicating malnutrition and hunger from children or the cases of children dying after consuming mid-day meal in schools (Samal, 2014), there have been many instances where the on ground implementation of the scheme was found wanting.

Considering the issues of leakages, increased coverage and other modifications, the Cabinet Committee on Economic Affairs (CCEA) agreed to launch a modified version of MDM in the form of Pradhan Mantri Poshan Shakti Nirman (PM POSHAN) scheme (Ministry of Education, 2021). Initially PM POSHAN covered approximately all 11.80 crore students in class I-VIII in government and government-aided schools but later it was decided to extend the scheme to the children enrolled in Bal Vatikas (pre-primary) of government and government-aided schools (Cabinet Committee on Economic Affairs,2021). The scheme has been conceptualised with the goal of both retention and nutrition of school children with features such as per meal nutritional norms of 450 calorie and 12 grams of protein for primary and 700 calorie and 20 grams of protein for upper primary children (Department of Education Himachal Pradesh, 2023). Nutrition norms have been supplemented by food norms comprising of 100 grams of food grains, 20 grams pulses, 50 grams vegetables, 5 grams oil and fat for primary and 150 grams food grains, 30 grams pulses, 75 grams vegetables, 7.5 grams of oil and fat for upper primary children (Department of School Education & Literacy, Ministry of Education, Government of India, 2023). Eating of varied, well-balanced meals consisting of a wide variety of food items such as whole legumes, drumsticks, millets etc to ensure different types and amounts of key nutrients and interest of children is stressed. Children, parents and members of Steering cum Monitoring Committees (SMCs) are to be included in deciding the menu under the scheme. Under Rashtriya Bal Swastha Karyakram, Ministry of Education along with Ministry of Health and Family Welfare have to conduct health checkups of children and also supply Iron and Folic Acid tablets and deworming medicine. Under the concept of 'Tithi Bhojan' people would be able to provide special food to children on special occasions or festivals promoting community participation (Department of School Education & Literacy, Ministry of Education, Government of India, 2023). The initiative would help in bringing the community and the children together. Guideline 7 of the scheme also promotes the creation and development of school nutrition gardens providing children with first-hand experience on issues of significance of nature and gardening. The produce grown in these gardens would be added to the school meal providing additional micronutrients to the children. Supplementary nutrition items would be provided to address the needs of children in aspirational districts and anaemia affected districts. To promote the ethnic cuisine of the given

area and innovative menu based on localized vegetables and other ingredients, cooking competitions will be promoted from village to national level. Use of locally grown items would also provide a boost to the local economy. The participation of Women Self Help groups (SHGs) and Farmer Producer Organizations (FPOs) would be encouraged in the ground level implementation of the scheme.

Considering the persistent complaints of under-performance and leakages in entitlement distribution schemes, guideline 14 and 15 of PM POSHAN mandate monitoring and evaluation. The scheme has mandated social audit for each school to analyse the implementation of the scheme. Social audit helps in understanding the impact of welfare policies on the public (Department of School Education & Literacy, Ministry of Education, Government of India, 2023). While financial audit looks into the issue of proper utilization of financial resources, the social audit helps in presenting the holistic situation of the implementation of the scheme with the active involvement of primary stakeholders(in case of PM POSHAN the children & parents). The exercise promotes transparency and accountability by providing beneficiaries a platform to convey their needs and grievances as well as promoting participation and capacity building. Under PM POSHAN the objectives of social audit are manifold such as verifying the entitlement being provided in a timely and equitable manner in the school to the children, ensuring that there is no discrimination with the children under the scheme etc. Together the exercise helps in bridging the gap between the expected outcomes and real outcomes of the scheme on the ground level.

While PM POSHAN is a quintessential scheme in the government's fight against hunger and malnutrition in India, the truth is that the fight against child hunger and malnutrition will bear no fruit if hunger cannot be eradicated in total. For example the PM POSHAN may provide a nutritious meal to a girl student till class VIII but this will not help her in avoiding anaemia and being underweight during pregnancies i.e. the factors which are responsible for majority of maternal and neonatal deaths during childbirth (Ministry of Health and Family Welfare Government of India, 2013). Such underweight mothers will again give birth to underweight children perpetuating the cycle of poverty and hunger. To break this cycle for women and children, a series of interconnected programs are needed which would ensure nutrition and care at all stages of life contributing to a holistic eradication of hunger and malnutrition.

Whether it be Targeted Public Distribution Scheme in operation since 1997, mid day meal Scheme in operation since 1995, National Food Security Act in operation since 2013, the emphasis of all these schemes have been to make the entitlement available. The NFSA went a step further and made rationing a legal right. However the problem of hunger and starvation has not abated. In fact India has continued to fare poorly in the Global Hunger Index and The State of Food Security and Nutrition in the World 2023 (SOFI, 2023) report by Food and Agriculture Organization. The government of India dismissed the global hunger index as a 'flawed measure of Hunger' which did not reflect India's true position (Global Hunger Index, 2023). The report indicated 18.7 % of children in India are affected by child wasting, however government figures reported it to be lower than 7.2 % month to month based on the data of 7.24 crore children available on POSHAN tracker platform (Global Hunger Index, 2023). The government also dismissed the SOFI 2023 report which pegged proportion of undernourished population in India at 16.6% based on the Food Insecurity Experience Scale. The Government of India responded by calling the methodology of the survey into question by citing that the sample was based on the survey of 3000 respondents which was inadequate for a large country like India (Global Hunger Index,2023).

While there might be disagreement over the data and conclusion of the various global reports that India has slid in its commitment to fulfil food security for its citizen. There exists certain degree of congruence between the findings of these reports and the findings of the government. In fact when the POSHAN Abhiyaan was launched in 2018, the aim with regards to children was to achieve improvement in nutritional status of children in 0-6 years and to reduce stunting and wasting (POSHAN, 2023). Even by the government's own admission, 7.2 % of 7.24 crore children numbering more than 50 lakh are suffering from wasting as per data available on POSHAN tracker. The figure may be significantly higher if children on streets and vagabond children who are likely not recorded in the tracker are included in this figure. Such figures reinforce global hunger index finding of India having the highest child wasting rate in the world. Similarly the under-five mortality rate per 1000 live births in India is 41.5 based on National Family Health Survey 5 data (Health an Integral Component of Social Welfare, 2023) which is significantly higher than Sustainable Development Goals (SDGs) target of 25 per 100 live births (Raina, 2023). Since independence India has achieved gradual successes in

its fight against hunger and malnutrition yet there exist many areas of focus and improvement. In such a scenario summary dismissal of such reports by the government will only be counter-productive. Instead, the government should look to specific areas for careful interventions, decreasing India's Infant Mortality Rate, Maternal Mortality Rate, Child Malnutrition Rate and finally helping in achieving its SDGs.

The government is aware of deficiencies in the implementation of different nutrition related schemes. Time and again they have tried various measures to address the shortcomings at ground level. For example the government has extensively used IT (information technology) resources to augment various schemes of nutrition support. Data is entered online in PM POSHAN. Its reporting and Management System is automated, Reporting & Management System wherein various details about number of schools, meals being served etc can be accessed (Department of Elementary Education Government of Himachal Pradesh, 2024). Specifically, web-enabled PM POSHAN-Management Information System (MIS) and Automated Monitoring System have been launched for effective online and real time monitoring of the scheme. The data of schools is entered into MIS by 15th of succeeding month. The uploaded data can then be analysed for effective monitoring of the implementation of the scheme and check for instances of mismanagement and corruption. Prolonged analysis of data on yearly basis can help to identify bottom performing states which can then be helped with technology making for a much more effective intervention.

Technological adaptation in food security and nutritional intervention programs has witnessed significant upgradation in recent times. From mundane data entry and accounts keeping, to artificial intelligence, technology has grown by leaps and bounds. Machine Learning (ML) combined with Artificial Intelligence (AI) can help identify the factors such as irregular allocation of foodgrains, untimely delivery, lack of departmental oversight, erring officials etc which are responsible for underperformance of the scheme. Additionally gender, age-group, menu of meals being served etc can be juxtaposed with data such as height, weight, arm & head circumference to identify the correct combination of food to cure stunting, wasting and anemia in a particular area. Recently the World Food Programme has come up with an artificial intelligence

powered first global school menu creation platform (World Food Programme, 2024). The platform is free and internet based and can be accessed all over the globe for meal optimization leading to more nutritious, affordable and localized meals. The software is especially helpful for school feeding programs that run on tight budget and have limited menu options. Such platforms should also be integrated into the PM POSHAN so as to plan the menu and suggest suitable supplementary nutritional measures keeping in consideration, availability, budgetary constraints and dietary habits.

To make sure that ML+ AI combination can work, proper data collection is quintessential. Teachers should be trained to spot children with symptoms of wasting and stunting. They should also be tasked with collecting vital details such as height and weight of children, circumference of their head, circumference of their upper arm. These monthly data collected by the schools regarding students can be recorded in an online portal which would be connected with artificial intelligence. Earlier this data was being collected and analysed by conducting physical checks on children, however many teachers/field workers are not properly equipped or were ignorant about the correct procedure leading to collection of flawed data. Additionally measurements are taken on paper, then entries are made in log book which are finally entered into an excel file. This was quite a lengthy and time consuming process with probabilities of error at every stage. This is where the use of artificial intelligence comes into picture. With the help of an AI powered app and camera and infrared sensors equipped smartphone, a student's weight ratio, body volume, height and head circumference can be instantaneously recorded and analysed. Right now it is the private sector which has taken the initiative to develop such tools (Microsoft, n.d.). So the government should either collaborate with the private sector or should develop these technologies on its own.

The artificial intelligence would in a transparent and convenient manner, detect malnutrition indicate the vulnerable child and suggest appropriate remedial measures. As malnutrition is timely detected, it would become much easier to address. The second step in the process would be to deploy machine learning i.e. intersecting statistical learning with artificial intelligence to uncover patterns and relationships regarding malnutrition (Bitew et al., 2021). For example in a study in Bangladesh involving prediction of malnutrition in women by application of machine learning based algorithm- age, region, wealth index, respondent's

education, currently breastfeeding, marital status, toilet facility were identified as potential risk factors for detection and prediction of malnutrition prone women (Islam et al., 2022). The model suggested by researchers employing machine learning was able to identify vulnerable women in less time and low cost. As vulnerable patients are quickly diagnosed, timely interventions can be made. As has been reiterated earlier that whereas earlier schemes such as MDM were focused on feeding the children, contemporary schemes such as PM POSHAN are focused on eradicating the lagging behind areas of child stunting, wasting and anaemia. Thus machine learning will help in identifying the patterns of specific issues such as anemia in women and children by identifying risk factors such as age, caloric intake, intake of iron & folic acid etc. Making it much easier to treat through advance prediction & screening of vulnerable sections. It is for this reason that time has come to embrace this technology in the PM POSHAN.

To be sure that the technology adaptation is uniform in the country and to streamline the process of data collection & analysis, Anganwadis, Balwatikas & schools will have to be made centre of the activity. Using them as a focal point to resolve the issues of child stunting, wasting, undernutrition and anemia has many advantages. First it will be economical and save cost by utilizing the existing infrastructure. Incidentally one of the major focus areas of POSHAN abhiyan was to leverage technology for the purpose of monitoring and improved service delivery for all the beneficiaries such as children of age group 0-6 years, pregnant and lactating mothers etc (New Poshan traker App, 2021). For this purpose the Ministry of Women and Child Development, Government of India has created an app called POSHAN Tracker App. The app has various means of data collection and ensures authenticity by AADHAR seeding and Local Government Directory mapping (LGD). Second educated and skilled teachers are present in schools who can be trained to use the app and record the data. Teachers have been collecting different data in the past and are knowledgeable. Any lack of expertise can be countered through extensive training programs. Thirdly and most importantly, since the program will be run from school there would be strict standards of data privacy. The data of students is sensitive and it must be handled in the manner prescribed by the government under the Digital Personal Data Protection (DPDP) Act 2023. As the entire process is being done in the government schools, it is easier to fix accountability and observe standards. Fourth government is already asking for uploading photographs of children on its

POSHAN tracker app (Complete Guide Poshan Tracker, n.d.). Daily photographs ensure that Anganwadi centre is open and functional. There have already been extensive guidelines from the technical details to the frequency of uploading of photographs to cost of mobile phones and data plans etc. The only additional action required will be to link the app to an AI software, which can scan the photos for potential hunger and malnutrition issues. The AI software will also ensure that old and repeated photographs are not used for any corruption in the system. Fifth, since every school is LGD mapped, it is easy to identify Anganwadi to a particular village and urban local body. If the instances of malnutrition are severe, immediately the government can contact the local self-government and health care centres to intervene by organizing quick and efficient medical and nutritional help. Through LGD mapping, the government has the precise idea of which local body to approach, cutting the time in identification and affixing of responsibility of a school/Anganwadi with a particular panchayat.

Conclusion

The MDM was introduced in 1995 and it was in operation for more than 25 years. Since inception it tackled the problem of classroom hunger in India. It put in place the mechanism of cooked meals for the children and associated infrastructure. It also played a huge role in convincing parents to send their kids to school. Ideally PM POSHAN was supposed be the torchbearer of the mission which MDM started. As National Family Health Survey 5 underlines, the requirement now is not only to deal with childhood hunger but also high priority areas of deficiency such as child wasting, child stunting, anaemia etc. Thus only supplying ration will not be enough, rather the need of the hour is to have targeted interventions to solve the above mentioned issues.

Food and nutritional security for children would mean that nation is finally able to break the perpetual cycle of poverty, break the monopoly of dominant section and castes over human development, and create a level playing field for all sections of society i.e. ensuring social and economic justice for all. Overtime in society, socially or economically affluent sections can have excess resources while certain sections may even not have enough resources to ensure a dignified survival. The job of the state is to distribute some of the excesses into the deprived sections of the society so that the gap between haves and have-nots can be decreased. Investing in food and nutritional security is one way for the

state to distribute resources in the society. That is why distribution of ration is an exercise of social justice as 'the duty of bringing about just distribution is thought to be a social obligation'. It was in this light that in case of Swaraj Abhiyan vs Union of India (Swaraj Abhiyan v Union of India, 2015), the Supreme Court heralded National Food Security Act as a social justice legislation.

Further measures are to be devised to include parents & children in the implementation of these schemes to ensure mass participation in these social & economic justice initiatives. The National Informatics Centre has developed an app which allows for effective monitoring of daily & monthly data of MDM uploaded by schools. However the app can only be used by MDM in-charge/ teachers and higher authorities at block, district & state level. A similar app should be developed for the parents where they can give feedback about PM POSHAN and report any discrepancy in the school meals in their area. Additionally the contact details of the local grievance redressal team should be available so that they can be promptly contacted. The copy of social audit should also be made available on the app and in the local panchayat office or urban local body office for easier access by stakeholders. The app should also allow any interested person to propose the scheduling of Tithi Bhojan, which if scheduled would be notified beforehand to the students of that area.

For a resource constrained country like India, use of AI and ML (in accordance with DPDP Act) in reinforcing child nutrition brings multiple benefits like precise identification and targeting of children, vulnerability mapping of communities and prevention of malnutrition. While AI + ML is being used in other sectors such as renewable energy or transport, it is concerning that PM POSHAN guidelines have failed to incorporate and operationalize them. Gone are the days when the responsibility of the state ended by supplying one meal a day, if the fight against child malnutrition is to be won, the state must take steps for adequate budgetary allocation, accurate implementation and periodic monitoring backed by analysis of data at every stage. If these measures are taken, time is not far when PM POSHAN will fulfil many of its objectives assisting a great deal in solving the two pressing problems for the majority of children in India i.e. hunger and education. Otherwise the danger is that PM POSHAN will join the long list of governmental programmes which failed to achieve their objectives ultimately stalling India's quest to achieve the Sustainable Development Goals and ensuring a dark future for millions of children in India.

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