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An Engels' Pause in an AI-Shaped World

Context

- The **rapid rise of Artificial Intelligence (AI)** has sparked debates about its **potential to transform industries, economies, and societies at large**.
- **Geoffrey Hinton, Nobel Laureate and pioneer of AI**, recently warned that this revolution may enrich a select few while leaving the majority poorer.
- His **cautionary note echoes a historical parallel known as the Engels' pause**, a period during the early Industrial Revolution when economic output soared but living standards for ordinary workers stagnated.
- The **question that looms today is whether the world is entering a modern Engels' pause in the AI era**, one where productivity accelerates but shared prosperity lags behind.

The Engels' Pause in Historical Context

- **Coined by economist Robert Allen**, the term Engels' pause **refers to early 19th-century Britain**, where **despite immense industrial expansion, real wages stagnated** and inequality deepened.
- While **Britain became the workshop of the world, ordinary households saw little improvement** in welfare, as food absorbed most of their income and social inequalities widened.
- **It was only decades later, through reforms, institutional changes, and new social contracts, that broad-based prosperity emerged**.
- This **historical paradox frames a crucial debate in the present**: whether AI, as a general-purpose technology (GPT) akin to steam power or electricity, will generate similar delays between technological progress and widespread welfare gains.

AI as a General-Purpose Technology

- **AI fits the profile of a GPT**, capable of reshaping multiple industries simultaneously.
- As Agrawal, Gans, and Goldfarb (2018) argued, **its unique economic contribution lies in drastically lowering the cost of prediction**.
- Yet, as history shows, GPTs bring both growth and dislocation. They demand **complementary innovations, institutional adaptation, and new skills** before benefits trickle down.
- **Without such adjustments, the gains are often captured by a few entrepreneurs** or dominant firms, leaving the broader workforce vulnerable to job displacement and wage stagnation.

Signs of a Modern Engels' Pause

- **Productivity without wage growth**

- In Philippine call centres, AI copilots have **boosted productivity by 30-50%**, improving efficiency and cutting costs for firms.
- Yet, **workers' wages have remained stagnant**, and workloads have intensified. Rising living costs only compound the sense of declining welfare.

- **Rising costs of complements**

- To remain relevant in the AI economy, **workers must constantly reskill through coding boot camps**, certifications, and training programs.
- **These costs parallel the 19th-century phenomenon** where higher nominal wages were offset by surging food prices, leaving workers no better off.

- **Concentration of gains and inequality**

- PwC projects that **AI could add \$15.7 trillion to global GDP by 2030**. However, most gains are likely to accrue to the U.S., China, and a handful of firms controlling foundational models.
- For much of the global workforce, **particularly in developing economies, welfare improvements may be delayed** or even denied.

- **Job displacement and task transformation**

- From AI-powered hospitals in China to AI adoption in airports and public administration, **tasks are rapidly being transformed**.
- While some roles are complemented, **others are displaced, raising concerns about structural unemployment and growing inequality**.

Lessons from History and Policy Responses

- The **Industrial Revolution eventually delivered prosperity**, but only after decades of inequality and social unrest, which prompted reforms such as trade unions, public education, and welfare institutions.
- The same logic applies today: **governance, not technology alone, determines whether AI delivers broad human welfare**. Key policy responses include:
 - **Skills transition programs**. Initiatives like Singapore's SkillsFuture or Abu Dhabi's AI-focused university (MBZUAI) exemplify efforts to build human capital for an AI-driven future.
 - **Redistribution of AI rents**. Mechanisms such as robot taxes, Universal Basic Income (UBI), and philanthropic contributions could help spread the benefits of AI more equitably.
 - **AI infrastructure as a public good**. Compute power and data access, the lifeblood of AI, must not remain prohibitively expensive or monopolised. Publicly funded open AI models, such as those launched in the UAE and Switzerland, mark steps in this direction.

Counterarguments and Optimism

- **Critics of the Engels' pause analogy argue that contemporary societies** are better equipped than 19th-century Britain.
- Stronger welfare systems, faster technological diffusion, and the potential for AI to lower costs in healthcare, education, and energy could shorten or even prevent an extended pause.
- For instance, **smartphones reached billions in under a decade**, and AI assistants could follow a similar trajectory if deployed equitably.
- However, **optimism must be tempered by caution**. While macroeconomic gains may appear, many individuals may still face stagnant wages, rising costs, and insecure livelihoods.
- The challenge lies in ensuring that AI becomes a **human welfare revolution**, not just a productivity revolution.

Conclusion

- The **spectre of a modern Engels' pause** warns that **technological progress does not automatically translate into human welfare**.
- History underscores that **political will, institutional adaptation, and inclusive governance are crucial** to bridging the gap between productivity and prosperity.
- **AI governance today faces a stark choice**: whether to allow an era of concentrated wealth and stagnant welfare, or to craft policies that ensure AI becomes a driver of broad-based human progress.
- **The outcome, as history reminds us, will not be determined by technology alone**, but by collective political and social choices.

An Engels' Pause in an AI-Shaped World FAQs

Q1. What is meant by the term "Engels' pause"?

Ans. The term "Engels' pause" refers to a historical period in 19th-century Britain when industrial output increased rapidly, but workers' wages stagnated, and inequality widened.

Q2. Why is AI compared to a general-purpose technology (GPT)?

Ans. AI is compared to a general-purpose technology because, like steam power or electricity, it has the potential to transform multiple industries and significantly reshape the economy.

Q3. What is one sign of a modern Engels' pause in the AI era?

Ans. One sign of a modern Engels' pause is when productivity rises due to AI, but workers' wages remain stagnant, as seen in call centres in the Philippines.

Q4. How can governments reduce the risks of an AI-driven Engels' pause?

Ans. Governments can reduce the risks by investing in skills transition programs, redistributing AI gains through policies like Universal Basic Income, and treating AI infrastructure as a public good.

Q5. Why do some scholars argue that the Engels' pause analogy may be overstated today?

Ans. Some scholars argue it may be overstated because today's societies have stronger welfare systems, faster

technological diffusion, and greater potential for AI to lower costs in essential services.

Source: **The Hindu**

What an Empty Plate of Food Should Symbolise

Context

- Every year on September 29, the world observes the **International Day of Awareness of Food Loss and Waste (IDAFWL)**.
- Far from being symbolic, **this occasion underscores a crisis** that quietly undermines both global food security and climate stability.
- **Nearly one-third of all food produced worldwide is either lost or wasted**, representing not only a missed opportunity to nourish people but also an immense drain on natural resources.
- As one of the world's largest food producers, **India faces this challenge acutely**, with post-harvest losses imposing heavy economic, social, and environmental costs.

The Scale of the Problem

- **India's agricultural sector experiences substantial post-harvest losses** across diverse crops and commodities.
- **A 2022 study by NABCONS revealed that losses remain alarmingly high**, cutting across fruits, vegetables, cereals, and livestock products.
- The **economic toll is estimated at nearly ₹1.5 trillion annually**, equivalent to 3.7% of India's agricultural GDP.
- **Fruits and vegetables are most at risk, with 10-15% spoilage rates**, while even staples like wheat (4.2%) and paddy (4.8%) are far from immune.
- **These figures translate into more than foregone nutrition**; each tonne of food wasted reflects squandered water, energy, and labour.
- When scaled across India's vast production, **millions of tonnes of food are lost annually**, with grave implications for farmer incomes, national food availability, and climate stability.

Food Loss and Climate Change

- Recent **collaborative research by the FAO and NIFTEM**, supported by the Green Climate Fund, quantified greenhouse gas (GHG) emissions associated with post-harvest and retail waste across 30 crops and livestock products in India.
- Their **findings were striking: modest percentage losses in cereals**, particularly methane-intensive paddy, generate over **10 million tonnes of CO₂-equivalent emissions each year**.
- Losses in livestock products, given their high resource footprint, **compound the environmental burden**.
- In total, **food loss from these commodities contributes more than 33 million tonnes of CO₂-equivalent emissions annually**.

- Unlike high-income countries where waste occurs primarily at the consumer end, **India's food loss happens largely at early stages, handling, processing, and distribution.**
- **This points to systemic challenges:** inadequate infrastructure, fragmented supply chains, and limited adoption of modern technologies.

Pathways to Solutions

• Strengthening Infrastructure

- While the scale of India's food loss problem is daunting, solutions are within reach. **Strengthening infrastructure is the cornerstone.**
- **Cold chains, encompassing pre-cooling facilities, refrigerated transport,** and modern storage, are vital for perishables such as dairy, meat, fruits, and vegetables.
- Initiatives like the **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)** are already working to **modernise India's food logistics**

• Affordable and Decentralized Technologies

- In addition to large-scale infrastructure, **affordable and decentralised technologies can empower smallholders.**
- **Solar-powered cold storage units, low-cost cooling chambers, durable crates,** and moisture-proof silos are practical tools to curb spoilage.
- **Complementing these are digital innovations: IoT sensors, AI-driven forecasting, and mobile platforms such as FAO's Food Loss App (FLAPP),** launched in 2023 and already used in over 30 countries, which help track and mitigate losses along the value chain.

• Foodbanks and Community Kitchens

- At the retail and consumer level, **surplus food can be redirected to food banks and community kitchens,** ensuring nutritional redistribution.
- **Unavoidable waste can still serve productive purposes,** being converted into compost, animal feed, or bioenergy.
- **Realising these circular solutions, however, requires robust policy support,** from subsidies and credit guarantees to incentives for private sector participation.

• Shared Responsibility

- Food loss is **not a problem any single actor can solve in isolation.** Governments must embed food loss reduction into national climate strategies and invest in resilient infrastructure.
- **Businesses must adopt circular economic models** and scale technological innovations.
- **Civil society and academia can advance research and advocacy,** while consumers must cultivate mindful practices to minimize waste and support redistribution efforts.

Conclusion

- The **observance of IDAFLW is more than a reminder**, it is a call to collective action.
- India stands at a crossroads where **tackling food loss is essential not only to secure nutrition for its people but also to meet its climate goals** and conserve overstretched resources.
- **Every meal saved represents not just sustenance but also a safeguard** for ecosystems and livelihoods.
- In this light, **an empty plate should never signify waste**; it should symbolise nourishment shared and resources preserved.

What an Empty Plate of Food Should Symbolise FAQs

Q1. What is the significance of the International Day of Awareness of Food Loss and Waste (IDAFLW)?

Ans. The IDAFLW highlights the global challenge of food loss and waste, drawing attention to its impact on food security, resources, and climate change.

Q2. How much does India lose annually due to post-harvest losses?

Ans. India loses nearly ₹1.5 trillion annually, which is about 3.7% of its agricultural GDP.

Q3. At which stage of the supply chain does most food loss occur in India?

Ans. In India, most food loss occurs early in the supply chain during handling, processing, and distribution.

Q4. Why is food loss a climate issue?

Ans. Food loss contributes significantly to greenhouse gas emissions, with crops like paddy and livestock products generating millions of tonnes of CO₂-equivalent emissions each year.

Q5. What solutions can help reduce food loss in India?

Ans. Strengthening cold chains, adopting affordable technologies, using digital tools, and promoting circular solutions like composting and food redistribution can help reduce food loss.

Source: **The Hindu**

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