

Home / Blog

# How Can Technology Revolutionize Agriculture Sector to Minimize Food Grain Loss

Harnessing technology-driven solutions and fostering collaboration across the agricultural ecosystem is imperative to address food grain losses effectively.

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Despite the promising projection of a bountiful foodgrain harvest of 309 million tons for the fiscal year 2023-24 by the Ministry of Agriculture and Farmers Welfare, the agricultural sector grapples with a sobering reality. Significant food grain losses plague the landscape, casting a shadow over overall productivity. These losses, occurring throughout the production and storage phases, present formidable challenges for farmers and the entire supply chain, underscoring the human toll of agricultural setbacks.

## Harnessing Technology for Solutions

Sandeep Sabharwal, Group Founder & CEO of SLCM, a post-harvest agri-logistics player, highlights technology as a pivotal solution to mitigate food loss on a large scale. He notes that approximately 10% of foodgrains are wasted annually, but concerted efforts across various domains have reduced such losses.



He advocates for the adoption of innovative techniques such as precision agriculture, hydroponics, and vertical farming, complemented by real-time market information via mobile apps, transparent supply chains enabled by blockchain technology, and analytics driven by AI. Moreover, he stresses the importance of enhanced infrastructure including improved cold storage facilities, robust transportation networks, and packaging solutions to extend the shelf life of perishable goods.



## Understanding Agricultural Losses

Agricultural losses occur when various factors, such as insects, pests, rodents, adverse weather conditions, or premature rainfall, impact crops before harvest. Moreover, processing losses occur during storage, as fluctuations in temperature, moisture, or precipitation endanger ready stocks due to obsolete storage infrastructure.

## Utilize Scientific Innovations for Minimal Food Grain Loss

The role of scientific agricultural practices, including proprietary algorithm-driven engines, which can dramatically reduce food grain losses from 10% to a mere 0.5%. These systems, irrespective of infrastructure limitations, offer efficient [post-harvest management](#) techniques, such as AI-driven applications for instant food crop testing.

Comprehensive capacity-building and training programs are urgently needed across the industry. Leveraging AI and ML technologies is crucial to enhance agricultural practices, ensuring efficiency and sustainability. Equally important is the dissemination of knowledge and education about the latest advancements at the grassroots level, empowering farmers with the necessary tools to flourish in a changing environment.

not go to waste. With the country ranking 111th out of 125 countries in the Global Hunger Index, consumer awareness campaigns are imperative to reduce food wastage at the household level. By complementing agricultural initiatives with measures to minimize food wastage, we can ensure more food reaches those in need.

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