

A STUDY ON FOOD SECURITY: ASSESSING INDIA'S PROGRESS TOWARDS ACHIEVING SDG 2 AND ITS INFLUENCE ON OTHER SUSTAINABLE DEVELOPMENT GOALS

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ABSTRACT

This research article explores the intricate relationship between food security and the Sustainable Development Goals (SDGs), with a specific focus on India's efforts to attain SDG 2, "Zero Hunger." Food security is not only a fundamental human right but also a critical component of sustainable development. India, as one of the world's most populous and diverse nations, plays a significant role in shaping global progress toward achieving the SDGs. This study examines India's progress towards SDG 2 and investigates its impact on other interconnected SDGs, emphasizing the complex web of interdependencies that exists within the framework of sustainable development. By delving into the multifaceted dimensions of food security, from agricultural production and distribution to nutritional outcomes and social inclusivity, this research endeavors to provide a nuanced perspective on India's progress.

Keywords: *Food Security, Sustainable Development Goals (SDGs), India, Zero Hunger.*

INTRODUCTION

In an increasingly interconnected world, the pursuit of sustainable development has emerged as a paramount global endeavor. At the heart of this multifaceted challenge lies the Sustainable Development Goals (SDGs), a universal call to action to end poverty, protect the planet, and ensure prosperity for all by 2030, as set forth by the United Nations. Among these 17 ambitious goals, SDG 2, "Zero Hunger," stands out as a pivotal objective, addressing the profound issue of food security.

Food security is a fundamental precondition for the realization of many other SDGs, as it touches upon critical aspects of human well-being, environmental sustainability, and economic growth. Within this context, India, as one of the world's most populous nations and a global agricultural powerhouse, plays a central role in shaping the trajectory of SDG 2 and its interconnectedness with other goals.

This research article embarks on a comprehensive exploration of India's progress toward achieving SDG 2, examining the intricate web of linkages between food security and various other SDGs. India's journey toward Zero Hunger is intrinsically tied to broader sustainable development, including poverty alleviation, gender equality, health and well-being, clean

water and sanitation, and climate action. Understanding the dynamics of this interconnectedness is crucial not only for India but also for the global community as it strives to realize the 2030 Agenda.

The overarching aim is to shed light on how India's pursuit of Zero Hunger reverberates across the spectrum of SDGs, thereby offering insights, recommendations, and a deeper understanding of the intricate pathways to sustainable development. In doing so, this research seeks to contribute to the global dialogue on achieving the SDGs, demonstrating the importance of a holistic and integrated approach in addressing the world's most pressing challenges.

RESEARCH METHODOLOGY

This study adopts a qualitative descriptive research approach to assess the progress of India toward achieving SDG 2 and its impact on other SDGs. All the information gathered in this research is secondary, sourced from reliable and publicly available databases, various journals, and relevant scholarly articles.

LITERATURE REVIEW

Chakrabarty, M. (2016), in an article, discuss the intersection of climate change and India's food security, addressing not only food availability but also access and absorption. It emphasizes the complexity of this issue and the need for a multi-dimensional approach. The article suggests several recommendations, including sustainable agriculture, urban food security, public health, livelihood security, and disaster relief. Overall, it provides a comprehensive view of the challenges and potential solutions to India's food security in the context of climate change.

Pillay, D. P. K. & Kumar, T. K. (2018), in their article, provides a comprehensive overview of India's journey towards food security, beginning with colonial-era food grain shortages and progressing to challenges in procurement, storage, and distribution post-independence. It highlights the evolution of the Public Distribution System (PDS) into the Targeted PDS and the National Food Security Act. Additionally, it touches on the role of the Food Corporation of India and its efforts to enhance its efficiency. Overall, the article offers a critical examination of India's ongoing efforts to ensure food security.

Das, M., Sharma, A., & Babu, S.C. (2018), in their study, analyzes Indian states' progress on SDG 2 (hunger and nutrition) using agriculture, food consumption, and demographic data. It finds both disconnections and connections among food security indicators, suggesting that a one-size-fits-all food security policy isn't suitable. Southern states outperformed others, thanks to better governance. The study also maps SDG 2 sub-goals and indicators addressed in existing policies. It recommends a comprehensive approach and improved governance to achieve food and nutrition security in Indian states by 2030.

Another study by **Choithani, C. (2017)**, highlights the importance of integrating migration into future food policy research and examines how internal migration serves as a livelihood strategy impacting food security among rural households. It emphasizes the growing recognition of migration's positive effects on poverty reduction and sustainable development. However, it notes the lack of connection between migration and food security discussions. Using data from rural households in western Bihar, India, the paper explores this relationship. It reveals that migrants' remittances significantly enhance food security by increasing purchasing power and supporting agricultural investments. Overall, the article underscores the need for a more integrated approach to address these crucial issues.

V. Saravanakumar, Umanath Malaiarasan, U., & R. Balasubramanian (2020)., in their article discusses the paradox of increased food production and technological advancements while millions still suffer from malnutrition, including stunted growth, acute malnutrition, and micronutrient deficiencies. It highlights the goal of SDG-2 to end hunger by 2030 and mentions government programs aimed at addressing nutrition, agriculture, and food security. The article underscores the need for a holistic and integrated approach, increased funding, and Public-Private Partnerships to achieve the goal of reducing malnutrition by 2025 and eradicating hunger by 2030. The estimated financial requirement for India's food security efforts is INR 46 lakh crores (USD 729 billion) from 2015 to 2024.

FOOD SECURITY IN INDIA

Food security in India is a multifaceted issue that encompasses access to food, nutritional quality, and sustainable agriculture practices. While the country has made significant progress in improving food security over the years, challenges persist, and government policies play a crucial role in addressing them.

Access to food remains a primary concern in India. Despite being one of the world's largest producers of food grains, a significant portion of its population still struggles with hunger and malnutrition. Poverty, unequal distribution of resources, and inadequate infrastructure for food distribution contribute to this problem. Government initiatives like the Public Distribution System (PDS) aim to provide subsidized food grains to vulnerable populations, but issues like leakages and inefficiencies in the system persist.

Nutritional quality is another critical aspect of food security. It's not just about having enough to eat but also having access to diverse and nutritious foods. In India, a substantial portion of the population relies heavily on cereal-based diets, which can lead to deficiencies in essential nutrients. Government programs like the Integrated Child Development Services (ICDS) and the National Food Security Act (NFSA) aim to address this by providing supplementary nutrition to children, pregnant women, and lactating mothers.

Sustainable agriculture practices are vital for long-term food security. India faces challenges related to water scarcity, soil degradation, and climate change, which can impact agricultural productivity. The government has launched initiatives like the National Mission for Sustainable Agriculture (NMSA) and the Pradhan Mantri Krishi Sinchai Yojana (PMKSY) to promote sustainable farming practices, efficient water use, and crop diversification.

Government policies and programs play a pivotal role in promoting food security in India. The NFSA, for example, has extended food security coverage to a larger section of the population by providing subsidized food grains. Additionally, schemes like the Rashtriya Krishi Vikas Yojana (RKVY) support agricultural development and infrastructure improvement.

However, there are challenges in implementation, including issues related to corruption, bureaucratic hurdles, and targeting beneficiaries accurately. Furthermore, as the population continues to grow, ensuring food security for all remains a complex task that requires constant adaptation of policies and programs.

Thus, while India has made commendable strides in improving food security through government initiatives, challenges in access to food, nutritional quality, and sustainable agriculture practices persist. Continued efforts, along with innovative policies and improved implementation, are essential to ensure that every Indian has access to nutritious and sustainable food sources. Food security is not just a matter of policy; it is a fundamental right that must be upheld to improve the lives of millions in the country.

PROGRESS TOWARDS SDG 2 IN INDIA

India's progress towards achieving Sustainable Development Goal 2 (SDG 2), which aims to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture, has been a complex and multifaceted journey. Food production in India has seen significant growth over the years. The country has made substantial strides in increasing agricultural productivity, largely due to technological advancements and irrigation infrastructure improvements. However, this growth is not uniform across all regions, and small-scale farmers often face challenges related to access to resources and technology.

Malnutrition remains a pressing issue in India. Despite progress, the country continues to struggle with high rates of child malnutrition and stunting. While various government programs, such as the Integrated Child Development Services (ICDS), aim to address malnutrition, their effectiveness varies, and reaching marginalized populations can be challenging.

The food distribution system is a critical component of SDG 2. India has implemented the Public Distribution System (PDS) to provide subsidized food grains to vulnerable populations. However, issues like leakages, corruption, and inefficiencies in the PDS persist, limiting its impact. Additionally, the COVID-19 pandemic exposed vulnerabilities in the food distribution system, highlighting the need for reforms.

Environmental sustainability is another aspect to consider. India's agriculture sector faces challenges related to water scarcity, soil degradation, and overuse of fertilizers and pesticides. Sustainable agriculture practices, such as organic farming and efficient water management, are crucial for achieving SDG 2 without harming the environment.

Therefore, India has made progress towards SDG 2 by increasing food production, but challenges in malnutrition rates and the food distribution system persist. Achieving the goal requires not only continued efforts to improve agricultural productivity but also comprehensive reforms in food distribution, nutrition programs, and sustainable agricultural practices. Addressing these challenges holistically is essential to ensure that no one in India goes hungry, and the nation moves closer to achieving SDG 2.

IMPACT ON OTHER SDGS

SDG 2, "Zero Hunger," plays a pivotal role in the interconnected web of Sustainable Development Goals (SDGs) by addressing the fundamental issue of global hunger and malnutrition. Its impact reverberates across multiple other SDGs, creating a ripple effect that influences various aspects of sustainable development.

First and foremost, achieving SDG 2 is closely linked to SDG 1, "No Poverty." Hunger and poverty are inextricably linked, and addressing one often involves tackling the other. When individuals and communities have access to nutritious food, they are better equipped to break the cycle of poverty, improve their livelihoods, and create more resilient societies. SDG 2 also intersects with SDG 3, "Good Health and Well-Being." Malnutrition contributes to a range of health issues, including stunted growth in children and weakened immune systems. By ensuring access to adequate food and proper nutrition, SDG 2 directly supports efforts to improve global health. Moreover, SDG 2 has a profound impact on SDG 4, "Quality Education." Hungry children often struggle to focus in school, leading to lower educational attainment. By eradicating hunger, SDG 2 lays the foundation for improved educational outcomes and better prospects for future generations. The agricultural practices required for food security, a key component of SDG 2, also intersect with SDG 13, "Climate Action." Sustainable and climate-resilient agriculture practices mitigate the environmental impact of food production, helping combat climate change.

Additionally, SDG 2 contributes to SDG 5, "Gender Equality," as women play a significant role in food production and distribution. Empowering women in agriculture and ensuring their access to resources can advance gender equality. Lastly, SDG 2 impacts SDG 17, "Partnerships for the Goals," as addressing global hunger necessitates collaboration among governments, organizations, and the private sector.

Hence, SDG 2, "Zero Hunger," is a linchpin for achieving many other SDGs. It addresses the foundational need for food security, which in turn has far-reaching effects on poverty, health, education, climate, gender equality, and global partnerships. Therefore, progress in SDG 2 is vital for the holistic achievement of the entire 2030 Agenda for Sustainable Development.

CHALLENGES AND BARRIERS

India faces several challenges and barriers in its pursuit of achieving zero hunger. These issues are multidimensional and interconnected, making them complex to address comprehensively. The key issues are:

- 1. Poverty and Income Inequality:** A significant portion of India's population lives below the poverty line, making it challenging for them to access nutritious food consistently. Income inequality exacerbates this issue, leaving many marginalized communities without access to proper nutrition.
- 2. Food Distribution and Supply Chain:** India's food distribution system faces inefficiencies, resulting in significant food wastage and unequal distribution. Despite being a major food producer, a considerable amount of food doesn't reach those in need due to logistical and infrastructure challenges.
- 3. Malnutrition:** Despite improvements, malnutrition remains a pervasive problem in India. This includes both undernutrition and obesity, highlighting the complex nature of food-related health issues.
- 4. Climate Change:** India is highly vulnerable to the impacts of climate change, including erratic weather patterns and natural disasters. These events can disrupt food production and lead to crop failures, affecting food security.
- 5. Land Degradation:** Land degradation due to factors like deforestation and unsustainable agriculture practices poses a threat to agricultural productivity, affecting the availability of food.
- 6. Water Scarcity:** Water scarcity is a growing concern in many parts of India, impacting agriculture, which is heavily dependent on irrigation. Reduced water availability can lead to crop failures and food shortages.
- 7. Lack of Education:** Limited awareness about proper nutrition and food choices contributes to the persistence of malnutrition in India. Additionally, many individuals lack the knowledge and skills to grow food sustainably.
- 8. Gender Disparities:** Gender inequalities in access to resources and education can limit women's contributions to agriculture and food production, which, in turn, affects food security.
- 9. Policy Implementation:** While India has numerous policies and programs aimed at addressing hunger and malnutrition, the effectiveness of these initiatives often depends on their successful implementation at the grassroots level.
- 10. Population Growth:** India's rapidly growing population puts immense pressure on its food resources, making it challenging to ensure that everyone has access to adequate and nutritious food.

To overcome these challenges, India must adopt a holistic approach that involves improving agricultural practices, addressing poverty and inequality, investing in infrastructure, and promoting education and awareness about nutrition. International cooperation and sustainable agricultural practices can also play a crucial role in helping India move closer to achieving zero hunger.

POLICY RECOMMENDATIONS

To enhance India's progress toward Sustainable Development Goal (SDG) 2, which focuses on "Zero Hunger," while mitigating the negative impacts of other SDGs, a comprehensive and balanced approach is necessary. Here are some policy recommendations that India can adopt:

- 1. Sustainable Agriculture Practices:** Encouragement of sustainable agricultural methods such as organic farming, crop rotation, and reduced pesticide use to increase food production without harming the environment (SDG 15 - Life on Land).
- 2. Investment in Rural Infrastructure:** Development of rural infrastructure including roads, irrigation systems, and storage facilities to improve farmers' access to markets and reduce post-harvest losses (SDG 9 - Industry, Innovation, and Infrastructure).
- 3. Nutrition Education:** Promotion of nutrition education programs to raise awareness about balanced diets and healthy eating habits (SDG 3 - Good Health and Well-being).
- 4. Empowering Small Farmers:** Small-scale farmers must be supported through financial assistance, technology adoption, and access to credit to enhance their productivity and income (SDG 1 - No Poverty).
- 5. Reducing Food Waste:** Implementation of policies to reduce food wastage at various stages of the supply chain, from production to consumption (SDG 12 - Responsible Consumption and Production).
- 6. Social Safety Nets:** Strengthening the social safety nets, such as food subsidy programs and direct cash transfers, to ensure vulnerable populations have access to nutritious food (SDG 10 - Reduced Inequality).
- 7. Climate-Resilient Agriculture:** Promotion of climate-smart agricultural practices to ensure resilience to climate change, reducing the risk of crop failures and food scarcity (SDG 13 - Climate Action).
- 8. Land Rights:** Securing land tenure rights for marginalized communities to prevent land grabbing and displacement (SDG 5 - Gender Equality and SDG 10 - Reduced Inequality).
- 9. Water Management:** Implementing efficient water management practices to ensure sustainable irrigation and reduce water scarcity (SDG 6 - Clean Water and Sanitation).
- 10. Multi-Stakeholder Collaboration:** Fostering partnerships between the government, private sector, NGOs, and local communities to jointly work towards achieving SDG 2 and its interlinked goals.
- 11. Monitoring and Reporting:** Establishing a robust monitoring and reporting system to track progress towards SDG 2 and assess its impact on other SDGs, enabling timely adjustments in policies and strategies.

12. Education and Awareness: Promoting education and awareness campaigns regarding sustainable food production and consumption, linking SDG 2 with other SDGs in the public consciousness.

13. Policy Coherence: Ensuring policy coherence across different government departments to prevent conflicts between achieving SDG 2 and other SDGs. Conduct impact assessments to identify potential trade-offs and synergies.

By adopting these policy recommendations, India can make significant strides toward achieving SDG 2 while minimizing negative impacts on other Sustainable Development Goals, thus fostering holistic and sustainable development.

CONCLUSION

In conclusion, this research article has shed light on the intricate relationship between food security and the broader spectrum of Sustainable Development Goals (SDGs) in the context of India. Our comprehensive assessment has revealed that India has made significant strides toward achieving SDG 2, "Zero Hunger," over the years. However, the study has also highlighted the interconnectedness of SDG 2 with several other SDGs, demonstrating that progress in achieving zero hunger has a profound impact on the nation's advancement across various sustainability domains.

India's efforts in improving food security have not only contributed to the reduction of hunger and malnutrition but have also had ripple effects on education (SDG 4), health (SDG 3), gender equality (SDG 5), and poverty alleviation (SDG 1). This research underscores the importance of adopting a holistic approach to development, recognizing that the attainment of one goal can catalyze progress toward others. Nevertheless, challenges persist, and this study underscores the need for continued commitment to addressing disparities in food access, food production, and distribution. Furthermore, it highlights the necessity for policy coherence, multi-stakeholder collaboration, and innovative strategies to ensure that India not only meets its Zero Hunger goal but also reinforces its positive impact on achieving the broader spectrum of Sustainable Development Goals.

In summary, the journey towards achieving Zero Hunger in India is a journey towards achieving a more sustainable and equitable future for all. As we move forward, the nation must remain steadfast in its pursuit of SDG 2, recognizing its pivotal role in advancing progress on the entire SDG agenda and ultimately building a more resilient, inclusive, and sustainable society for generations to come.

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