
**IBON Primer on System Change:
MONOPOLY CAPITALISM
AND THE
ECOLOGICAL CRISIS**

IBON International



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PART 1

Nature, human society, and global capitalism

There is now growing awareness that the global ecological crisis is fast getting worse, and that human economic activity is mainly responsible for it. This awareness is leading to ever-increasing recognition of the need—and urgency—for deep-going and systemic changes in society.

Some serious proposals for change have, to an extent, gone mainstream. These include changing lifestyle and consumption patterns that seem immediately doable and viable enough at the level of households and communities, if not by entire economies and governments. For instance, using bikes more than cars and buying only organic food; switching to more energy-efficient and eco-friendly techniques of production; reforming economic policies to incentivize clean technologies; and adopting new metrics for measuring societal progress and well-being.

However, before these proposals are adopted and celebrated as the ultimate solutions to the ecological crisis, there must first be a comprehensive understanding of its root causes. This requires a closer look into false notions and false solutions that may dilute or even distort people's understanding of the crisis and the need for systemic change.

A. What are some fallacies about the ecological crisis and false solutions to it?

1. *Overpopulation*

FALLACY: Population growth especially in the South is causing ecological disaster. Population size must therefore be controlled to reduce human impact on the environment.

First, key premises must be laid down. It is true that more resources are required to sustain more people, even if each person consumed the same goods and even if technological advances made production less resource-intensive. It is true as well that the planet's ecosystems are limited by their carrying capacities and obviously cannot absorb an infinitely growing population. Finally, each society or community will sooner or later see the need and find ways to stabilize its population, and adopt mechanisms to balance its population's needs and the capacity of its environment, infrastructure, and technologies.

While holding these premises to be valid, it remains a big mistaken leap to conclude that "overpopulation" is the major cause of today's ecological crisis and that population control is the solution. This is made obvious by the wide gaps between the "sparsely populated" but rich global North and the "overpopulated" but poor global South, in terms of resource consumption and waste production per capita. Clearly, rich Northern economies cost the global environment much more than poor Southern economies. This clearly disproves the "overpopulation" thesis.

The problem is not some absolute number of people imposing a human burden on the environment, but the nature of a social system. The ecological crisis is caused not by population growth as some independent variable, but by the inherently irrational and destructive system of production for profit. So long as capitalism remains intact, especially in its extreme monopolistic and neocolonial form, reducing the population will not significantly reduce environmental problems in any significant and lasting way. Population growth under capitalism can be seen as more a symptom of the lack of control by people of their productive and reproductive capacities.

2. *Modern industrial development*

FALLACY: Industrialism and economic growth are the causes of the ecological crisis. Societies must deindustrialize, turn to small-scale production and stop all economic growth.

As in the population question, industrial development and economic growth cannot be dissociated from their specific social context.

It is true that industrial production imposes many negative consequences on the environment, for example, through the relentless burning of fossil fuels for energy (thus driving up pollution and GHG emissions), increased scale and pace of resource extraction (thus, worsening depletion and waste), and over-concentration of production capacity in cities (thus aggravating much of the adverse impacts of industry on the environment).

However, this condition can only be rightly understood as the abuse of industrial production by capitalism and imperialism, and not as the result of rational industrial methods. The constant drive for profit and accumulation, impelled by both competition and monopoly, push capitalists to constantly speed up and expand production and cut costs, even though that means more industrial pollution and waste, faster resource depletion, overconsumption, and eventually the economy overheating itself to the point of collapse.

The situation is rather much like a madman driving an otherwise safe and sturdy bike downhill at top speed because he wants to win first prize. If he suffers a fatal accident (which he probably will), we should not blame the bicycle but rather the madman and the kind of race he chooses to join.

In the context of truly sustainable development, democratic ownership and planned production, society can carry out industrial production in more ecologically benign and socially beneficial ways without the all-consuming profit motive and competition.

The actual parameters of industrial production and industrial growth, including such important decisions as the appropriate type and scale of technology, can thus be agreed on and fine-tuned by society on the basis of the present and future needs of its people and environment. Variations from country to country, and particularly between the heavily industrialized North and the still-developing south, are to be expected and made adjustments for.

There would thus be no place for any rigid and dogmatic one-size-fits-all model of industrial production, technologies and methods.

3. *Green capitalism*

FALLACY: Capitalism can be made sustainable. Environmental problems created by capitalism can be solved within it through markets and property rights, regulation and public investments, and technological advances.

Strategies for a sustainable “transformation” of capitalism do not all come together into one approach. Broadly, they can be divided into three approaches.

First is what might be called “free-market environmentalism”. It focuses on mobilizing the market mechanism and private property rights to solve environmental problems. It sees environmental problems as the result of the “tragedy of the commons”: since many natural resources are publicly owned and free for use by any member of the community, there are no incentives to protect them or use them more prudently.

The market-oriented solution is to establish private property rights on the resource and let the market determine the price—which is then deemed to represent the value assigned to it by society. In short, if you need something badly enough, then be ready to pay for it at market-dictated prices. Those who pay gain the right to use. A common example is the European Union carbon trading scheme, in which rights to pollute the atmosphere are allocated over the economy through the buying and selling of emissions permits. The same market mechanism is being applied to other resources or ecosystem services such as water and the carbon-storing capacity of forests.

A second approach may be called “green Keynesianism”. It focuses on government investment in environmentally clean infrastructure and renewable energy, without necessarily abolishing all “brown” industries at one blow. It is hoped that these investments would jumpstart the recovery of individual country economies and the global economy from the crisis of 2008-09, redirect growth along greener, more environmentally-friendly lines, and create green jobs. Other policy instruments include the removal of perverse subsidies to fossil fuels, shifting taxes from economic “goods”

(e.g. income) to economic “bads” (e.g. pollution), enhanced environmental regulations, and the regulation of the financial sector.

A final approach may be called “technological optimism”. It is the view that technological advances on their own, like silver bullets for slaying a monster, will magically overcome environmental limits and problems. Biotech firms claim, for example, that amid the vagaries of climate change and industrial waste, their genetically modified crops, livestock, and microorganisms can play key roles in feeding the world and cleaning up pollution.

Another example is the belief that breakthroughs in technology, such as high-tech digital work environments and production methods, will steadily decrease the economy’s energy and resource consumption, eventually allowing the economy to grow unrestricted without worrying about resource depletion.

Still another example is geo-engineering or the large-scale manipulation of the Earth’s environment aimed at counteracting global warming and climate change. Geo-engineering technologies intend to either reduce the solar radiation absorbed by the Earth by shielding the planet from sunlight through chemical, mechanical or other means (e.g. cloud brightening, sulfur shields, and space sunshades), or to reduce the GHG emissions already in the atmosphere through massive capture (e.g. by enriching oceans of iron nutrients to boost growth of carbon-absorbing algae) instead of reducing emissions at point sources.

The main problem with these approaches is that they merely attempt to redirect the profit motive away from discredited (“brown”) technologies and industries towards more acceptable green technologies and industries. They bank on the profit motive to reshape capitalism into a green economy, instead of addressing the central sources of unsustainability, which are precisely the profit imperative and the social inequities that it engenders or aggravates.

Although the abovementioned ideas and practices go some way to give society a foretaste of a more sustainable future, they do not add up to a systemic solution that wholly corresponds to the ecological crisis as a systemic crisis. They are mere patchwork fixes, like individual families sandbagging their homes to buy time for escape while the whole system of dikes is about to collapse from floods. Quick fixes may provide some relief,

but they can also be dangerous if they lull people into false assurances while the basic problems remain untouched and grow even worse.

As long as the system is anchored on continuous growth, this will inexorably lead to further resource depletion, environmental degradation, social inequality and crisis.

B. How do production and technology affect the environment?

The ecological crisis is extremely acute and all-encompassing because it has roots in the way our societies are organized to produce. We therefore start with a quick review of humankind's relationship with nature, particularly as expressed in production and technology. We then proceed to revisit how this nexus turned increasingly problematic under the prevailing system of production. Capitalist development has led to head-on conflict with the world's peoples and environments, especially as it evolved into monopoly capitalism or modern-day imperialism.

1. What is humankind's relationship with nature?

In the most fundamental sense, humanity belongs to nature. To begin with, we are just one of a myriad species that evolved with the planet. Even with our unprecedented evolutionary and technological successes, we like other species must ultimately depend on the planet's natural processes that sustain the conditions for life in general. In addition, we as intelligent, technology-using, and very social beings need not just basic biological needs such as air, water, and food, but also shelter, clothing, and the tools and materials to serve these needs. Human societies must depend on favorable climates, habitable landscapes, and usable resources. Our survival is thus tied up with the rest of life on the planet. We cannot wrest ourselves away from nature.

Yet there is inherent tension between humanity and environment. All species, by constantly interacting with their environment, do eventually contribute in changing it. Consider, for example, how certain bacteria and plant life in the young Earth eventually generated enough free oxygen in the air to support animal life. Unlike other life forms, however, we are much better able to harness natural forces and resources to realize human purposes—which are no longer just biological imperatives but evolving social needs and wants,

which in turn impel human societies to further develop production and transform their environment.

This very (but not solely) human activity called production affects the environment at faster rates and eventually much larger scales, due to our distinct capacities for language, complex thought and technology. Our production systems and social organizations have thus changed the face of the earth much more systematically and widely and have led to the climate crisis and other environmental disasters that plague us today.

In the process of modifying the environment, humans also transform their own condition, not just in terms of creating new needs, but also in creating new social relations. Although humans have been around for several million years, and agricultural civilization for several thousand years, the most profound human-caused transformations in the environment and in societies have occurred only in the last two and a half centuries with the advent of modern technology and industry.

2. How have modern technology and industry affected humans and the environment?

The last 250 years, most distinctly shaped by the Industrial Revolution, triggered deep-going changes in human societies and their relationship to the environment. The rise of modern science and technology (S&T) and modern industry vastly increased human capacity to exploit the environment and expanded the goods and services available for human enjoyment beyond subsistence needs.

Modern science spearheaded the production of knowledge about the natural world based on systematic observation, reason and verification. Invention and innovations, especially those centered on the productive use of machines and fossil energy, formed the technological basis of modern industry and its rapid growth beginning in the 18th century in Western Europe. From the mid-19th century on, scientific and technological advances were more systematically applied to industries and governments (for both civil and military needs), which in turn began to actively enlist science for technology development and applications.

The spread of modern S&T and industry have had lasting impacts on present economic and social life. Mechanization and automation in industry,

agriculture, and services, along with the expanded use of fossil fuels as the principal energy source, allowed the large-scale production of food and other goods. Developments in public services, such as transportation and communication, increased mobility, commerce, and new consumer needs. Electrification provided growing industries and urban areas with steady energy supply. Advances in chemistry, biology, physics and engineering allowed the cheap mass production of synthetic materials for industry and agriculture (including new foods, drinks, drugs, fabrics, etc.), and cheap mass media that in turn greatly helped develop the consuming public's taste for these products.

The potential of modern S&T and industry to fully meet basic human needs, improve standards of living and even eliminate human deprivation and ignorance is easy to see; and in some ways they have already done so. For instance, increased capacity to produce food, cure diseases and provide health services have seen death rates fall. Global average life expectancy has doubled over the last century, from just 31 years in 1900 to 65 years today.¹ Global population has also grown to seven billion, from just one billion in the beginning of the industrial revolution.

However, many large-scale and serious environmental problems have attended the advance of modern industry and technology. Economic and social processes since the Industrial Revolution have caused rapid, extensive, and unprecedented changes in the environment, mainly to meet fast-growing demands of the population and the economy for land, consumer goods and producer goods, which in turn means extracting tremendous amounts of natural resources.

These processes are overwhelming or overshooting the planet's carrying capacities or environmental thresholds. Currently, production and consumption are using up resources and producing waste over 50% faster than the planet can replenish and absorb them.² Unsustainable rates of resource use and waste production are driving climate change, biodiversity loss, deforestation, soil degradation, chemical pollution, and the depletion of freshwater, fisheries, fossil fuels and minerals.

Human-induced environmental changes, such as climate change due to greenhouse gas emissions, are already occurring at a global scale. Further changes can push any of the planet's systems across a threshold, potentially leading to abrupt or irreversible change. Such environmental changes could

prove hard or impossible for humans and other species to adapt to. A recent attempt to define a “safe operating space for humanity” estimates that out of nine planetary life support systems identified as essential for human survival, three have already had their thresholds crossed, including climate change and biodiversity loss.³

Moreover, despite considerable gains in human well-being, the benefits of modernization have not been shared equally among regions and countries of the world. The spread of modern S&T and industry have been accompanied by widespread poverty, hunger, and underdevelopment. Close to one billion people today experience hunger. One billion people have no access to improved drinking water, and 2.2 billion have no access to improved sanitation. One billion people have no access to health care systems, and some 1.4 billion people still have no access to electricity. Over three billion people live on \$2.50 a day or less.

Meanwhile, the economic divide widened between developed and underdeveloped countries. According to the Human Development Report 1999 published for the UNDP, the ratio between the average incomes in the richest fifth and the poorest fifth of countries increased from 30:1 in 1960 to 74:1 by 1997. This trend merely continued the pattern of widening national disparities in the 19th and early 20th centuries. The same UNDP report cited income gaps between top and bottom nations of 3:1 in 1820, 7:1 in 1870, and 11:1 in 1913.⁴

And it is not merely that the benefits are uneven, but that people are in fact harmed. Mechanization and automation, in effect, makes human labor replaceable, thereby allowing exploiters to devalue work and depress wages. Work is degraded and workers are de-skilled. Industrial-style agriculture displaces much of manual farm labor and enables vast tracts of land to be concentrated into fewer hands. Dispossessed peasants are forced to move to cities for work and end up joining the ranks of cheap labor or the unemployed. S&T advances have been enlisted to invent and produce weapons of mass destruction. Modern railways, shipping and other transport technologies have also aided the exploitation of the world’s hinterlands by facilitating the extraction of resources and unequal trade.

3. Are modern industry, science and technology responsible for the ecological crisis as well as social injustice?

Some well-meaning progressives hold S&T and industry *per se* as responsible for modern society's dysfunctional and destructive relationship with the environment. Many cite the so-called Western worldview that conceives of humans and nature in basic conflict, with nature being humanity's object of domination. They also fault the related mechanistic views of Western science that treat nature as mechanical matter, mostly passive and malleable. Such views supposedly justified human societies to do anything to the environment as long as they bring benefits to humans. Still other views blame "industrialism," or the ideological mindset based on the overpowering dominance of industrial production and its constant emphasis in producing at ever-larger scales.

There are many valid elements in these arguments, but they are incomplete and misleading if social critique stops at these levels. Science, technologies, and production methods always develop in particular social contexts. They are products of given modes of production.

Thus, to address the roots of the systemic global crisis affecting environments and entire populations, we must address the mode of production that has prevailed for these past centuries. That is to say, we must understand *capitalism*, and at the global level, *imperialism*.

C. How did capitalism and imperialism cause the ecological crisis?

1. What are the defining characteristics of the capitalist mode of production?

Modern industrial production, with its large-scale machineries driven mostly by fossil fuel-powered engines and employed mostly for mass production, is an important characteristic of capitalism. But industrial production does not define the entirety of capitalism.

Generalized commodity production is another important feature of capitalism, which is often described as an economy where the bulk of goods

and services produced are bought and sold as commodities on the market. In such an economy, people need money to buy goods and services on the market, while firms produce goods and services only insofar as these are saleable commodities. But this is only possible in conditions where most communities can no longer produce their basic needs by themselves—as was still possible in locally self-sufficient agrarian societies—but have to buy these from the market. So they have no choice but to work for wages so they can buy their needs from the market.

We therefore come to the core of capitalism. Under this system, most people own no substantial resource for production except their capacity to work. Meanwhile, the means for producing and distributing goods (the land, raw materials, factories, technology, finance and so on) are privately owned and controlled by a tiny fraction of the population—the capitalist class—with their ownership rights guaranteed and protected by the state. Workers must sell their labor power to private enterprises that employ them in production. New value is created as the workers produce new and useful goods, which are then appropriated by the capitalist and the value extracted as profit. In return, workers are paid a wage or salary, with which they buy commodities in order to survive.

The capitalist economy works through business enterprises, typically in the form of private corporations although many public corporations also operate in capitalist fashion. The owners and management of each firm organize production, deciding what, how much, and in what manner to produce. To them, the workers performing the work are just one of several factors of production.

Whether human needs are actually fulfilled by the produced goods and services is not the capitalists' primary concern, but to pursue *profits*. Some of the profit goes to shareholders' dividends and managers' fat salaries, while much of it is reinvested back to production to maintain and expand the business, that is, to sustain and expand the profit-making cycle. Outwardly, we see successful capitalists amassing wealth over time and expanding their business. At the core, we see their business becoming more capital-intensive as their constant capital (plants, equipment, and raw materials) keeps on increasing while their variable capital (wages) keeps on decreasing.

The drive for profit is not just about individual greed, but an imperative of competition among capitalists. Whoever has more capital acquires more

leverage with which to depress workers wages, reduce other production costs, expand his scale of production, prevail over rivals, and thus reap more profits, in a seemingly relentless cycle. For a capitalist not to keep pace in the competition by gaining profit and accumulating more capital is to risk failure and bankruptcy. Hence, the capitalist preoccupation with increasing profits and expanding business.

2. Why is capitalism fundamentally at odds with environmental sustainability?

Capitalism is an inherently expansionary system since its particular form of wealth accumulation, profit-making through mass production of commodities, knows no limits and must by necessity continue expanding in order to just sustain profitability. Capitalist firms must constantly seek to expand production, sales, and market share if they are to survive and succeed in the face of cutthroat competition. Consumption of goods and services must also rise in step with production. In short, capitalism tends to over-produce. In the macro-economy, this expansion is seen as economic growth, measured in gross domestic product (GDP). But at the same time, capitalism constantly attempts to reduce workers' wages as a way to sustain profitability by reducing capital needs.

The crisis of overproduction arises in capitalist society when the decreasing income of the workers disables them from buying what they produce. Expanding the money supply and loosening credit for the consumers and for the capitalists to increase production and speculation may appear to work for a while. But there are limits to the ability of finance capital to offer a quick fix. When profits dwindle and expansion staggers to a stop, the system falls into crisis. The flow of money and credit freezes, factories are idled, and workers are laid off. In such conditions, the topmost capitalist agenda is how to jump-start the stalled economy and resume the normal growth cycle.

Capitalism therefore has a fundamentally contradictory relationship with the environment, since its expansionary drive entails ever-larger exploitation of natural resources, ever-larger production of waste from industry and agriculture, and ever-larger consumption that also produces waste, that are abnormal or in excess of normal needs of populations and natural resources and carrying capacity of the environment, but which are eventually absorbed by natural cycles. But the environment has limits in its capacity to provide

resources and absorb waste, and has critical levels or thresholds that must not be reached or breached to maintain its integrity and proper functioning. This contradiction is manifested as intertwined environmental problems—pollution, resource exhaustion, ecosystem collapse, and other environmental changes that endanger the long-term sustainability of life in general and the survival of particular species.

Competition, profit motive and overproduction make capitalist production inherently irrational, made possible only by the equally irrational practice of colonialism to source raw materials from other lands which also become markets for excess production and capital. Despite philosophical arguments that say otherwise, human needs are satiable and can be met sustainably within environmental limits, as proven by the practice of many pre-capitalist societies. But capitalist firms produce not to fulfill needs but for profit. It is marketability and profitability that dictate where, when and how their resources are allocated. Thousands of individual enterprises make their own decisions about resource use and production in order to seek temporary market advantage and maximum profitability, with no overall sense of society's needs and how to rationally manage its total resources. Thus we find resources used in non-productive activities such as financial speculation, or luxury goods and services, while pressing human needs are left unmet.

Moreover, the constant effort by capitalists to stay ahead of competition leads to overproduction. Capitalist firms constantly invest in new, productivity-enhancing and labor-saving technologies to produce more goods at less cost. But as the labor content of production shrinks, the system finds itself producing more goods than can be profitably sold in the market. This leads the system to periodic crises of overproduction, which are only temporarily resolved through the idling or destruction of productive capacity in the hope of cooling down the overheated economy.

All told, capitalism is an environmentally wasteful, destructive and inefficient system.

3. How has the capitalist conflict with the environment expanded on a global scale?

The global expansion of the ecological crisis is brought about by the global expansion of capitalism through colonialism eventually in the form of monopoly capitalism or *imperialism*.

Industrialization greatly intensified the demand for raw materials in Western Europe and the United States, which pushed these Western powers into acquire colonial possessions. By the end of the 19th century, the most dominant industrial firms formed cartels, merged with banks, and thereby turned into giant monopolies with larger and more insatiable appetites for profits, capital accumulation, new sources of raw materials, cheaper labor, and new market outlets.

Hence, under monopoly capitalism, capital had become so concentrated in Europe, North America, Japan and Australia (the global North), such that further accumulation could only happen by exporting capital overseas, not just excess production, particularly towards the agrarian and unindustrialized countries of Asia, Africa, and Latin America (the global South), which originally were merely sources of raw materials.

Due to the international scope of monopoly operations, big business and banks need their home governments to exert stronger political influence or control over vast foreign territories, and thus ensure favorable conditions for their investments and trade. They need guarantees that their overseas properties are not expropriated, their transactions and contracts honored, their loans repaid, their profits unhampered. For this they must employ the immense coercive powers of the imperialist state. Monopoly capitalists thus operate directly via their transnational corporations (TNCs) as well as through their states.

Colonialism and neocolonialism denied Southern countries the rightful ownership and control of their resources. Their economies were transformed from diversified and self-reliant—even if pre-capitalist—systems into economies tied into the world capitalist system. These Southern economies, supposedly sovereign and developing, were in fact over-dependent on the North for markets, capital, loans, and development aid. At the same time, capitalist operations by TNCs and other big business firms in the South have resulted in the ecological devastation and exhaustion of land and

other natural resources, affecting the lives and livelihood of its innumerable communities.

Monopoly capital has thus created an integrated world economy divided into numerous nation-states occupying fundamentally different positions in the international division of labor. This system is dominated by monopoly capital based in the imperialist countries where finance capital, key industries, and the most advanced technologies are concentrated. Imperialist countries are also centers of overconsumption.

A few middle-income countries—some of them former socialist countries—have developed their corresponding national industrial base. They are the preferred locations for labor-intensive and highly polluting assembly of less sophisticated manufactures and, increasingly, for services outsourced from the major economies such as business processing and information technology. Low-income countries remain largely dependent on agriculture, natural resources, and extractive industries, which are also dominated by foreign capital and dependent on foreign markets.

This global economic system enables TNCs to spread and maintain unsustainable patterns of production and resource use in practically all parts of the world.

For instance, the industrial model of agriculture remains dominant through the control of the globally integrated food system by a handful of North-based agro-chemical, food processing, and food retail giants. Industrial agriculture is based on monoculture, particularly crops and livestock modified by high technology and dependent on large-scale agro-chemicals and machines. Its goal is to boost productivity and profits, and produce standardized food for large, affluent markets.

This type of capitalist-driven agriculture first emerged and became dominant in the North and some parts of the South that lent well to vast plantations of export crops such as sugar, cotton, hemp, coffee, tea and rubber. Industrial agriculture's biggest offensive throughout the South, however, started in the 1950s with the Green Revolution—a mode of food production which emphasized the use of high-yielding varieties of crops, livestock and aquatic stock, which in turn required heavy applications of pesticides and fertilizers, feeds, antibiotics, and other agrochemicals.

The environmental consequences of industrial agriculture are legion. Monoculture and genetic modification are reducing biodiversity; chemical and fossil fuel use are polluting the soil, water and the air; while shipping, processing and storage requirements contribute to rising carbon emissions. These environmental impacts are on top of adverse social impacts such as the loss of local and national food security, erosion of smallholder agriculture, and massive land grabbing.

The underdevelopment of the vast South, where 80% of the world's population live, and the economic and political dominance of Northern powers, are maintained through systemic inequalities in trade, debt, investment patterns, and property rights in favor of monopoly capital. The neoliberal globalization policies imposed by multilateral institutions such as the International Monetary Fund, World Bank, and World Trade Organization over the last three decades have greatly helped monopoly firms tighten and expand their hold in the South and accelerated the exploitation of the people and the natural resources in these areas.

PART 2

Changing the system to solve the global crisis

In the capitalist system, the goal of production is to deliver ever-increasing profits and wealth for the few industrial and financial elites that already monopolize the bulk of the means of production. In it, the natural world is only valuable insofar as it can be exploited for the process of wealth accumulation, or in current “green economy” discourse, only valuable insofar as it can be given a monetary price so it can be officially factored into the capitalist accounting process.

Capitalism is predicated on relentless growth, consuming resources and producing waste at ever-larger amounts regardless of ecological carrying capacities. And because it allocates resources to what is profitable rather than to what is socially necessary, it is also inherently irrational and wasteful.

Thus any systemic solution must be in the context of finding alternatives to capitalism and imperialism.

A. What are the fundamental requirements of system change?

First, there is a need to effect an ecological transition involving current technologies and methods of production. To achieve this, and as second requirement, there is a need to transform the basic character of production by changing the structures of ownership, control and decision-making, and reorienting the economy from producing for profits to producing for human need. Third, there is a need to define sustainable living.

1. How must ecological transition be attained?

Dominant methods of production and resource use associated with global capitalism are undeniably damaging the world's ecosystems. This is no argument however to abandon modern science and technology (S&T) and modern industry altogether. The problem is not S&T *per se* but their being placed in the service of capitalism for socially exploitative and environmentally harmful uses, and in the extreme, to destroy the conditions for sustained human life. The question is how to ensure the prudent application of current technologies and production methods and eventually transform them in the context of a society where production is socially and ecologically rational.

Science is indispensable for all-sided human development. But, like any other human tool, it has to function and grow more holistically, that is, in much deeper, integrated and insightful ways, it must reflect the various natural systems, the social systems that grow upon this natural substrate, and how each part (including specific forms of human activity) affects a dynamic and evolving whole.

As monopoly capitalism is replaced by a more ecologically sustainable and socially equitable system, the reorientation of technology and the production of new technologies can proceed. Innovation and creativity, unshackled by the capitalist imperatives of competition, marketability and profitability, should give rise to free and fuller development of socially- and environmentally-beneficial technologies. Not just in professional and institutional S&T communities, but in ordinary workplaces, schools and communities, people can tap their own power to design, assess or select technologies according to the defined objectives of the community.

However, how to deal with the old productive structures still in place (technological, energy, industrial) will remain a big challenge. Extremely destructive and carbon-belching methods will have to be stopped the soonest, such as old-growth forest logging, industrial fishing, nuclear energy, strip mining, and highly toxic chemical industries. Nevertheless, entire structures cannot be changed quickly and all at once. For example, developing economies will need mining, steel, machine tool, and automotive industries to modernize their own production and bulk transport in lieu of imports. Thus, society has to undertake a transition period where the most problematic branches and methods of production are steadily phased out,

while other existing ones are adapted (probably with adjustments to make them more democratic and ecological) and new, more sustainable methods are introduced and expanded.

In agriculture, production should be weaned away from chemical-intensive, large-scale, heavily mechanized, and monoculture-based farming (industrial agriculture) towards ecologically sound, sustainable production methods (often defined as agro-ecology), which conserve local ecosystems and traditional knowledge as well as utilize appropriate farmer-controlled technologies.

Nationwide, in rural communities, and even in selected urban districts amenable to agriculture, the government must promote native or area-specific crops, livestock, aquaculture stock, and related production methods; improve soil and water conservation; promote innovative tillage, small-scale gardening, and holistic pest and waste management; safeguard biodiversity; and reduce the use of fossil fuels and synthetic chemical inputs. Agricultural multifunctionality and integrated farming systems must be promoted.

In manufacturing, extraction and construction industries, productivity should be continuously improved not necessarily to increase output but always to reduce inputs of labor, energy and raw materials, as well as impose stricter limits on waste output and environmental impact. The comprehensive recycling of waste products back into the production cycle should also be promoted and gradually developed as substantial branches of industry in their own right. Products should be designed to last longer. They should be safer and more ecological to use, and less costly and more user friendly to maintain and repair. All in all, improvement in industrial output should be measured not so much in sheer quantity but in more human benefit-oriented qualities such as usability and ecological sustainability.

In energy production, distribution and consumption, societies should phase out fossil fuel-based energy while scaling up alternative energy sources that are less polluting or hazardous, more renewable, and more technically manageable. Some sources such as wind and solar are more widely available worldwide, unlike fossil fuels that are more unequally concentrated and thus more easily controlled by big business. Renewable energy by its very nature is better suited for an equitable and fair energy access infrastructure. Decentralized systems can give communities better control over energy infrastructure and therefore better access to energy.

Decentralized, renewable energy technologies are often the most suited for rural areas that are far from the grid, especially considering that 85% of people worldwide without access to electricity are in rural areas.

International governance and cooperation will play an important role in a global transition. Most countries, in varying degrees, are caught in the web of the global capitalist system and as a result are locked in unsustainable industries such as fossil fuels extraction, large-scale mining, and industrial agriculture, and are highly dependent on Northern consumer markets and sources of finance. These are usually the more underdeveloped countries where most of the world's poor reside. An abrupt or uncoordinated global transition where countries go their own way can have very adverse consequences for the poor.

International governance and cooperation are necessary to make the global transition less painful, positively reinforcing, and more equitable. The international mechanism for greenhouse-gas emissions reduction under the UNFCCC—although tremendously weakened by Northern and corporate influence—shows how a global transition can be done: countries agree on global goals and timeframes for achieving them; commitments are differentiated between developed and developing countries; and developed countries are obligated to provide financial and technology assistance to poor countries to assist them in reaching their goals.

International development cooperation, North-to-South transfers, and South-to-South cooperation can build on accepted principles such as country ownership, democracy and human rights, to help facilitate the long-term reorientation of Southern development into more sustainable and equitable development pathways. Finance and technology transfers would help these countries invest in the strategic diversification of their economies and development of their productive sectors.

2. Why is democratic decision-making and planning necessary to implement changes?

Democratic decision-making and planning in development and production, which are closely related to democratic ownership and control (discussed in Point 3, further below), are necessary to implement the ecological transition process described above.

Ownership and control of resources, to be real and not just formalistic, must empower people to decide or participate in decisions on how resources are going to be used according to their needs, priorities and goals.

With the state and social institutions practicing democratic decision-making and planning, the people as a whole can fully participate in the process. They can thus ensure that social imperatives such as food security, education, health, employment, and other aspects of human development—which affect everyone but have long been sacrificed at the altars of capitalism—could take their rightful central place in the economy.

Participatory planning based on democratic decision-making will allow countries, communities, and enterprises to rationally manage production and distribution, giving thorough consideration to the use and allocation of natural resources and overall environmental impact, with a view to ensure long-term economic sustainability. Through planning, the economy can be directed towards achieving self-reliance; prioritizing domestic demand and local consumption over international trade and export markets; increasing public welfare, creating jobs, and sustaining livelihoods while minimizing energy, resource use, and waste in the process.

For instance, a society mindful of its responsibility to preserve its resource base for future generations can plan to keep the rate at which its economy depletes resources and produces waste within safe and sustainable limits; avoid unproductive, resource-wasteful, and socially or ecologically harmful activities; and develop better ways of renewing resources and recycling waste. Planned production and management are thus effective tools for purposeful human control and stewardship of the environment, in contrast to blind and destructive exploitation as in capitalism.

Still in the context of democratic ownership, control, decision-making and planning, enterprises should be as much as possible rooted in communities. Farms and factories should be democratically managed by workers and the communities they serve so that they are more responsive to local needs and concerns, rather than by distant shareholders and absentee landlords who are removed from local conditions.

Social planning at multiple levels enables and encourages beneficial cooperation rather than wasteful competition among enterprises, within and between sectors, localities, and regions. Such planning and cooperation

promote better resource distribution, diversification, decentralization and a more balanced development between regions and between urban and rural areas, thus solving perennial problems of urban sprawl, urban congestion, wasteful consumption, and market aberrations.

Economic democracy must translate into equal distribution of the benefits of production. Gainful employment for all must be assured. Work should be valued and rewarded accordingly while the workweek may be shortened as warranted by levels of productivity. Without the need to accumulate and grow limitlessly, and with production output more equally distributed in society, the economy could practically demand less time from workers to spend in the workplace, allowing them and their families to spend more time on education, culture, recreation, and voluntary work for the public good.

At the international level, new cooperative institutions and arrangements among countries and regions are also necessary for the responsible stewardship, conservation, and equitable and sustainable use of global and trans-boundary commons and resources such as the atmosphere, oceans, forests, river systems, and so on. These institutions should be based on principles of equity and solidarity among nations.

In international economic relations, the principles of national sovereignty (including sovereignty over natural resources), self-determination, equality, and mutual benefit should be upheld. Trade and investment treaties that amplify the power of TNCs over Southern economies and curtail efforts of Southern countries to pursue their self-development should be renegotiated or abrogated. Multilateral economic institutions are important for governing and regulating economic relations between nations. However the dominant global troika (Bretton Woods institutions, the World Trade Organization, and the G8/G20), which come under the control of a few powerful countries, transnational capital, and global finance, must be isolated and disempowered.

3. Why is democratizing ownership and control over productive resources the key to system change?

The reason why human societies have economies at all is so we can produce and distribute what we need to live and to live well as individuals and as communities—food, clothing and shelter most of all, but also health, culture and leisure, and likewise the collective means (infrastructure, facilities, and institutions) by which we can ensure the sustainability of the system. This

seems plain common sense, but we've seen how capitalism puts profit over need in making decisions on what to produce, how to produce, and how much to produce—to devastating results as seen in the extreme contrasts between obscenely wealthy districts and vast slums stuck in abject poverty.

Capitalists are able to pursue such misplaced but profitable business decisions because they control the basic means of production (especially in high finance and industry), while the vast majority of people are left with only marginal means of subsistence. Financial and industrial monopolies are able to determine patterns of production and consumption affecting hundreds of millions of people through their control of productive and natural resources.

This unequal structure of ownership is behind the profit dynamic that brings environmental destruction, as well as exploitation, inequality, mass poverty, and oppression.

Therefore, to transform production to serve the broad and long-term needs and interests of the majority of people in every society, ownership and control of the means of production must be democratized. The range of property rights regimes must move decisively away from an overwhelming emphasis on private and capitalist-oriented property rights towards more democratic, cooperative, and community-based forms of property ownership and control or management.

At the same time, countries and peoples of the global South, which comprise the bulk of the world's population, should reclaim sovereign control of their productive and natural resources and delink them from the structures of monopoly capitalism in order to use them for their own self-determined development.

Agrarian countries and agricultural communities can do this by breaking the monopoly control of giant agribusiness and big landlords over land, water, seeds and animal stock, energy sources, and other inputs and productive assets. Through agrarian and related rural reforms, these resources must be redistributed to those who are actually making them productive, or whose livelihoods depend on them. The primary beneficiaries of such reforms should be the mass of small producers, with due emphasis on women, indigenous people and other marginalized sectors. Rural development programs must enhance and not undermine such reforms. Food production

must be mainly aimed at meeting the needs of local communities and national self-sufficiency. Access to food must be premised on the absolute right to food of every person—food that is nutritious, safe, culturally appropriate, and affordable.

Resisting and eventually breaking up monopoly control of agro-TNCs allows countries and communities to depart from a profit-oriented system of food production and industrial agriculture towards agro-ecological production, which prioritizes achieving food security and self-sufficiency, creating rural employment and meeting the demands of domestic industries and households, while ensuring sustainability through the practice of ecological principles.

Egalitarian and cooperative land tenure and land use systems should be promoted to ensure the collective control and ecologically sustainable use of land, water, rangeland, forest and marine resources by farmers, fishers, pastoralists, and local mixed-economy communities. Assured a secure tenure to resources, farmers and other small producers can better take care of the land and its resources, conserving its biodiversity and protecting the long-term health of ecosystems.

Likewise, the grip of big business on the main levers of the whole economy, starting with strategic industries and services, must be broken up.

In particular, the energy sector (from extraction to production to distribution)—which is pivotal to the economy and to the environment as well—should mainly be publicly owned. Such ownership would allow the public to exercise democratic control over the overhauling of existing energy systems—mostly based on fossil fuels, nuclear fission and big hydroelectric dams—towards sustainable and generally scaled-down energy systems. On that basis, communities can choose from a blend of renewable and more manageable energy sources such as solar, wind, geothermal, mini-hydro, wave, and biomass, while promoting less consumption and more energy efficiency.

Public ownership will also be the basis for developing and promoting transportation systems of varying appropriate scales, from bulk and long-haul transport by land, air and sea, to shorter range transport services within a region, metropolis or rural district, with emphasis on mass transport. The automotive industry should be taken over immediately by the state and the

entire transport sector should be regulated to discourage resource-inefficient and pollution-belching private vehicles, while encouraging personal transport systems that use clean energy and take up smaller footprints. This will help decongest roads, improve health, lower carbon emissions, and free up precious resources for more important uses.

The finance sector is another strategic sector that must be immediately placed under public control, if only to stamp out financial speculation and re-subordinate finance to the needs of the real economy. By putting banks under public control, financial resources may be rationally redirected to investments in urgently needed social services (public health, education and decent housing) as well as investments in renewable energy, public transportation, sustainable agriculture, and low-carbon manufacturing.

4. What is meant by sustainable living, and how do we make the shift?

Switching to a more ecologically sustainable and socially equitable mode of production entails a redefinition of human development away from the dominant paradigm that equates well-being with more wealth and greater consumption. In the world capitalist system, in which billions of people have been made to depend on the market and play the consumer game to satisfy their basic needs, overconsumption, money and commodities become stand-ins for well-being. In exploiting people, capitalism also leads them into an endless chase for money and consumer goods, with “well-being, success and freedom” as the promised pot of gold at the end of the rainbow.

Firms producing goods and providing service, retailers offering bargain sales, advertisers and mass media setting new fads and tastes, and banks offering loans for people to jack up their purchasing power—all these encourage an unquenchable consumer thirst for more of the same, for the latest and the “coolest”, especially in the wealthiest countries of the North. It means greater profligacy, faster resource depletion, and more unmanageable waste, without delivering meaningful human satisfaction. Indeed, consumer frenzy, like a destructive addiction, leads to the very opposite results, as seen in social problems ranging from obesity to unoccupied homes, from overflowing dumpsters to shoplifters’ riots, from traffic gridlocks to decadent fashions.

A minimum baseline of material well-being is indispensable. But there is also an optimum. People have a natural threshold of consumption; they

can only consume so much food, wear so much clothing, and use so much amenities in a day. In other words, individual material needs are satiable and therefore can be met sustainably.

In an alternative social system based on sustainability and equitability, in which people's real needs are given priority, achieving well-being goes beyond the production and provision of material welfare. The higher goal becomes the development of human potentials, through education, culture, and participation in community life. Striving for human development means a more conscious and collective effort to balance quantitative with qualitative indicators, and material aspects with cultural, social and spiritual aspects of well-being. This fundamentally different approach imposes less demand on the planet's carrying capacity; at the same time, it provides a more profound and sustainable basis for human fulfillment and development.

The challenges and pathways to achieve sustainable living differ from country to country, but especially between the global North and the global South.

In the advanced industrialized countries, economic development has reached the point where production and consumption levels have long surpassed the real needs of their population. And yet, a large number of people in the North is unemployed or underemployed and denied access to good education, health care, housing and other basic needs—hence the popularity of the “We are the 99%” slogan. It shows that persistent poverty obtains from the irrational distribution of resources rather than low productive capacity. In fact, overproduction and overconsumption is a real problem in this context.

For instance, in a study of economic and social indicators in 20 wealthy economies, epidemiologists Richard Wilkinson and Kate Pickett⁵ found that measures of well-being or happiness no longer rise with economic growth. In fact some indicators such as rates of depression and anxiety have risen over the last fifty years or so. The authors conclude that as personal levels of consumption and material accumulation increase beyond an approximate level of satisfactory comfort and security, a sense of happiness and well-being does not steadily advance at the same rate and may in fact diminish because of increased levels of stress.

As another analyst puts it, “For societies that now adhere to the media-hyped images of ‘the good life’ based on hyper consumption of commodities, new

strategies for the use of less resources, *less* accumulation, and more modest standards of living also become arguments for greater personal fulfillment, less stress, more time for family, friendship, nature, creativity, recreation, and leisure which are all now in short supply. Truly, among presently over-consuming societies, *less* would be *more*.”⁶

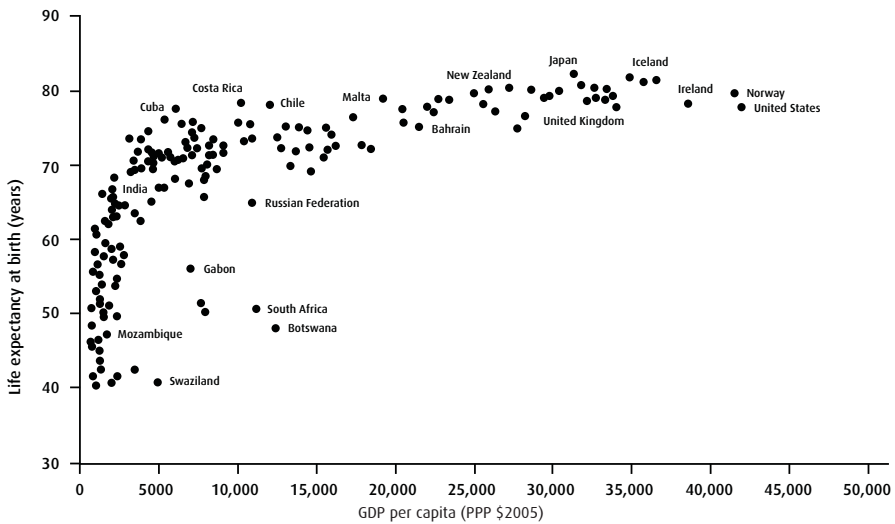
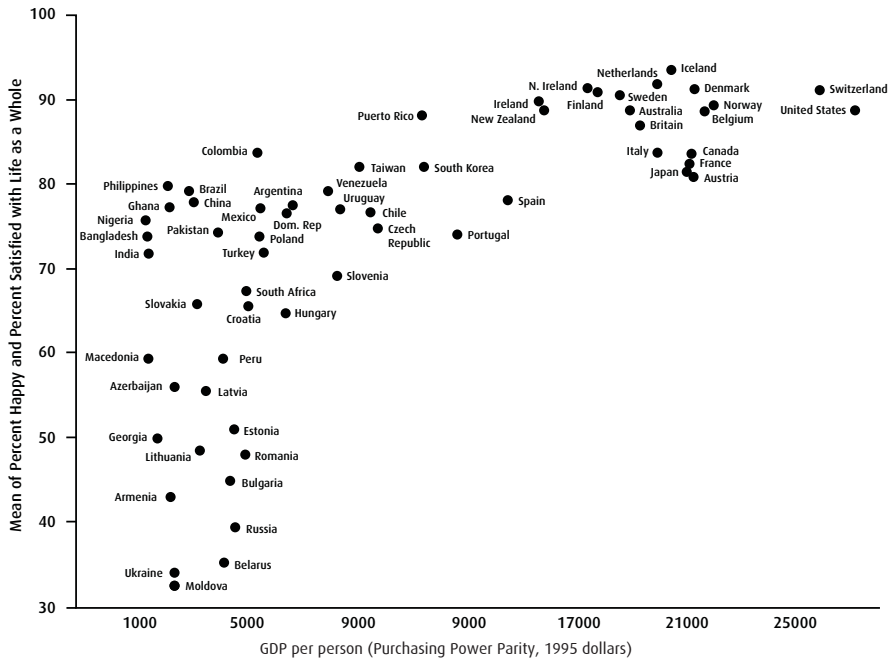
In the Wilkinson and Pickett study, they found that among rich countries, greater equality is the key to improvements in the quality of life rather than more economic growth. One clear implication is that in the advanced industrialized countries, sustainable human development necessitates a major redistribution of resources both within these countries and towards the less developed countries of the South. In other words, the challenge in the North is how they can reduce resource consumption within sustainable limits and in the context of truly achieving social equality.

Meanwhile, in the global South, only a tiny minority of the population enjoys material standards of living comparable to those of middle or upper classes in the North. The vast majority suffers dehumanizing conditions of hunger, poverty, unemployment, homelessness, lack of access to essential services, insecurity, and violence. So while unbridled growth, reckless industrialization, and mindless consumerism drive the global ecological crisis, underdeveloped countries are still confronted with the challenge of developing their productive capacities in agriculture, industry and key utilities, in order to provide the material goods and services for meeting the basic needs of their populations, and without remaining dependent on foreign capital, unequal trade, unjust loans, and tied aid.

Poor countries need to develop agricultural production to feed their people, create enough rural jobs, livelihood and incomes, produce raw material inputs for industry, increase purchasing power and generate surplus for reinvestment. They need to develop industries to produce basic consumer goods and services as well as to provide producer goods and services (machinery, power, intermediate goods, and so on) for industry, agriculture, utilities and services.

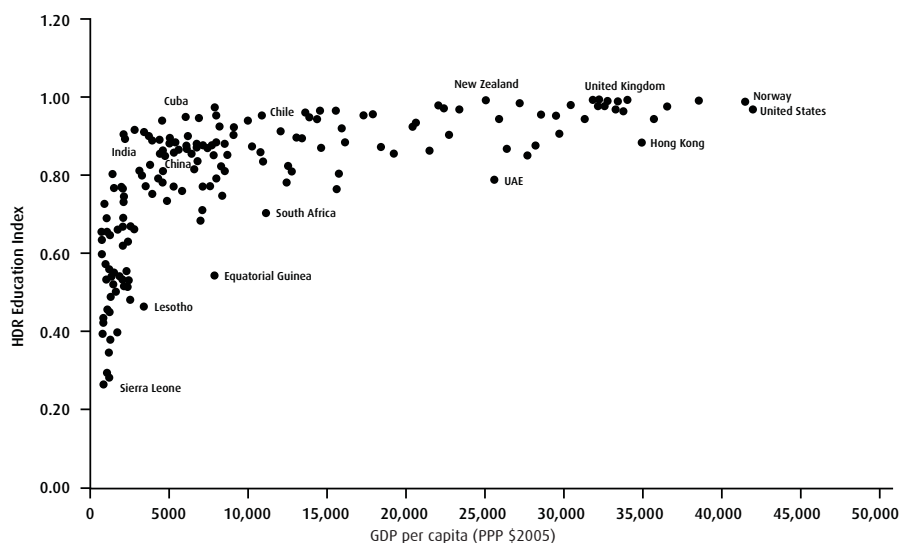
With a developed agriculture at the base, comprehensive national industrialization will create substantial employment, further increase the people’s buying power, and raise the country’s overall economic, technological, scientific, cultural, governance, and military capacity. At the very least, a vibrantly developing and balanced industry and agriculture

Beyond a certain point, increases in income cease to translate to proportional improvements in well-being.



Source: Tim Jackson, *Prosperity without growth? Transition to a sustainable economy*, (Sustainable Development Commission, 2010)

Beyond a certain point, increases in income cease to translate to proportional improvements in well-being. (continued)



Source: Tim Jackson, *Prosperity without growth? Transition to a sustainable economy*, (Sustainable Development Commission, 2010)

should immediately raise the developing nation's capacity in providing essential services such as health, education, housing, public works, public transport and communications.

In other words, the economic development of the global South should necessarily translate into increasing levels of production and consumption compared to the present. This would inevitably impact on the natural environment. It must be dealt with not as a post-development problem but built into each country's program of sustainable development.

Poor countries must therefore not be made to choose between environment and industrial development. Rather, they must embark on an alternative path of economic development that bypasses the gross social dislocations and environmental abuses associated with the North's capitalist path of industrialization. Such an alternative path must also avoid merely hitching a ride on the runaway train of neoliberal globalization, which has worsened nearly every failure and vulnerability of the capitalist system.

To sum up, poor and rich countries alike need to follow an alternative development path that is not based on the exploitation of people's labors and the exhaustion of the planet's resources, but rather one that is truly sustainable, equitable, and integral with nature.

PART 3

Key role of social movements in system change

1. What is the general role of social movements in society?

Social movements are highly concentrated catalysts of social change.

The very existence—in fact, the persistence and proliferation—of social movements in the past two centuries or so, which period also represents the heyday of capitalism, is indicative enough that the world long dominated by this economic system is increasingly in need of radical system change.

On one hand, social movements express a marked degree of discontent among the people that the established state institutions and processes can no longer remedy. But, on the other hand, these movements also indicate the people's expectation that their problems can be solved and their aspirations met through their own initiative and channels of action that they themselves define.

In the modern world, this usually means channeling local and popular initiatives among communities, workplaces, schools, and increasingly, online sites, and shaping them into coordinated actions at higher levels (subnational, national, and international). Such actions are typically meant to influence decisions and actions of the state, corporations, multilateral agencies, and other powerful institutions in society.

Social movements thus refer to the organized and sustained activities of a big number of people on a specific set of social issues, policy reform agendas, list of concrete demands, or common social projects. Ostensibly

or ideally, a social movement represents the common interests of a major group in society, draws its mandate and mass strength from that group, which thereby becomes its constituency.

At the same time, at the forefront or core of such a movement is usually an organization or a network of organized groups, which reaches out to its constituency through information and education campaigns, policy advocacy and lobbying campaigns, and a repertoire of direct mass actions.

Social movements have been in existence for as long as states allowed its people some leeway for independent political action. At the same time, social movements may reach a point when they become a challenge to the state and a catalyst for system change. Remember that some millenarian movements, early Christianity itself, the Paris political clubs before the French revolution, the anti-tax resistance culminating in the Boston Tea Party, the Luddites, the trade unions, and so on, all took the character of social movements for many years, gained strength, and eventually played major roles in social upheavals that radically transformed societies across continents.

Social movements eventually gravitate towards a development model or paradigm consistent with their framework for social change or advocacy platforms and also acceptable to their constituencies. They also develop a sense of how they can successfully direct or influence social change as it unfolds. This road map, as it were, must include strategies for addressing the dominant institutions of governance and policy—the state, multilateral agencies, corporations, even media.

2. What are the current roles of social movement in system change?

Recent years have seen a massive groundswell of citizen action in many countries, both North and South. The most sustained and coherent actions have called explicitly or implicitly for system change, on the clear premise that the present system has been a failure in terms of solving the multi-dimensional social and ecological crisis. Most of these actions are actually the leading edge of long-standing social movements supported by farmers' associations, workers' unions, urban youth and women's groups and networks, indigenous peoples and other minorities, faith-based groups, and increasingly, by parliamentarians and political parties.

Across Europe and North America, general social movements (the Occupy or “We are the 99%” movement in the US, the Indignados and similar groups in Europe) are organizing gigantic demonstrations, general workers’ strikes, occupations of public squares and other protests. They focus on their governments’ austerity measures, high unemployment, social inequalities, excessive corporate power, and corrupt political systems.

In the countries of the global South, still more persistent social movements are also driving a wide range of citizen actions, even though most of these have not been as high-profiled and dramatically covered by mass media. In the past two years, among the most prominent were the Arab Spring uprisings and protests, the general strikes in South Asia, and massive student demonstrations in Chile. Peasant and worker activism continually simmer in many countries of Africa, Latin America and Asia, including China.

These people’s protests are portents of bigger and more sustained democratic action and social movements in the next years. These protests no longer merely express kneejerk responses to the crisis, but increasingly carry a deeper understanding of the crisis and a more appreciative view of the need for social change. Thus, social movements must continue to link and combine people’s issues and struggles towards an integrated platform advocating not just specific environmental, social, and economic reforms but the whole range of system change.

Social movements often appear as though they mushroomed overnight, as if the same ideas suddenly cropped up all at the same time in the minds of millions of people, or due to the Internet’s social media tools. This certainly is how many news reports seem to depict the Arab Spring, or the Occupy Movement. But this is misleading. Throughout the years, the most far-sighted and persevering social movements have been pushing forward their alternative visions and program for social transformation through relentless efforts at grassroots organizing and mobilizing their constituencies. More social movements should start or resume doing so, if they haven’t done so yet.

Platforms or agendas are defined by constituencies. Workers naturally gravitate towards trade union issues and demands, small farmers towards agricultural reform, and so on. But at the same time, leading organizations must further engage in social and scientific research, constructive discourse, and critical debates, and also seek points of agreement with other organized

groups, towards a more comprehensive understanding and consensus on changing the system. In the end, platforms or agendas can also transform constituencies, which is a crucial advance as social movements become political movements.

In the process, more social movements must actively engage governments, corporations, and other institutions of governance at the national level—exerting oppositional and pressure politics to attain policy reforms while actively promoting concrete alternatives that the people can already start constructing from the ground up.

There are countries that have long stood up to the bullying of neocolonial powers and which have persisted in building alternatives to capitalism from the ground up, such as Cuba. Even as these countries also wrestle with their own imperfections and problems of transition, they are increasingly regarded by other states and social movements as frontliners in pursuing system change. Nation-states, both individually and in global multilateral processes, must in fact be increasingly challenged to at least move towards recognizing the need for system change and the positive role of social movements.

In the final analysis, however, all social movements must realize that they cannot hope to reform the crises-ridden capitalist system simply by putting in place piece-by-piece improvements—as if it were merely renovating a house while keeping its foundations and basic structures intact. The monopoly capitalists and their political machineries will not easily allow the discredited system to collapse. In the face of large-scale state violence against its own citizens, social movements may have no choice but to become harbingers of social revolution, as has happened and is happening in many countries.

Rather, social movements, especially those representing the poor and marginalized which comprise the biggest bulk of the people in most countries, must be prepared to merge and scale up their efforts at system change by directly addressing the question of state power and control of entire national economies. Drawing from the power of its people and its social movements, every country must assert its national sovereignty upon which it can freely determine its own path of self-development, especially against last-ditch attempts by the imperialist countries and their neoliberal leadership to stem the tide of global social change.

Endnotes

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