Scenario Narratives

LOCK STEP

A world of tighter top-down government control and more authoritarian leadership, with limited innovation and growing citizen pushback

In 2012, the pandemic that the world had been anticipating for years finally hit. Unlike 2009's H1N1, this new influenza strain—originating from wild geese—was extremely virulent and deadly. Even the most pandemic-prepared nations were quickly overwhelmed when the virus streaked around the world, infecting nearly 20 percent of the global population and killing 8 million in just seven months, the majority of them healthy young adults. The pandemic also had a deadly effect on economies: international mobility of both people and goods screeched to a halt, debilitating industries like tourism and breaking global supply chains. Even locally, normally bustling shops and office buildings sat empty for months, devoid of both employees and customers.

The pandemic blanketed the planet—though disproportionate numbers died in Africa, Southeast Asia, and Central America, where the virus spread like wildfire in the absence of official containment protocols. But even in developed countries, containment was a challenge. The United States's initial policy of "strongly discouraging" citizens from flying proved deadly in its leniency, accelerating the spread of the virus not just within the U.S. but across borders. However, a few countries did fare better—China in particular. The Chinese government's quick imposition and enforcement of mandatory quarantine for all citizens, as well as its instant and near-hermetic sealing off of all borders, saved millions of lives, stopping the spread of the virus far earlier than in other countries and enabling a swifter post-pandemic recovery.

China's government was not the only one that took extreme measures to protect its citizens from risk and exposure. During the pandemic, national leaders around the world flexed their authority and imposed airtight rules and restrictions, from the mandatory wearing of face masks to body-temperature checks at the entries to communal spaces like train stations and supermarkets. Even after the pandemic faded, this more authoritarian control and oversight of citizens and their activities stuck and even intensified. In order to protect themselves from the spread of increasingly global problems — from pandemics and transnational terrorism to environmental crises and rising poverty — leaders around the world took a firmer grip on power.

At first, the notion of a more controlled world gained wide acceptance and approval. Citizens willingly gave up some of their sovereignty — and their privacy — to more paternalistic states in exchange for greater safety and stability. Citizens were more tolerant, and even eager, for top-down direction and oversight, and national leaders had more latitude to impose order in the ways they saw fit. In developed countries, this heightened oversight took many forms: biometric IDs for all citizens, for example, and tighter regulation of key industries whose stability was deemed vital to national interests. In many developed countries, enforced cooperation with a suite of new regulations and agreements slowly but steadily restored both order and, importantly, economic growth.

Across the developing world, however, the story was different — and much more variable. Top-down authority took different forms in different countries, hinging largely on the capacity, caliber, and intentions of their leaders. In countries with strong and thoughtful leaders, citizens' overall economic status and quality of life increased. In India, for example, air quality drastically improved after 2016, when the government outlawed high-emitting vehicles. In Ghana, the introduction of ambitious government programs to improve basic infrastructure and ensure the availability of clean water for all her people led to a sharp decline in water-borne diseases. But more authoritarian leadership worked less well — and in some cases tragically — in countries run by irresponsible elites who used their increased power to pursue their own interests at the expense of their citizens.

There were other downsides, as the rise of virulent nationalism created new hazards: spectators at the 2018 World Cup, for example,

wore bulletproof vests that sported a patch of their national flag. Strong technology regulations stifled innovation, kept costs high, and curbed adoption. In the developing world, access to "approved" technologies increased but beyond that remained limited: the locus of technology innovation was largely in the developed world, leaving many developing countries on the receiving end of technologies that others consider "best" for them. Some

> **"IT IS POSSIBLE TO DISCIPLINE AND CONTROL SOME SOCIETIES FOR SOME TIME, BUT NOT THE WHOLE WORLD ALL THE TIME."**
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> – GK Bhat, TARU Leading Edge, India

governments found this patronizing and refused to distribute computers and other technologies that they scoffed at as "second hand." Meanwhile, developing countries with more resources and better capacity began to innovate internally to fill these gaps on their own.

Meanwhile, in the developed world, the presence of so many top-down rules and norms greatly inhibited entrepreneurial activity. Scientists and innovators were often told by governments what research lines to pursue and were guided mostly toward projects that would make money (e.g., market-driven product development) or were "sure bets" (e.g., fundamental research), leaving more risky or innovative research areas largely untapped. Well-off countries and monopolistic companies with big research and development budgets still made significant advances, but the IP behind their breakthroughs remained locked behind strict national or corporate protection. Russia and India imposed stringent domestic standards for supervising and certifying encryption-related products and their suppliers—a category that in reality meant all IT innovations. The U.S. and EU struck back with retaliatory national standards, throwing a wrench in the development and diffusion of technology globally.

Especially in the developing world, acting in one's national self-interest often meant seeking practical alliances that fit with those

interests — whether it was gaining access to needed resources or banding together in order to achieve economic growth. In South America and Africa, regional and sub-regional alliances became more structured. Kenya doubled its trade with southern and eastern Africa, as new partnerships grew within the continent. China's investment in Africa expanded as the bargain of new jobs and infrastructure in exchange for access to key minerals or food exports proved agreeable to many governments. Cross-border ties proliferated in the form of official security aid. While the deployment of foreign security teams was welcomed in some of the most dire failed states, one-size-fits-all solutions yielded few positive results.

By 2025, people seemed to be growing weary of so much top-down control and letting leaders and authorities make choices for them.

Wherever national interests clashed with individual interests, there was conflict. Sporadic pushback became increasingly organized and coordinated, as disaffected youth and people who had seen their status and opportunities slip away — largely in developing countries — incited civil unrest. In 2026, protestors in Nigeria brought down the government, fed up with the entrenched cronyism and corruption. Even those who liked the greater stability and predictability of this world began to grow uncomfortable and constrained by so many tight rules and by the strictness of national boundaries. The feeling lingered that sooner or later, something would inevitably upset the neat order that the world's governments had worked so hard to establish. ●

HEADLINES IN LOCK STEP

Quarantine Restricts
In-Person Contact;
Cellular Networks
Overloaded
(2013)

Italy Addresses
'Immigrant Caregiver'
Gap with Robots
(2017)

Vietnam to Require
'A Solar Panel
on Every Home'
(2022)

African Leaders Fear
Repeat of Nigeria's 2026
Government Collapse
(2028)

2010   **2015**   **2020**   **2025**   **2030**

Intercontinental
Trade Hit by Strict
Pathogen Controls
(2015)

Will Africa's Embrace
of Authoritarian
Capitalism a la
China Continue?
(2018)

Proliferating Trade
Networks in Eastern
and Southern Africa
Strengthen Regional Ties
(2023)

ROLE OF PHILANTHROPY IN LOCK STEP

Philanthropic organizations will face hard choices in this world. Given the strong role of governments, doing philanthropy will require heightened diplomacy skills and the ability to operate effectively in extremely divergent environments. Philanthropy grantee and civil society relationships will be strongly moderated by government, and some foundations might choose to align themselves more closely with national official development assistance (ODA) strategies and government objectives. Larger philanthropies will retain an outsized share of influence, and many smaller philanthropies may find value in merging financial, human, and operational resources.

Philanthropic organizations interested in promoting universal rights and freedoms will get blocked at many nations' borders. Developing smart, flexible, and wide-ranging relationships in this world will be key; some philanthropies may choose to work only in places where their skills and services don't meet resistance. Many governments will place severe restrictions on the program areas and geographies that international philanthropies can work in, leading to a narrower and stronger geographic focus or grant-making in their home country only.

TECHNOLOGY IN LOCK STEP

While there is no way of accurately predicting what the important technological advancements will be in the future, the scenario narratives point to areas where conditions may enable or accelerate the development of certain kinds of technologies. Thus for each scenario we offer a sense of the context for technological innovation, taking into consideration the pace, geography, and key creators. We also suggest a few technology trends and applications that could flourish in each scenario.

Technological innovation in "Lock Step" is largely driven by government and is focused on issues of national security and health and safety. Most technological improvements are created by and for developed countries, shaped by governments' dual desire to control and to monitor their citizens. In states with poor governance, large-scale projects that fail to progress abound.

Technology trends and applications we might see:

- Scanners using advanced functional magnetic resonance imaging (fMRI) technology become the norm at airports and other public areas to detect abnormal behavior that may indicate "antisocial intent."

- In the aftermath of pandemic scares, smarter packaging for food and beverages is applied first by big companies and producers in a business-to-business environment, and then adopted for individual products and consumers.

- New diagnostics are developed to detect communicable diseases. The application of health screening also changes; screening becomes a prerequisite for release from a hospital or prison, successfully slowing the spread of many diseases.

- Tele-presence technologies respond to the demand for less expensive, lower-bandwidth, sophisticated communications systems for populations whose travel is restricted.

- Driven by protectionism and national security concerns, nations create their own independent, regionally defined IT networks, mimicking China's firewalls. Governments have varying degrees of success in policing internet traffic, but these efforts nevertheless fracture the "World Wide" Web.

LIFE IN LOCK STEP

Manisha gazed out on the Ganges River, mesmerized by what she saw. Back in 2010, when she was 12 years old, her parents had brought her to this river so that she could bathe in its holy waters. But standing at the edge, Manisha had been afraid. It wasn't the depth of the river or its currents that had scared her, but the water itself: it was murky and brown and smelled pungently of trash and dead things. Manisha had balked, but her mother had pushed her forward, shouting that this river flowed from the lotus feet of Vishnu and she should be honored to enter it. Along with millions of Hindus, her mother believed the Ganges's water could cleanse a person's soul of all sins and even cure the sick. So Manisha had grudgingly dunked herself in the river, accidentally swallowing water in the process and receiving a bad case of giardia, and months of diarrhea, as a result.

Remembering that experience is what made today so remarkable. It was now 2025. Manisha was 27 years old and a manager for the Indian government's Ganges Purification Initiative (GPI). Until recently, the Ganges was still one of the most polluted rivers in the world, its coliform bacteria levels astronomical due to the frequent disposal of human and animal corpses and of sewage (back in 2010, 89 million liters *per day*) directly into the river. Dozens of organized attempts to clean the Ganges over the years had failed. In 2009, the World Bank even loaned India $1 billion to support the government's multi-billion dollar cleanup initiative. But then the pandemic hit, and that funding dried up. But what didn't dry up was the government's commitment to cleaning the Ganges—now not just an issue of public health but increasingly one of national pride.

Manisha had joined the GPI in 2020, in part because she was so impressed by the government's strong stance on restoring the ecological health of India's most treasured resource. Many lives in her home city of Jaipur had been saved by the government's quarantines during the pandemic, and that experience, thought Manisha, had given the government the confidence to be so strict about river usage

now: how else could they get millions of Indian citizens to completely shift their cultural practices in relationship to a holy site? Discarding ritually burned bodies in the Ganges was now illegal, punishable by years of jail time. Companies found to be dumping waste of any kind in the river were immediately shut down by the government. There were also severe restrictions on where people could bathe and where they could wash clothing. Every 20 meters along the river was marked by a sign outlining the repercussions of "disrespecting India's most treasured natural resource." Of course, not everyone liked it; protests flared every so often. But no one could deny that the Ganges was looking more beautiful and healthier than ever.

Manisha watched as an engineering team began unloading equipment on the banks. Many top Indian scientists and engineers had been recruited by the government to develop tools and strategies for cleaning the Ganges in more high-tech ways. Her favorite were the submersible bots that continuously "swam" the river to detect, through sensors, the presence of chemical pathogens. New riverside filtration systems that sucked in dirty river water and spit out far cleaner water were also impressive—especially because on the outside they were designed to look like mini-temples. In fact, that's why Manisha was at the river today, to oversee the installation of a filtration system located not even 100 feet from where she first stepped into the Ganges as a girl. The water looked so much cleaner now, and recent tests suggested that it might even meet drinkability standards by 2035. Manisha was tempted to kick off her shoe and dip her toe in, but this was a restricted area now—and she, of all people, would never break that law.