

DATA, DESIGN AND DEVELOPMENT GOALS DIGITAL TRANSFORMATION FOR SUSTAINABILITY



S. BHUVANESHWARI



Chapter 1

GOAL 1: No Poverty by 2030: Building a Better Future for All

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Abstract

Sustainable Development Goal 1 (SDG 1), titled “**No Poverty**,” aims to end poverty in all its forms everywhere by the year 2030. Poverty is one of the most serious global challenges affecting millions of people by limiting access to basic needs such as food, shelter, healthcare, education, and employment. The goal focuses on improving the quality of life of poor and vulnerable communities through equal opportunities, social protection systems, and sustainable economic growth.

The major causes of poverty include unemployment, lack of education, economic inequality, poor healthcare, climate change, natural disasters, and political instability. Poverty leads to hunger, malnutrition, illiteracy, poor health, and social exclusion, affecting both individuals and national development. Governments, international organizations, and communities play an important role in reducing poverty through welfare programs, education, technology, and employment opportunities.

Education and technology are powerful tools for poverty reduction because they improve knowledge, skills, communication, healthcare, and financial inclusion. Global organizations such as the United Nations, World Bank, and UNDP support poverty reduction initiatives worldwide. However, challenges such as population growth, economic crises, unemployment, and climate change continue to affect progress.

Achieving SDG 1 is essential for building a peaceful, equal, and sustainable world where every individual can live with dignity, security, and hope for a better future.

1. Introduction

Sustainable Development Goal 1 (SDG 1), known as “**No Poverty**,” is one of the 17 Sustainable Development Goals introduced by the United Nations to create a better and more sustainable future for all. The main aim of this goal is to **end poverty in all its forms everywhere by 2030**. Poverty is a major global problem that affects millions of people by limiting access to basic needs such as food, clean water, education, healthcare, shelter, and employment opportunities.

Poverty not only affects individuals and families but also slows down the economic and social development of countries. Many people around the world still struggle to survive due to unemployment, inequality, lack of education, natural disasters, and poor living conditions. SDG 1 focuses on improving the quality of life of poor and vulnerable communities through social protection, equal opportunities, employment generation, and sustainable economic growth.

2. Meaning and Types of Poverty

2.1 Meaning of Poverty

Poverty is a social and economic condition in which individuals or communities are unable to fulfill their basic needs for a healthy and dignified life. These basic needs include food, clean drinking water, shelter, clothing, healthcare, education, sanitation, and employment opportunities. Poverty is not only about lack of money but also about the lack of access to resources, opportunities, and social support systems necessary for human development.

Poverty affects the overall quality of life of people and prevents them from participating fully in society. People living in poverty often face hunger, poor health, unemployment, illiteracy, homelessness, and social discrimination. Poverty can also limit access to technology, transportation, and financial services, making it difficult for individuals to improve their living conditions.

The United Nations considers poverty as one of the greatest challenges facing humanity. Sustainable Development Goal 1 (SDG 1) aims to “End Poverty in All Its Forms Everywhere” by 2030. Reducing poverty is essential for achieving economic growth, social equality, peace, and sustain-

able development.

Poverty may occur due to various reasons such as unemployment, low wages, rapid population growth, lack of education, political instability, natural disasters, economic crises, and unequal distribution of wealth and resources. It affects both developing and developed countries, although the intensity and causes may differ.

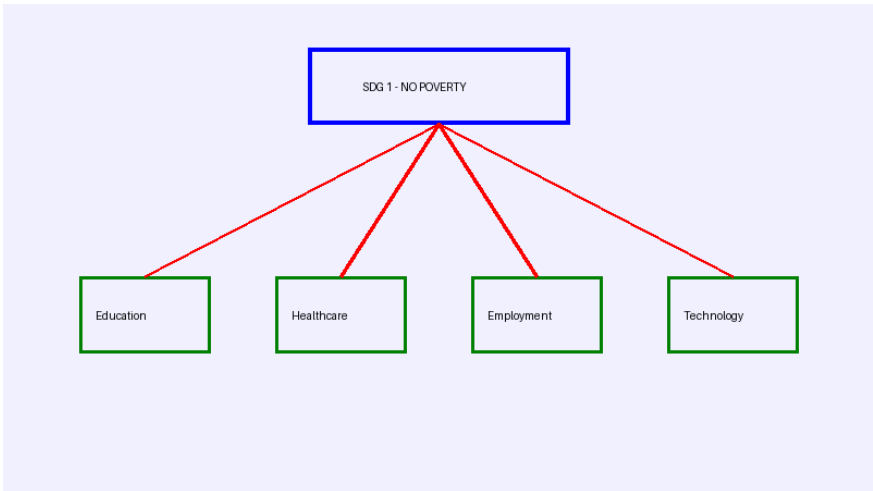


Figure 1.1: Key Components Supporting SDG 1

2.2. Types of Poverty

Poverty can be classified into different types based on economic conditions, living standards, and social factors.

2.2.1. ABSOLUTE POVERTY

Absolute poverty refers to a condition where people are unable to meet the minimum basic requirements necessary for survival. These requirements include food, clean water, shelter, and clothing. People living in absolute poverty often suffer from hunger, malnutrition, and poor health.

The World Bank defines extreme poverty as living on less than a certain amount of income per day. Absolute poverty is commonly seen in developing countries where access to basic necessities is limited.

Characteristics of Absolute Poverty

- Lack of sufficient food and nutrition

- Inadequate housing and sanitation
- Limited access to healthcare and education
- High mortality and disease rates

Example: People living in slums without access to clean drinking water or proper healthcare facilities are examples of absolute poverty.

2.2.2 RELATIVE POVERTY

Relative poverty occurs when a person's income and living standards are significantly lower compared to the average standards of society. In this type, people may have access to basic necessities but are unable to enjoy the normal lifestyle available to most people in their community.

Relative poverty is often associated with social inequality and income imbalance.

Characteristics of Relative Poverty

- Low income compared to societal standards
- Social exclusion and inequality
- Limited participation in social and cultural activities

Example: A family that cannot afford quality education, internet access, or decent housing compared to other families in society is considered relatively poor.

2.2.3. RURAL POVERTY

Rural poverty exists in villages and agricultural areas where people mainly depend on farming and related activities for their livelihood. Poor agricultural productivity, lack of irrigation, unemployment, and inadequate infrastructure contribute to rural poverty.

Causes of Rural Poverty

- Lack of modern farming techniques
- Poor transportation and infrastructure
- Limited educational and healthcare facilities
- Seasonal unemployment

Effects: Rural poverty leads to migration to urban areas, malnutrition, and low standards of living.

2.2.4. URBAN POVERTY

Urban poverty occurs in towns and cities where people struggle to meet living expenses due to unemployment, low wages, and high cost of living. Many urban poor live in slums with overcrowded and unhealthy conditions.

Characteristics of Urban Poverty

- Poor housing conditions
- Lack of sanitation and clean water
- High unemployment
- Increased crime and social problems

Example: People living in overcrowded slums without proper electricity and sanitation are affected by urban poverty.

2.2.5. MULTIDIMENSIONAL POVERTY

Multidimensional poverty refers to poverty measured not only by income but also by lack of education, healthcare, sanitation, housing, and living standards. This approach provides a broader understanding of human deprivation.

Dimensions of Multidimensional Poverty

- Health
- Education
- Standard of living

Importance: It helps governments identify the real needs of poor communities and implement effective welfare programs.

2.2.6. CYCLICAL POVERTY

Cyclical poverty occurs due to economic recessions, unemployment, natural disasters, or seasonal factors. Poverty levels rise during economic downturns and reduce when economic conditions improve.

Example: Workers losing jobs during an economic crisis may temporarily fall into poverty.

2.2.7. GENERATIONAL POVERTY

Generational poverty refers to poverty that continues for several generations within a family. Children born into poor families often lack access to education and opportunities, causing the cycle of poverty to continue.

Causes

- Lack of education
- Poor living conditions
- Limited employment opportunities
- Social discrimination

Impact

Generational poverty reduces social mobility and economic development.

3. Causes of Poverty

Poverty is caused by a combination of economic, social, political, and environmental factors that prevent people from achieving a decent standard of living.

3.1. UNEMPLOYMENT

Unemployment is one of the primary causes of poverty. When people do not have jobs or stable sources of income, they cannot meet their basic needs such as food, shelter, healthcare, and education. Lack of employment opportunities especially affects youth and unskilled workers in developing countries.

Effects:

- Low income and poor living conditions
- Increased hunger and malnutrition
- Reduced access to education and healthcare

3.2. LACK OF EDUCATION

Education plays a vital role in improving a person's knowledge, skills, and employment opportunities. People who do not receive proper education often remain trapped in low-paying jobs or unemployment, leading to poverty.

Effects:

- Limited job opportunities
- Low wages and poor economic growth
- Increased illiteracy and social inequality

3.3. RAPID POPULATION GROWTH

Rapid population growth increases the demand for food, water, housing, education, and employment. In many countries, resources are insufficient to support the growing population, resulting in poverty and unemployment.

Effects:

- Scarcity of resources
- Overcrowding and poor sanitation
- Increased pressure on public services

3.4. ECONOMIC INEQUALITY

Unequal distribution of wealth and resources is another major cause of poverty. In many societies, a small group of people controls most of the

wealth while a large population struggles to survive with limited income and opportunities.

Effects:

- Social imbalance and injustice
- Lack of equal opportunities
- Poor access to education and healthcare for low-income groups

3.5. POOR HEALTHCARE FACILITIES

Lack of proper healthcare services leads to diseases, malnutrition, and high medical expenses. Poor people often cannot afford medical treatment, which reduces their ability to work and earn income.

Effects:

- Increased mortality and illness
- Reduced productivity
- Financial burden on families

3.6. NATURAL DISASTERS AND CLIMATE CHANGE

Floods, droughts, earthquakes, cyclones, and climate change destroy homes, farms, and livelihoods. Poor communities are more vulnerable because they lack resources to recover from disasters.

Effects:

- Loss of income and property
- Food shortages and hunger
- Migration and displacement

3.7. POLITICAL INSTABILITY AND CONFLICT

Wars, terrorism, corruption, and political instability negatively affect economic growth and development. Conflicts destroy infrastructure, reduce investment, and force people to leave their homes and jobs.

Effects:

- Increased unemployment and displacement
- Destruction of public services
- Reduced economic development

3.8. LACK OF INFRASTRUCTURE

Poor infrastructure such as roads, electricity, transportation, communication, and sanitation limits economic activities and development, especially in rural areas.

Effects:

- Limited market access
- Reduced industrial and agricultural growth
- Poor quality of life

3.9. SOCIAL DISCRIMINATION

Discrimination based on caste, gender, religion, race, or disability prevents many people from accessing education, employment, and equal opportunities.

Effects:

- Social exclusion
- Income inequality
- Reduced participation in development activities

3.10. LOW AGRICULTURAL PRODUCTIVITY

In many developing countries, people depend on agriculture for survival. Lack of modern farming techniques, irrigation, fertilizers, and financial support leads to low agricultural production and poverty among farmers.

Effects:

- Low income for farmers
- Food insecurity
- Rural poverty and migration

4. Role of Governments in Poverty Reduction

Governments play a major role in reducing poverty and achieving Sustainable Development Goal 1 (SDG 1). They create policies and programs that improve the living conditions of poor people. Governments provide employment opportunities, free or affordable education, healthcare services, food security programs, and housing facilities. Social welfare schemes such as pensions, subsidies, unemployment benefits, and financial assistance help vulnerable groups survive during difficult times. Governments also invest in infrastructure such as roads, electricity, clean water, and sanitation to improve economic development. Effective governance, equal opportunities, and fair distribution of resources are essential for eliminating poverty.

5. Role of Education in Poverty Reduction

Education is one of the most powerful tools for reducing poverty. It provides knowledge, skills, and awareness that help people secure better jobs and improve their income levels. Educated individuals are more likely to make informed decisions about health, finance, and family welfare.

Education also reduces unemployment, child labor, and social inequality. Quality education empowers women and marginalized communities, helping them participate actively in economic and social development. By improving literacy and professional skills, education breaks the cycle of poverty and supports sustainable growth.

6. Technology And Poverty Reduction

Technology plays an important role in reducing poverty by improving access to information, communication, education, healthcare, and financial services. Digital technology creates new employment opportunities and supports business growth. Online education platforms help students gain knowledge from anywhere. Mobile banking and digital payments provide financial inclusion to poor communities who do not have access to traditional banking systems. Modern agricultural technologies increase crop production and farmers' income. Technology also improves healthcare services through telemedicine and online consultations. Overall, technology helps improve living standards and economic opportunities.

7. Global Initiatives for Poverty Reduction

Many international organizations and countries work together to reduce poverty globally. The United Nations introduced Sustainable Development Goal 1 to end poverty by 2030. Organizations such as the World Bank, United Nations Development Programme (UNDP), UNICEF, and the International Labour Organization (ILO) provide financial support, healthcare, education, and employment programs for poor communities. Global initiatives focus on food security, women empowerment, rural development, disaster relief, and social protection systems. International cooperation and funding help developing countries implement poverty reduction strategies effectively.

8. Statistical Analysis

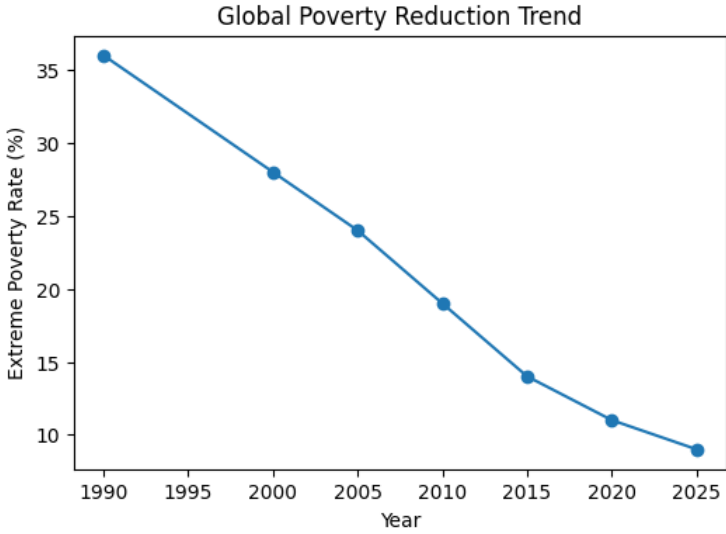


Figure 1.2: Global Poverty Reduction Trend

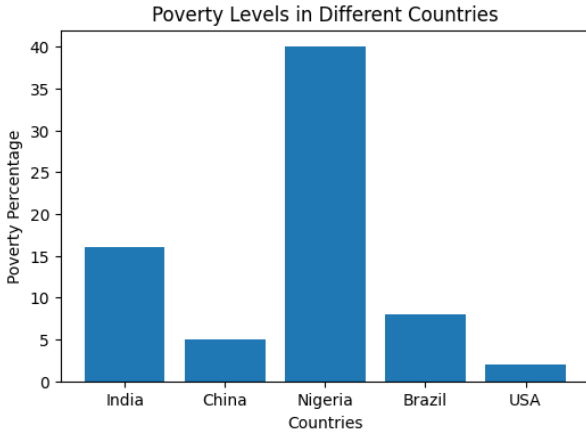
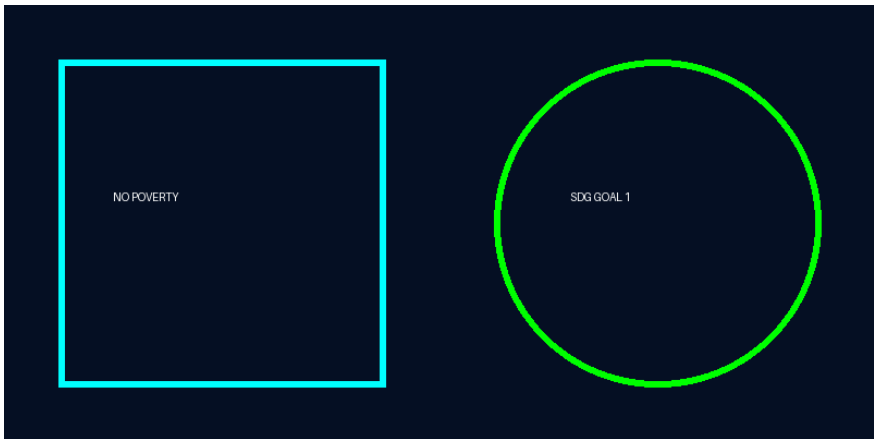


Figure 1.3: Poverty Levels in Different Countries

9. Hologram Representation of SDG 1



Key Targets of SDG 1

Table 1.1: Key Targets of SDG 1

Target	Objective	Method	Expected Result
1.1	End Extreme Poverty	Employment Programs	Improved Living Standards
1.2	Reduce Poverty by Half	Social Welfare Schemes	Economic Stability
1.3	Social Protection	Insurance and Subsidies	Protection for Vulnerable Groups
1.4	Equal Access	Infrastructure Development	Inclusive Growth
1.5	Build Resilience	Disaster Management	Reduced Economic Loss

10. Conclusion

Sustainable Development Goal 1, “**No Poverty**,” is a global mission to end poverty in all its forms everywhere by 2030. Poverty is not only the lack of income but also the lack of access to food, education, healthcare, shelter, employment, and equal opportunities. It affects millions of people worldwide and creates barriers to human development, social equality, and economic progress.

Achieving SDG 1 requires the combined efforts of governments, international organizations, communities, and individuals. Education, technology, employment opportunities, social protection systems, and sustainable economic growth are essential tools for reducing poverty. Governments must implement effective welfare programs and ensure equal distribution of resources, while global organizations should continue supporting developing nations through financial aid and development initiatives.

Although challenges such as unemployment, climate change, inequality, conflicts, and economic crises continue to increase poverty levels, strong policies and international cooperation can help overcome these difficulties. Empowering people through education, skill development, healthcare, and financial inclusion can break the cycle of poverty and improve living standards.

Ending poverty is important not only for economic growth but also for creating a peaceful, equal, and sustainable world. By working together with commitment and responsibility, humanity can achieve the vision of a poverty-free future where every individual has the opportunity to live with dignity, security, and hope. SDG 1 represents a promise to build a better world for present and future generations.

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Glossary

Poverty – A condition in which people lack sufficient income and resources to meet basic needs.

Sustainable Development – Development that meets present needs without compromising the ability of future generations to meet their own needs.

Social Protection – Programmes and policies designed to reduce poverty, vulnerability, and social risk.

Economic Growth – An increase in the production of goods and services in an economy over a period of time.

Financial Inclusion – Access to useful, affordable, and appropriate financial services for individuals and communities.

Unemployment – A condition in which people who are capable of working and willing to work are unable to find employment.

Malnutrition – A condition caused by insufficient, excessive, or imbalanced intake of nutrients.

Inequality – Uneven distribution of income, resources, opportunities, or social benefits among individuals or groups.

Microfinance – Small-scale financial services provided to low-income individuals, entrepreneurs, or communities.

Human Rights – Basic rights and freedoms that belong to every person.

Chapter 2

GOAL 2: The Cost of Nourishment: Analysing the Impact of Food Price Inflation and Supply Chain Friction on Achieving SDG 2

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Abstract

Food plays a vital role in human sustenance and well-being, and the fluctuations in its price exert a significant impact on the attainment of the Sustainable Development Goals (SDGs) from social, economic, and environmental perspectives. This paper conducts an analysis utilizing data from 163 countries, revealing that an upsurge in global food commodity prices entails trade-offs with 13 SDGs, while exhibiting synergies with a few others. By considering specific food products, various types of countries, and the supply and demand shocks, further analysis confirms predominantly negative associations between spikes in food prices and the SDGs.

Our findings highlight the urgent imperative to mitigate abrupt increases in food prices, such as those witnessed during the 2022 food crisis, to ensure the complete fulfilment of the 2030 agenda for SDGs.

1. Introduction

Global hunger and food insecurity have declined in recent years but remain above pre-pandemic levels. In 2024, an estimated 8.2 per cent of the global population faced hunger and about 28 per cent – nearly 2.3 billion people – were moderately or severely food insecure. Hundreds

of millions of children and women are affected by malnutrition, and dietary diversity remains inadequate for both women and young children. While the share of countries with high food prices declined from 60 per cent in 2022 to 50 per cent in 2023, this is still more than three times pre-pandemic norms. Public agricultural investment is rising, reaching \$701 billion in 2023, but the agriculture orientation index continues to fall, indicating a disconnect between investment and sector importance. Getting Goal 2 on track requires urgent action to strengthen food systems, support small-scale producers, improve services, ensure access to nutritious diets and address structural drivers of food price volatility – through coordinated financing and multisectoral strategies. In 2025, the United Nations Food Systems Summit and the World Health Assembly will help to align global efforts with nationally defined priorities.

The excerpt provided, the researchers used a correlational network analysis to map out how food prices interact with the 17 United Nations Sustainable Development Goals (SDGs).

A detailed breakdown of the trade-offs, synergies, and systemic implications of their findings.

2. The Methodology: Network Topology Explained

To understand the results, it helps to understand how the researchers visualized the data in their networks:

- **Nodes (The Circles):** Represent food prices and the 17 individual SDGs.
- **Node Size (Eigenvector Centrality):** The larger the node, the more "important" or influential that specific element is within the entire network. If a node is large, changes to it cause massive ripple effects across the whole system.
- **Edges (The Connecting Lines):** Represent the statistical correlations between nodes.
- **Edge Width:** Thicker lines mean a stronger relationship (either a stronger trade-off or a stronger synergy).

The Trade-Off Network: The Domino Effect of High Food Prices

A "trade-off" means that as one variable goes up, progress in another goes down. The paper explicitly states that **trade-offs vastly outweigh synergies** when food prices spike.

When food prices rise, it triggers a negative domino effect across **13 different SDGs**, acting as a massive roadblock to global development.

Social and Economic Casualties:

- **SDG 1 (No Poverty):** Higher food prices instantly shrink the purchasing power of low-income households, forcing more people into extreme poverty.
- **SDG 3 (Good Health & Well-being):** As food becomes expensive, families switch to cheaper, less nutritious options, leading to malnutrition, stunting, and worsening public health outcomes.
- **SDG 6 (Clean Water & Sanitation) & SDG 9 (Industry, Innovation, & Infrastructure):** High food prices strain macroeconomic stability. When governments and citizens must spend all their capital on basic food survival, investments in long-term infrastructure, industrial innovation, and clean water systems grind to a halt.

3. The Environmental Paradox (SDGs 12 & 13)

The analysis reveals a frustrating systemic catch-22. Aggressive, uncoordinated actions toward **SDG 12 (Sustainable Consumption & Production)** and **SDG 13 (Climate Action)** actually show strong trade-offs with other goals in this network. For example, implementing strict carbon taxes or transitioning agricultural land to biofuel production might help climate goals, but if they cause food prices to spike, they inadvertently crush social and economic progress.

The Synergy Network: Where Progress Multiplies

A "synergy" means that progress in one area naturally accelerates progress in another. The network analysis yielded two vital insights here:

- **Food Price Hikes Have "Little Structural Importance" here:** This means you cannot rely on rising food prices to naturally create positive side effects. High food prices do not organically help achieve *any* of the SDGs.
- **The True Drivers of Synergy:** On the flip side, the network shows that when you actively invest in **SDG 1 (No Poverty), SDG 3 (Health), SDG 6 (Water), SDG 7 (Clean Energy), and SDG 9 (Infrastructure)**, it creates a **compound positive effect**. Progress in these foundational areas naturally lifts up all other SDGs simultaneously.

The Structural Verdict

By analysing the total sum of positive vs. negative associations and grouping the synergies into clusters or "modules" the researchers mathematically proved a sobering reality:

Food price hikes are fundamentally incompatible with the seamless achievement of the SDGs. The negative friction they introduce to

the global system (trade-offs) vastly overpowers any incidental benefits (synergies).

Stable food prices are a non-negotiable prerequisite for global development:

Policymakers cannot view food prices as an isolated economic metric. If global market shocks, climate policies, or supply chain failures cause food prices to spike, the entire framework of the 17 SDGs is put at risk. Conversely, protecting food stability shields the entire network, allowing foundational goals like health, energy, and poverty reduction to create a rising tide that lifts all boats.

Global progress on child malnutrition is slowing, with signs of reversal. Malnutrition continues to undermine children's growth, development and long-term health. Between 2012 and 2024, the prevalence of stunting (low height-for-age) among children under age 5 decreased from 26.4 to 23.2 per cent. However, recent data indicate a potential reversal of this progress. Stunting remains particularly pronounced in low- and lower-middle-income countries, where 86.8 per cent of the 150 million stunted children reside. In 2024, the prevalence of stunting was higher among boys (24.4 per cent) than girls (21.9 per cent). Meeting the 2030 target of halving the stunting rate will require a sharp acceleration in efforts. The global prevalence of being overweight (high weight-for-height) among children under age 5 rose marginally from 5.3 to 5.5 per cent between 2012 and 2024, but this is not statistically significant. The global prevalence of wasting (low weight-for-height) declined from 7.4 to 6.6 per cent during this period, with notable declines in the number of children experiencing wasting in Central and Southern Asia (by 16 per cent) and sub-Saharan Africa (by 5 per cent).

Matrix of SDG 2 Current Status (2026)

Research Domain	Core Problem Addressed	Latest 2025/2026 Innovation / Baseline
Climate Resilience	Extreme weather destroying smallholder crop yields	Satellite remote sensing & predictive AI mapping (UNOOSA/FAO)
Food Safety / Health	Drug-resistant microbes in meat & aquaculture	Mandatory 24%+ reductions in agricultural antimicrobial sales
Supply Chains	Extreme food spoilage and transport bottlenecks	Advanced non-thermal preservation & localized agro-ecology

Research Domain	Core Problem Addressed	Latest 2025/2026 Innovation / Baseline
Malnutrition	150 million stunted children globally	Shift from raw caloric volume to micro-nutrient targeting

Climate Resilience

The intersection of climate resilience and agriculture focuses on the critical problem of extreme weather events destroying smallholder crop yields, which threatens global food security. To combat this, the latest 2025/2026 standard leverages an integrated framework of **satellite remote sensing and predictive AI mapping**, championed by organizations like the United Nations Office for Outer Space Affairs (UNOOSA) and the Food and Agriculture Organization (FAO). This technology allows for real-time monitoring and predictive modeling, enabling smallholders to anticipate climate shocks and adapt their agricultural practices accordingly. These are represented in the figure 1.

Food Safety & Health

In the domain of food safety and public health, researchers are tackling the alarming rise of **drug-resistant microbes** within meat production and aquaculture. This issue poses a severe threat to global health as antimicrobial resistance reduces the efficacy of vital medicines. The current 2025/2026 baseline response to this crisis is the enforcement of **mandatory reductions of 24% or more in agricultural antimicrobial sales**, forcing the industry to adopt cleaner, more sustainable farming practices and alternative biosecurity measures.

Supply Chains

Agricultural supply chains are plagued by severe logistical inefficiencies, specifically **extreme food spoilage and transport bottlenecks** that prevent food from reaching markets efficiently. The latest innovations in 2025/2026 address this by deploying **advanced non-thermal preservation technologies**—which extend shelf life without degrading nutritional value—alongside a strategic pivot toward **localized agroecology**. By reducing reliance on long-distance transport and strengthening local food networks, this approach drastically minimizes post-harvest losses.

Malnutrition

The research domain dedicated to malnutrition addresses the tragic global crisis of **150 million stunted children**. To solve this deep-rooted issue, the scientific and humanitarian community has shifted its baseline paradigm for 2025/2026. Instead of the traditional focus on increasing raw caloric volume (which often leads to "hidden hunger"), the new strategy prioritizes **precise micro-nutrient targeting** to ensure that vulnerable populations receive the essential vitamins and minerals required for healthy physical and cognitive development.

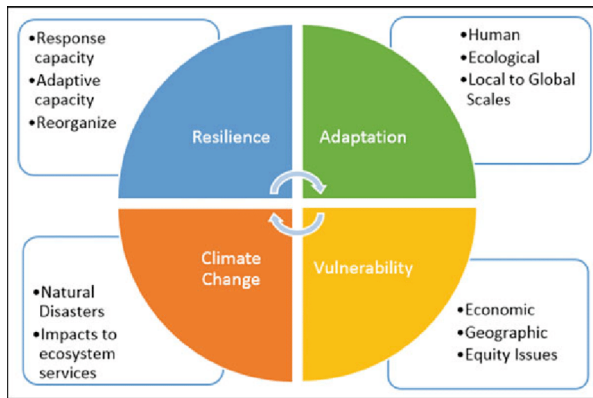


Figure 2.1: Climate Resilience, Adaptation and Vulnerability

4. Current Status of SDG 2 in 2026

SDG 2 Core Metric
/ Indicator

Current 2026 Global Status & Trajectory

Global Hunger Rate (Prevalence of Undernourishment)

8.2% of the world population (~673 million people) suffers from chronic hunger. While marginally down from the pandemic peak, the UN projects over **512 million people will still be chronically undernourished by 2030** (predominantly in sub-Saharan Africa and Western Asia).

SDG 2 Core Metric / Indicator	Current 2026 Global Status & Trajectory
Moderate or Severe Food Insecurity	28% of the global population (~2.3 billion people) lack consistent, reliable access to adequate food. High domestic food price inflation remains the chief economic driver of this stagnation.
Childhood Stunting (<i>Under Age 5</i>)	23.2% global prevalence. The decade-long decline (down from 26.4% in 2012) has flattened into a plateau. 86.8% of all stunted children reside exclusively within low- and lower-middle-income countries.
Childhood Wasting (<i>Under Age 5</i>)	6.6% global prevalence. This acute crisis is severely bottlenecked: over 80% of all global wasting cases are concentrated in just two regions—Central/Southern Asia (57.5%) and sub-Saharan Africa (23.8%).
The Malnutrition Paradox (Obesity)	15.8% adult obesity globally coexists alongside child overweight rates at 5.5% . This represents an expanding “double burden” where vulnerable families rely on cheap, energy-dense, processed foods due to the soaring cost of fresh produce.
Anaemia in Women (<i>Aged 15–49</i>)	30.7% global prevalence. This represents a major public health setback, having risen steadily from 27.6% over the last decade, highlighting a widespread structural lack of micronutrient dietary diversity.
Smallholder Farmer Disparity	Small-scale food producers systematically earn less than 50% of the total income of large-scale commercial operations, with female-led smallholder farms experiencing the steepest financial gaps.
Agricultural Land Degradation	Over one-third (33%+) of all global agricultural land is officially classified as degraded, directly undermining food security and threatening the localized livelihoods of 1.7 billion people.
Livestock Genetic Vulnerability	Only 5% of local livestock breeds have sufficient genetic material securely conserved for population recovery, leaving the global food system heavily exposed to catastrophic transboundary disease shocks.

Goal 2 is about creating a world free of hunger by 2030. The global issue of hunger and food insecurity has shown an alarming increase since 2015, a trend exacerbated by a combination of factors including the pandemic, conflict, climate change, and deepening inequalities.

In 2024, an estimated 8.2 per cent – or 1 of 12 people – of the global population faced hunger and about 28 per cent – nearly 2.3 billion people – were moderately or severely food insecure. Global hunger levels, measured by the prevalence of undernourishment, remained at the same level for three consecutive years after a sharp rise during the pandemic. This data underscores the severity of the situation, revealing a growing crisis.

In addition, an estimated 2.33 billion people faced moderate to severe food insecurity in 2023. This classification signifies their lack of access to sufficient nourishment. This number escalated by an alarming 383 million people compared to 2019.

The persistent surge in hunger and food insecurity, fueled by a complex interplay of factors, demands immediate attention and coordinated global efforts to alleviate this critical humanitarian challenge.

Extreme hunger and malnutrition remain a barrier to sustainable development and creates a trap from which people cannot easily escape. Hunger and malnutrition mean less productive individuals, who are more prone to disease and thus often unable to earn more and improve their livelihoods.

2 billion people in the world do not have regular access to safe, nutritious and sufficient food. In 2024, 23.2 per cent of children had stunted growth and 6.6 per cent of children under the age of 5 were affected by wasting.

How many people are hungry?

It is projected that more than 600 million people worldwide will be facing hunger in 2030, highlighting the immense challenge of achieving the zero hunger target.

People experiencing moderate food insecurity are typically unable to eat a healthy, balanced diet on a regular basis because of income or other resource constraints.

Why are there so many hungry people?

Shockingly, the world is back at hunger levels not seen since 2005, and food prices remain higher in more countries than in the period 2015–2019. Along with conflict, climate shocks, and rising cost of living, civil insecurity and declining food production have all contributed to food scarcity and high food prices.

Investment in the agriculture sector is critical for reducing hunger and poverty, improving food security, creating employment and building resilience to disasters and shocks.

Why should I care?

We all want our families to have enough food to eat what is safe and nutritious. A world with zero hunger can positively impact our economies, health, education, equality and social development.

It's a key piece of building a better future for everyone. Additionally, with hunger limiting human development, we will not be able to achieve the other sustainable development goals such as education, health and gender equality.

How can we achieve Zero Hunger?

Food security requires a multi-dimensional approach – from social protection to safeguard safe and nutritious food especially for children to transforming food systems to achieve a more inclusive and sustainable world. There will need to be investments in rural and urban areas and in social protection so poor people have access to food and can improve their livelihoods.

What can we do to help?

You can make changes in your own life—at home, at work and in the community—by supporting local farmers or markets and making sustainable food choices, supporting good nutrition for all, and fighting food waste.

You can also use your power as a consumer and voter, demanding businesses and governments make the choices and changes that will make Zero Hunger a reality. Join the conversation, whether on social media platforms or in your local communities.

5. Targets

2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

2.A Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.

2.B Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.

2.C Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

6. Conclusion

Sustainable Development Goal 2 is a global commitment to **end hunger, achieve food security, improve nutrition, and promote sustainable agriculture** by 2030. It recognizes that hunger is not just about lack of food, but also about poverty, inequality, climate change, and unsustainable farming practices.

Achieving SDG 2 requires: **Equitable access** to safe, nutritious, and sufficient food year-round. **Support for small-scale farmers** through resources, technology, and fair markets. **Sustainable agricultural practices** that protect ecosystems and adapt to climate change.

In essence, SDG 2 is about building a world where **no one goes to bed hungry**, where food systems are resilient, and where nutrition supports healthy lives for all — ensuring that progress in agriculture and food se-

curity benefits both people and the planet.

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