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Achieving Zero Hunger through Food Justice: Analysis of Government Schemes and Anganwadi Kendra in Tribal India

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ABSTRACT

India, despite significant progress in reducing hunger and improving food security, continues to grapple with high levels of child malnutrition, food insecurity, and undernourishment. According to the 2024 Global Hunger Index (GHI), India's score of 27.3, categorized as "serious," highlights the persistent challenges in addressing hunger, particularly in tribal regions. The country's child wasting rate is the highest globally, while the child stunting rate and prevalence of undernourishment remain alarmingly high. This paper aims to analyze the role of key government schemes, including the Public Distribution System (PDS), National Food Security Act (NFSA), and Integrated Child Development Services (ICDS), in addressing hunger in tribal India. Special focus is given to Anganwadi Kendra's, which are vital in providing nutrition, healthcare, and early childhood education at the grassroots level. By exploring the successes and challenges of these schemes, the paper highlights the critical need for improved implementation, infrastructure, and community participation to overcome the unique barriers faced by tribal populations in accessing nutrition and healthcare services. Despite some improvements, particularly in child mortality rates, the high levels of malnutrition in tribal India demand urgent attention to ensure sustainable food security and improved health outcomes. The paper concludes with recommendations for enhancing the effectiveness of these schemes, strengthening Anganwadi Kendra's, and addressing the geographical, social, and cultural barriers that continue to hinder progress towards achieving zero hunger in tribal India. .

Keywords: Global Hunger Index (GHI), Child Malnutrition, Food Insecurity Undernourishment, Child Wasting, Child Stunting, Public Distribution System (PDS) Integrated Child Development Services (ICDS), Anganwadi Kendra's

Introduction:

The status of malnutrition in India can be assessed from the fact that the 2024 Global Hunger Index (GHI) continues to reflect concerning performance. According to this report, India ranks 105th out of 127 countries, with a score of 27.3, placing it in the "serious"

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category. The GHI score is based on four main components: the rate of undernourishment, the ratio of children's height to weight, the prevalence of stunted growth, and child mortality rates. Stunting and wasting rates in India remain at a "very high" level, indicating severe malnutrition. The report highlights that although some progress has been made, there is a critical need for significant improvements in the nutritional status of children and women. In India, 2.9% of the population is undernourished, 35.5% of children under the age of five are stunted, 18.7% of children under five are underweight, and the child mortality rate for children under five is 13.7%.

Tribal India and Hunger India's tribal population constitutes approximately 8% of the total population. These communities often face severe malnutrition due to geographical isolation, socio-economic marginalization, and cultural barriers. Most tribal communities reside in remote areas where access to markets, healthcare services, and government schemes is limited. Poverty, lack of formal employment, and restricted access to education and resources contribute to food insecurity. Traditional dietary practices and food taboos can further limit nutritional diversity.

Nutritional Status in Tribal Communities The malnutrition rate among tribal children is significantly higher than that of non-tribal children. According to the National Family Health Survey-4 (NFHS-4), 42% of tribal children are underweight, which is 1.5 times higher than that of non-tribal children. The prevalence of malnutrition in tribal populations exceeds 50% (Doddalingannavar et al., 2020). High disease burdens, such as malaria, are also observed among tribal groups, accounting for 30% of cases and 50% of malaria-related deaths within 8.6% of their population. This high disease burden exacerbates the malnutrition crisis (Doddalingannavar et al., 2020).

In Madhya Pradesh, nutritional deficiencies among Mawasi and Sahariya tribal women are widespread. Among Mawasi women, 79% suffer from moderate to severe anemia, with deficiencies in vitamin A, C, folic acid, vitamin B12, iron, and calcium in their daily diet (Negi et al., 2024). Similarly, 90.1% of Sahariya tribal women suffer from anemia, while 42.4% face energy deficiencies (Ghosh-Jerath et al., 2013; Rajak & Bhopal, 2020). The nutritional status of tribal women is deeply linked to their socio-economic conditions. Limited food security and lack of education further impact their nutritional well-being (Majumder, 2021; P, 2019).

Government Schemes and Their Role in Tribal Food Security India has introduced several policies and schemes to combat hunger and malnutrition, aligning with the United Nations' Sustainable Development Goals (SDGs) to achieve "Zero Hunger" by 2030. Programs such as the Integrated Child Development Services (ICDS) and the Nutrition Mission are playing a crucial role in addressing these challenges. Efforts to improve monitoring, education, and local community participation under integrated rural development and nutrition programs aim to enhance the situation.

PDS provides subsidized food grains such as rice, wheat, and sugar to eligible families, including those in tribal regions. It has significantly helped in reducing hunger. NFSA covers nearly two-thirds of India's population and ensures access to nutrient-rich food for tribal communities. The act specifically ensures access to essential nutrients for tribal populations, addressing food insecurity and malnutrition effectively.

Role of Anganwadi Centers in Achieving "Zero Hunger" Madhya Pradesh has witnessed significant improvements in nutritional outcomes in tribal areas through strengthened Anganwadi centers, community participation, and better monitoring of PDS distribution. These efforts have helped reduce malnutrition rates among tribal children in some regions.

Objective

The primary objective of this study is to evaluate the effectiveness of government schemes, such as the Integrated Child Development Services (ICDS), the Public Distribution System (PDS), and Poshan Abhiyan, in addressing malnutrition among tribal populations in Madhya Pradesh. This study also aims to examine the role of Anganwadi centers in reducing malnutrition and hunger in these areas.

Major Research Questions

1. What is the current status of malnutrition among tribal populations in Madhya Pradesh?
2. How effective are government schemes such as ICDS and PDS in improving nutritional outcomes among tribal communities?
3. What role do Anganwadi centers play in achieving "Zero Hunger" in these communities?

Data and Methods

This study relies on secondary data. Secondary data is collected from national reports such as the Global Hunger Index (GHI), National Family Health Survey (NFHS), and government health and nutrition reports from Madhya Pradesh. Additionally, data from various government departments, including the Department of Women and Child Development, is analyzed to assess the reach and effectiveness of government schemes.

Methods: Descriptive Analysis: Descriptive statistical methods are employed to summarize the nutritional indicators (e.g., underweight children, maternal health) in tribal regions compared to state and national averages. **Comparative Analysis:** Comparative analysis of data from Bhagwanpura block and other tribal areas is conducted to identify regional disparities in nutritional outcomes.

The Mission Saksham Anganwadi and Nutrition 2.0 - Poshan Abhiyan was launched on March 8, 2018, with the objective of improving the nutritional status of adolescent girls, pregnant women, and lactating mothers in a time-bound manner. Additionally, efforts under the Anganwadi services and the Poshan Abhiyan were revived to address malnutrition challenges among children, adolescent girls, pregnant women, and lactating mothers, and were transformed into *Saksham Anganwadi and Nutrition 2.0* (Mission Nutrition 2.0).

The goal of Nutrition 2.0 is to address the challenging issue of malnutrition among children under the age of 6, adolescent girls (14-18 years), pregnant women, and lactating mothers, and contribute to achieving the SDGs, particularly Zero Hunger (SDG 2) and Quality Education (SDG 4), focusing on the growth and development of children, healthy nutrition, and the basic importance of early childhood care and education.

Anganwadi Centers as Service Delivery Points - Anganwadi Centers (AWCs) are community centers established under ICDS that provide nutrition, health services, and early childhood education. These centers are particularly important in tribal areas where access to formal health services and education is limited. The key services provided by Anganwadi Centers include supplementary nutrition, immunization, health and nutrition education, early childhood education, and the impact on hunger and malnutrition.

The state government has made provisions for providing supplementary nutrition to children from 6 months to 6 years, pregnant/lactating mothers, and underweight children in Anganwadi centers. The following table outlines the daily nutritional provisions for each beneficiary:

Table No. 3

Beneficiary	Revised Rate from 2018	Amount of Protein to be Provided	Number of Calories to be Provided
Children from 6 months to 6 years	₹8.00 per child per day	12-15 grams	500 calories
Underweight children (6 months to 6 years)	₹12 per child per day	20-25 grams	800 calories
Pregnant/lactating mothers	₹9.50 per beneficiary per day	18-20 grams	600 calories
Sources: Administrative Report 2022-23, Department of Women and Child Development			

The above table (Table No. 3) describes the supplementary nutrition provided by Anganwadi centers. In the Khargone district of Madhya Pradesh, under the Bhagwanpura block, which is a highly tribal area, 223 Anganwadi centers are operational across 115 villages under 61 Gram Panchayats. This table compares various health and nutrition indicators for Bhagwanpura, Madhya Pradesh, and India as a whole.

Table No. 4

S.N.	Health and Nutrition	Bhagwanpura	Madhya Pradesh	India
1.	Percentage of pregnant women registered for (ANC) within first trimester.	67.1%	77.8%	79.4%
2.	Percentage of institutional deliveries against total reported deliveries	64.8%	77.8%	79.4%
3.	Percentage of low-birth-weight babies (less than 2500 gm) Lower performance is better	12.7 %	18.8%	12.8%
Sources: Ministry of health and family welfare F.Y. 2022-23				
4.	Percentage of pregnant women taking supplementary nutrition under the ICDS programme regularly.	0.1 %	2.3%	26.2%
5.	Percentage of children from 6 month to 6 years taking supplementary nutrition under the ICDS programme regularly.	0.2 %	2.5 %	18.8%
6.	Measurement efficiency of children enrolled at Anganwadi centres	0.0%	12.3%	63.2%
7.	Percentage of children under 5 years with severe acute malnutrition (SAM) Lower performance is better	0.0%	0.2%	1.8%
8.	Percentage of children under 5 years with	0.0 %	0.7%	3.5%

	moderate acute malnutrition (MAM)			
	Lower performance is better			
Sources: Ministry of women and child development F.Y. (2022-23)				

The above table (Table No. 3) describes that In Bhagwanpura, 67.1% of pregnant women registered for ANC (Antenatal Care) in the first trimester of pregnancy, while this percentage was 77.8% in Madhya Pradesh and 79.4% in India. Among all reported deliveries, institutional deliveries (deliveries in hospitals or health centers) accounted for 64.8% in Bhagwanpura, while this figure was 77.8% in Madhya Pradesh and 79.4% in India. In Bhagwanpura, 12.7% of infants were born with low birth weight, while this percentage was 18.8% in Madhya Pradesh and 12.8% in India. Only 0.1% of pregnant women in Bhagwanpura received regular supplementary nutrition, while this figure was 2.3% in Madhya Pradesh and 26.2% in India. In Bhagwanpura, only 0.2% of children received supplementary nutrition, while 2.5% of children in Madhya Pradesh and 18.8% of children nationwide received this benefit.

Efficiency of Child Measurement in Anganwadi Centers - In Bhagwanpura, this figure was 0.0%, while it was 12.3% in Madhya Pradesh and 63.2% in India for regular measurement of children. In Bhagwanpura, 0.0% of children were severely malnourished (SAM), while this figure was 0.2% in Madhya Pradesh and 1.8% nationwide. The percentage of moderately malnourished (MAM) children under the age of 5 (the lower, the better) was 0.0% in Bhagwanpura, while it was 0.7% in Madhya Pradesh and 3.5% in India.

Institutional deliveries and ANC registration percentages in Bhagwanpura are lower than the national average. The efficiency of child measurement in Anganwadi centers is very low, which could impact proper monitoring of children's nutritional status. Cases of severe and moderate malnutrition are nearly zero in Bhagwanpura, which is a positive sign. However, the number of children and pregnant women receiving supplementary nutrition is extremely low, which is concerning and needs improvement.

Challenges and Future Directions: In many tribal areas, Anganwadi workers are overburdened, inadequately trained, or struggling with a lack of resources, which limits their effectiveness. Due to the inaccessibility of many tribal villages, Anganwadi centers are unable to reach all the families in need. Tribal welfare departments should include nutrition-sensitive and nutrition-specific interventions in maternal nutrition enhancement projects, targeting at-risk populations (Doddalingannavar et al., 2020). Despite 100% maternal and child protection registration, not all antenatal care visits have 100% participation, which indicates flaws in the monitoring system. This suggests that the expected impact of government investments is not being realized (Doddalingannavar et al., 2020). The geographical isolation of many tribal communities makes it difficult to efficiently distribute food and services. Poor road infrastructure, limited access to markets, and difficulty in reaching remote villages pose significant barriers to the effective implementation of government schemes like PDS and ICDS.

Conclusion

Achieving "Zero Hunger" in tribal India, particularly in regions like Madhya Pradesh, is a multifaceted challenge that requires a comprehensive approach. Government schemes such as ICDS, PDS, and Poshan Abhiyan have shown some success but still face significant barriers in terms of access, implementation, and effectiveness. The role of Anganwadi centers is central to achieving sustainable food security in these areas. However, improvements are necessary in staff training, monitoring systems, and addressing logistical and cultural barriers.

Key recommendations include:

1. **Improved Staff Training and Resources:** Anganwadi workers should receive better training and adequate resources to deliver nutritional support effectively.
2. **Focus on Maternal Nutrition:** Nutrition-sensitive interventions targeting pregnant and lactating women should be prioritized.
3. **Community Engagement and Awareness:** Efforts to raise awareness about nutrition and health should focus on local cultural practices and leverage community-based approaches to improve adoption of recommended nutritional practices.
4. **Economic Conditions and Food Security:** Food insecurity and low calorie intake are major causes of nutritional deficiencies in tribal communities. Government interventions are essential to improve economic conditions and increase food security (Majumder, 2021; Rokade et al., 2020).
5. **Education and Awareness:** The level of maternal education and nutrition awareness has a significant impact on children's nutritional status. Higher education and awareness can improve nutrition (Adhikari et al., 2020; Kumar et al., 2024).
6. **Lack of Public Services in Tribal Areas:** The lack of public services and apathy toward government services further deteriorates the nutritional status. Improved availability and utility of services could lead to better outcomes (Shirisha, 2019; P, 2019).
7. **Cultural Food Practices and Family Structure:** Cultural food habits and family structure also influence nutrition. Extended families and following traditional practices can enhance nutrition (Dey & Bisai, 2019; Chandra et al., 2021).
8. **Tribal Lifestyle:** The lifestyle of tribal people, which includes the use of alcohol and tobacco, affects their nutritional status. Health and nutrition promotion activities are needed (Roy, Sahel, 2023).
9. **Utilizing Local Food Resources:** Promoting the use of local food resources and increasing dietary diversity can help overcome nutritional deficiencies. Studies on the Munda tribe show that consuming local foods can increase vitamin and mineral intake (Ghosh-Jerath et al., 2022).

In conclusion, while the efforts made under government schemes have contributed to progress, the nutritional challenges in tribal areas are far from resolved. A more integrated approach involving improved implementation, community engagement, and infrastructure development is needed to ensure that tribal communities benefit from these schemes and move closer to achieving "Zero Hunger."

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