

Towards A Sustainable World: Implications for Universal Health Coverage

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Received date: Jun 19, 2018; Accepted date: Aug 23, 2018; Published date: Sep 02, 2018

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Abstract

Background: Health care crises around the world are prevalent and can be attributed to the global neo-liberal capitalist system. Three decades of free-market health sector reforms have not achieved appreciable improvement of health care. Instead they have fragmented, commoditized and privatized health care, and condoned inequity in health and health care. This has been especially so in the underdeveloped countries where foreign aid grants for health systems development has been tied to free-market conditions. Studies have shown that health care crises are part of a wider socio-economic crisis engulfing the world today, which includes unemployment, mass migration, environmental degradation, and terrorism.

Main body: Free-market capitalism is hungry for natural resources, new investment opportunities and markets. Countries and communities are being rapidly integrated and interconnected through the information technology but with the majority of people not benefiting from the economic system. As a result, there is a widening economic disparity, with an increasing number of poor, hungry and angry people around the world. This is causing rising tensions and restlessness that could easily trigger a wider conflict. It is also causing increasing cases of terrorism and mass migration. Huge and redundant capital in the west is driving investors to aggressively search for the earth's natural resources and ecosystems, which are being depleted. The result is the loss of biodiversity, arable land and water systems. This partly contributes to climate change and less than expected food production. The current trajectory is that we are heading for a global disaster and/or major conflict, as we enter a new human era. The world could seize the opportunity to change the course of history by challenging the current values underlying neo-liberalism, and create a new sustainable world system based on new values that could foster peace, freedom, equity, environmental preservation and livelihood for future generations. A new civilization could be created to ensure sustainable economic production, equitable wealth distribution, elimination of deprivation, living within the earth's carrying capacity, and human fulfillment.

Conclusion: The new sustainability doctrine should become the dominant global system and the free-market economic system should be made to serve the doctrine's human-focused objectives. Equitable health systems, with universal coverage, will emerge and flourish under the sustainability doctrine and system.

Keywords: Neo-liberalism; Globalization; Socio-economic and healthcare crises; Sustainability values and doctrine; Equity

Abbreviations AD: Anno Dominion; AIDS: Acquired Immune Deficiency Syndrome; CSOs: Civil Society Organizations; HIV: Human Immune Virus; HRH: Human Resources for Health; MDGs: Millennium Development Goals; PC: Personal Computer; SDGs: Sustainable Development Goals.

Introduction

A study was done to explore the implications of market-based health sector reforms in Uganda and other countries for sustainable health systems [1]. As parts of the study, evaluative and comparative sub-studies were done on market-based reforms that had been introduced over a period of twenty years, 1987-2007 [2-11]. It was found that the vast majority of these reforms failed to attain both individual reform objectives and collective health sector objectives. For the very few reforms that were partially beneficial, the benefits were neither sustainable nor feasible for nationwide use. These reforms were far removed from the wider health system, to which they added little or no value, but instead, in many cases, undermined it. The reforms

added to the growing wider global economic and social crises arising from the globalised free-market system.

This paper takes the discussion further. It highlights the problems of the current economic system, the new issues that it has created and its implications on the very survival of human beings. The paper pieces together an emerging consensus about the desirable world and world system. Drawing from historical human transitions, it suggests that today we are at the take-off stage of a new era. The paper proposes an approach to a new economic and universal health system for the incoming civilization.

The Current Situation

Most countries around the world, even those that cherish inequity, aspire to have a universal health care system. This is a system in which nobody experiences lack of health care due to economic or social barriers. But health systems around the world have been experiencing increasing crises over the past four decades. Most crises have been due to limited and even reducing health financing. It has become clear that health system crises are part of a much bigger crisis that includes global economic and social instability, environmental degradation,

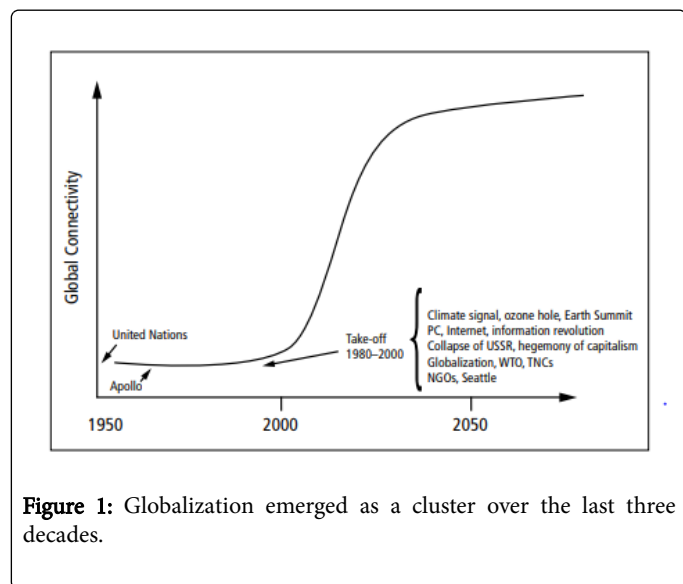
mass migration, unemployment, food and social riots, terrorism, among others [12,13]. The crises are rooted in the free-market capitalist system [14,15]. While every aspect of life is now seen through the lens of the free-market, the system does not address equity, environment protection or social stability.

The trajectory of this system, based on historical trend analysis, is a global-scale conflict due to the vast and increasing economic disparities between the rich and the poor, and/or the depletion of resources to a level that is inadequate for human sustenance [16]. So far scientists have come up with new innovations such as biotechnology and nanotechnology in the hope that new industries will be created to generate continual economic growth and progress. But the belief in perpetual economic growth flies in the face of the reality of finite earth's resources.

Transitioning to a New Human Era

History is the unfolding of change and emergence. Right now world events are accelerating as the pace of technological, environmental and cultural change quickens. We are witnessing the shrinking of global space as the integration of nations and regions into a single earth system unfolds. We have reached an historic human transition [12].

As with physical or biological systems, transitions tend to evolve gradually within a given state or organization. Then they enter a period of rapid transformation that is often chaotic and turbulent. And finally they emerge in a stable new state with qualitatively different features. In the current phase we are entering into, called the planetary phase, the emerging political, economic and communications features are, respectively, global governance, globalization of the world economy, and of information revolution. The primary phenomena that constitute globalization emerged as a cluster over the last three decades. See Figure 1 below.



The emerging new era is characterized by global climate change, information technology, artificial intelligence, biotechnology, removal of capitalist hegemony, integration of all markets (commodity, labour, finance and consumer), new global institutions (WTO, transnational corporations, global civil society), cultural integration (assimilation into western culture which is increasingly absorbing elements from

other cultures, with English being the global language), and attempts to forge global development through MDGs and SDGs.

The history of human existence can be demarcated into distinct periods of time, or eras [17,18]. The first human era of hunting and gathering lasted about 100,000 years. The second era, called early civilization, lasted 10,000 years. The third era, which is ending now, called the modern era, has lasted about 1000 years. Today we are entering the planetary era, which is projected to last only 100 years (from about 2050-2150AD) [12]. Each successive era lasts a shorter period, in a logarithmic regression, indicating increasing rapidity of global change.

Historical transitions are complex junctures, in which the entire cultural matrix and the relationship of humanity to nature are transformed. Three critical and interacting aspects at each stage are the form of social organization, the character of the economic system, and the capacity for communication. Novel features for each of these dimensions are shown for the four historical eras in Table 1.

In the stone-age era, social organization was at the tribal and village level, the economy was based on hunting and gathering, and human communication was advanced through the evolution of language. In early civilization, political organization moved to the level of the city-state and kingdom, the basis of economic diversification was the surplus generated by settled agriculture, and communication leapt forward with the advent of writing. In the modern era, political organization was dominated by the nation-state, and the economy became capitalist with the industrial revolution as its apotheosis. In the planetary era, the governance and organizations are global, the economy is globalized and the mode of communication is internet.

Perils of Neo-Liberal Economics

Free-market capitalism came at the end-tail of the modern era and has driven much of the change in the world today. It is indeed great for generating wealth, but has no mechanism for fairness in wealth distribution, for protecting the environment and for limiting the exploitation of natural resources. Resources are finite and there is a limit to economic growth [16]. The system increases the gap between the rich and the poor. The rising number of people with no income and who are jobless has greatly increased. This is causing social disharmony, mass migration and posing a threat to international security. Migration of people who are excluded from this new economy, and who are inundated, marginalized, or attracted by images and dreams of affluence in the west, has reached a new peak. The market-driven global economy pays little attention to the rapid population growth. Food requirements will increase but will not be met the food production capacity. It is projected that by 2050, there will still be a billion people unable to get adequate food.

Terrorism which had been brewing for a while became a global phenomenon after September 11, 2001 attacks in New York, USA. These attacks were organized by Jihadists and extremist Islamic organizations that have now become global. Terrorism has two roots: first, the traditionalists who do not want pluralism and assimilation. Second, militant youths in the underdeveloped world who are angry, have become impatient and resorted to violence. Globalization has tantalized them with images of prosperity but has not provided them with the opportunity to achieve that prosperity. Governments in the underdeveloped countries are paying less attention to social services.

	Stone-age	Early civilization	Modern Era	Planetary Age
Time span in years	100,000	10,000	1,000 (1000-2000AD)	100 (2000-2150AD)
Organization	Tribe/village	City state/kingdom	Nation state	Global governance
Economy	Hunting and gathering	Settled agriculture	Industrial system	Globalization
Communication	Language	Writing	Printing	Internet

Table 1: Characteristics of human era.

The Rise of the Free-Market System

The rise of the free-market economic system is rooted in the belief that the market is a superior system of production and distribution of goods and services. That it is a just and neutral mechanism, which guarantees the freedom of individuals. The belief is based on the libertarian philosophy of individual freedoms and private ownership of property [19]. An individual is viewed as being autonomous, capable of making decisions based on self-interest and pursuit of his own welfare. The philosophy entails that private property is kept outside of the government's control. And that taxation by the government should be regarded as broad-day robbery. Social justice to an individual is seen as the consequence of actions and inactions of that individual. In the market system, differences in social-economic conditions among individuals are expected and accepted. By this logic, government interventions in people's lives are regarded as interference in the rights and freedoms of individuals, and are taken to be unjustified and unacceptable.

Today, international development is structured around this free-market concept. The vision of the market-based development is a globally integrated free-market system, with no trade barriers, using market-enabling institutions to spread wealth around the world. The hope is that there will be economic growth throughout the world, reduction in poverty, achievement of international equity and reduction in conflict. But these are not being achieved satisfactorily.

Many predicted that the free-market system would collapse under its own weight [13,20-22]. The signs for this pessimism include trade cycles and market crashes, rising inflation, public debts, rising food prices, erosion of legality under the de-regulation policy of the free-market, and lessening prospects for economic boom. Multi-national business empires are beginning to break up [23]. Analysts have reached two key conclusions, that: 1) true free-markets do not exist because, the state supports and acts in the interest of its multinational corporations; 2) there is no appreciable general rise in prosperity around the world, instead poverty has spread [2]. It is predicted that globally, incomes and economic outputs may increase, but food shortage and inability to access food will leave a billion people hungry by 2050 [12]. Economies of poor countries will grow but the difference in wealth between poor and rich countries will widen, and will cause restlessness. The demand for water and energy will increase, and could become a source of conflict. CO2 emissions will increase over the next 50 years and cause further damage to climate stability. Much of the global forest cover will be gone in less than 50 years time. Widening inequity and deprivation will increase social instability. It will be a future of one crisis after another.

Failure to Mitigate Free-Market Adversities

Aware of these possibilities, activists and some global leaders begun working towards mitigating and reversing the adverse effects of globalized free-market system. But the results of these efforts are not at the required pace and scale. It is like "climbing up a down-moving escalator" [12]. One initiative is the "Inclusive Growth" policy. This entails promoting the efficient use of resources, renewable energy, environmental protection, and poverty reduction.

A second initiative is the Millennium Development Goals (MDGs). There were 8 MDGs: on poverty eradication; universal education; gender equality; reduction of child, infant and maternal mortality; combating HIV/AIDS and environmental sustainability. While there are outliers in achieving the targets of MDGs (Algiers, Egypt, Madagascar, Rwanda, Seychelles and Tunisia), most developing countries performed unsatisfactorily [24].

A third initiative is the Sustainable Development Goals (SDGs) to run from 2015 to 2030. SDGs are just like MDGs, only expanded to cover more development areas. In particular, the following have attained new emphasis: affordable and clean energy, decent work and economic growth, industrialization, reduced inequalities, responsible consumption and production, climate action, peace, justice and strong institutions. SDGs emphasize inclusive growth, investing in people, and building resilience against global shocks. They call for universal solutions and transformative reforms. They discourage vertical programs for implementing SDGs. These initiatives are stand-alone goals social goals aimed at addressing ensuing socio-economic crises. There are no mechanisms of implementing or enforcing the goals. And there is little or no political will to implement these universal goals as we have seen with MDGs [24] Just like with the MDGs, not much is likely to come out of SGDs by 2030.

The Desired World

Sustainable

Future scenarios and trends have been projected [12]. The two key future scenarios are undesirable yet highly possible. First is a scenario of fortification of the rich against the majority poor, and the rich linking with each other globally for trade. This is projected to end into long term conflict and/or social implosion. Second is the policy scenario, where due to the widening gap between the rich and the poor and the increasing misery of the poor, a few global leaders craft policies such as MDGs and SDGs. But the policies have little impact on the situation of the poor, so the world goes from one crisis to another.

A third scenario is the desirable one-the sustainable scenario. A global consensus is emerging about this desired world [12,24]. The

desired world is a sustainable world - a world that ensures peace, freedom and equity, environmental preservation and protection, and that future generation will live well. This requires a different set of values and world system, a different economic system [21,25,26]. Through a synthesis of best practices and scenario-building, a team of researchers has put together some key values to save the world and attain a sustainable world [12]. The envisioned world is a world that expected to enrich the lives for all, through human solidarity and a healthy planet. These attributes cannot be achieved through the free-market economic system alone. The sustainability paradigm must therefore challenge the current values, economic structures and social arrangements. To achieve the envisioned world, needs and wants will have to be distinguished; values promoting “needs” over “wants” will have to be strengthened at personal, national and global levels. The anxiety and uncertainty about the future due to a possible outbreak of conflict will have to end through building solidarity for peaceful co-existence. This means that humanity has to develop and practice an ethical code to care for others, for the environment and for the future. The domination by other people and the loss of freedom and choice, by large populations of disenfranchised people will have to be addressed. It also means that local communities will have to be encouraged and facilitated to participate in political and cultural life. The envisaged world will require that nobody should feel alienated by a dominant culture. Individuals and communities will have to be enabled to pursue meaningful and purposeful life. A lifestyle that promotes personal endeavor and connection to nature will have to be promoted.

Environment and the future

A new human civilization is envisaged where people have to live meaningful and fulfilling lives, in solidarity with each other, and with the environment [27]. The envisioned sustainable world will not evolve spontaneously. It will have to be promoted and imparted. It will mean people have to live with the awareness of their connection to one another, to future generations and to the web of life. To avoid widespread destructive conflict of the past, people will have to be accustomed to living peaceful and pluralistic lives in culture, politics, technical innovation and democracy. It will mean people need to freely enjoy multiple level affiliations and loyalty of the family unit, through community, region, denominational and global organizations. Governance will have to be done through decentralized web of governments, CSOs and business partnerships, as is the best practice already in some exemplary countries [24].

Local and global balance

The implications for viable world-wide governance are that local solutions need to be promoted and used most. Local products should be the mainstay of the local economy. The economic system will need to become a means to living, but not an end in itself [13,15,24]. This suggests that markets will need to be controlled and tamed to conform to non-market social goals of equity, peace and environment. The pace of economic growth will be subject to and limited by sustainability criteria [28,29]. It will also impact on income distribution, which will need to be confined to the richest 20% being within only 2-3 times of those who are poor. No obscene differences in wealth distribution like it is today should be allowed. Conspicuous consumption and glitter is to be regarded as vulgar. History has taught us that inequality is the key driver of conflict [30].

A new economics

The new economy will mean that production, distribution and decision-making will have to be guided by equity, sustainability and human fulfillment as key considerations [12,13,15]. The idea will be to a) eradicate human deprivation everywhere, b) reduce inequality, c) stay within environmental carrying capacity, and d) maintain innovation. The behavior of individuals, firms, governments and international systems will be changed to being sensitive to the ecology, abating consumerism, traveling by public means, increasingly people doing voluntary and non-profit work, and increasing taxation. Businesses will still be driven by self-interest but will be eco-efficient, and will practice green-marketing and social responsibility. They will be rewarded for adopting this new behavior.

A new science

Therefore, the current knowledge and economic and sociology theories will not be adequate to develop appropriate policies to address the new values for a new world. So, a new science of sustainability will have to be developed. This will enable problems to be defined and solved to promote peace and solidarity, and to protect and promote the environment. For example, research on early warning systems for social and environmental breakdown will be encouraged and facilitated [31]. The spiraling out of control of population growth will have to be stopped with appropriate measures. Birth and death rates will need to be cut down so as to stabilize the population [32]. Family planning services will need to be made available and the wider reproductive health services accessible to all who need them. Urban planning will have to adopt infrastructure for less land, using cheaper and sustainable building materials, and using renewable energy. Urban dwellings will be made habitable, decent, efficient, affordable, and environmentally friendly [12]. At the same time, the rate of urbanization will have to be reduced and rural settlements improved with basic services. Settlements will be constructed such that home, workplaces, commerce and leisure are in close proximity. The urban underclass (slums) should be completely eliminated. The institutionalization of the “rights revolution” will need to become a strong feature of the new sustainable world. Effective measures will need to be put in place to uphold all human rights.

Sustainability doctrine

A new sustainability doctrine will need to be put in place and will harmonize economic production, wealth distribution and decision-making with equity, sustainability and human fulfillment [12,20,22,24]. This doctrine will aim to a) eradicate human deprivation, b) reduce inequality, c) enable humans to live within the environmental carrying capacity, and d) maintain innovation. The economy will have to become a means of serving people and of preserving nature, and not just an end in itself. The behavior of individuals, firms, governments and the international governance system will be regulated and monitored to ensure compliance with this doctrine.

Five dividends will be realized from this sustainability doctrine [12]: First, it will provide the green dividend through cost-savings that would have been used to repair the environment. Second, peace dividend will reduce military expenditure. Third, human capital dividend will foster creativity and productivity of the millions who will be lifted out of poverty. Fourth, technological dividend will provide new opportunities for innovation and wider access to information. And finally, solidarity dividend will reduce security and police costs.

In general, the formula below, derived from the ensuing discussion, is a guide to the development of new economics:

$$\text{Sustainability} = \frac{EP \times HF}{EQ \times EC}$$

where EP: Economic Production; HF: Human Fulfillment; EQ: Equity; Earth's Capacity.

A key element of development will be human fulfillment, recently approximated as human happiness [33]. It measures six aspects although there could be more variables for human contentment or fulfillment. These will be defined through research. The emerging aspects of human happiness/fulfillment are income, healthy life expectancy, social support, freedom, trust, and generosity. These indices differ vastly from the gross domestic product (GDP) currently used as a measure of development, which in fact is only a measure of goods and services of a country.

Thus, human fulfillment (HF) could be mathematically represented as follows:

$$\text{HF} = \text{income} \times \text{health} \times \text{social support} \times \text{freedom} \times \text{trust} \times \text{generosity}$$

Eco-technology

Technology for the future is set to be environmentally-friendly [34]. This will be called the eco-technology. This technology will aim to be efficient and renewable, and to promote industrial ecology. Industrial ecology will mean eliminating waste, recycling, re-using, re-manufacturing, and extension of product life. This will minimize the need for new raw materials. Sustainable energy technology will entail only moderate use of bio-fuels, and increasing dependence on renewable energy. It will produce no or little greenhouse gases. The use of solar energy and hydrogen liquid fuels will be encouraged for use in motor vehicles. Compact settlements will be preferred to maximize the use of energy. Internet will be the mainstream mode of information-sharing and for communicating. Polluters of the environment will have to pay as will be agreed universally. All businesses will need to practice agreed sustainable ecological norms. Industrial ecology will be the new standard of industrialization [12,34]. Technology innovation will be stimulated by price signals, public preferences and creative impulses. Robotic production systems will be encouraged to liberate people from repetitive and non-creative work. However, labour intensive and high tech economy will run side by side.

The new civilization is expected to be solar-energy dependent [34]. Solar cells, wind, biomass and flowing water become a key source of energy. Solar energy will be converted to hydrogen and used for transportation. Hydrogen has no pollution effect: it is combusted to form water. Biotech will become a key technology in agriculture, medicine and material production. Ecological farming with high inputs of knowledge and reduced chemicals will have to be made the mainstay of farming. Through a combination of these and other measures carbon dioxide in the atmosphere is expected to reduce and this will abate global warming. Efforts will have to be made to restore ecosystems everywhere.

Agriculture

Sustainable agriculture will ensure adequate food for all while preserving the ecosystems. A new green-revolution is envisaged [34]. Agriculture will be knowledge intensive, with much less or no use of chemicals. Nitrogen-fixing plants will be used instead of fertilizers.

Pest management will be done without the use of pesticides. Soil conservation will be encouraged through drainage, terracing and appropriate tillage practices. Fish farming will be promoted to compensate for the depletion of fish stocks. Biotechnology will be encouraged to promote better yields, reduce chemical input, conserve water, and improve nutritional content. Mitigation of the adverse effects of environmental degradation – reduction of biodiversity and degradation of ecosystem – will be addressed through appropriate scientific methods. Water resource management is critical for the sustainable world. Water is for human use, for economic production and for maintaining nature. Water for irrigation must be used efficiently. “Crop-by-drop” practice will be the preferred method of irrigation [12]. Non hydro-power generation will be encouraged and preferred source of energy. All these measures will be instituted to prevent carbon sequestration, to conserve water and soil, to make use of renewable energy, and to prevent climate change and air pollution.

Governance

There will be need to enhance or create new institutions of global governance: institutions to administer one global currency, to collect surpluses from rich countries, to set and enforce free-trade rules, and to administer environmental tax [12,18,24]. To foster global stability and to maintain peace, there will be need to break up the current monopolies by a few countries of the financial system, culture, technology, media, and military power.

The quality of life will be measured by creativity, new ideas, culture, human relations, and harmony with nature. Integrated settlements are the mainstay of living, where homes, work, shops, hospitals, schools and leisure are close-by. Rural people are served with digital links. Private vehicles are compact and pollution free. Walking, cycling and public transport will be the mainstay of movement. Large private vehicles will be for special purposes such as touring. Advanced public transportation of goods and passengers will link all major hubs.

Implications for Health

A new emphasis on health is needed

The emphasis by the free-market economic policy on investment in industry, on privatization social services and public assets, macroeconomic stability and trade liberalization, to near exclusion of social services, has meant that health services are not well funded [27,28]. For the underdeveloped world, this means that they are trapped at a stage where much investment is required to provide the prerequisites for health, and to build the health infrastructure and other social services. But such a level of investment on social services is no longer possible. Therefore, health infrastructure is in decay, inequity is increasing, and the quality of health care is declining in the underdeveloped world. Health personnel are underpaid and often end up migrating to other countries for better pay. The lack or inadequacy of medicines is chronic in developing countries. In addition, as part of privatization and investment drive under the free-market globalization, health sector reforms were introduced. These reforms have ended up distorting health priorities and fragmenting health systems. There are perverse free-market assumptions, values and principles [28] that govern the health sector development today [29].

For the underdeveloped world, all the basics for good health must be put in place [1]. Preventive measures must be promoted aggressively to change lifestyles. These include enforcing the seat-belt policy,

moderation of alcohol intake, enforcing “no drink-drive” policy; no-smoking policy; reduced animal fat, reduced added sugar and salt intake, regular exercise and medical checks. Health risks to children, starting with the risky parents, should be comprehensively addressed. Then the major causes of morbidity and mortality of children are tackled. Immunization, breastfeeding and regular screening and other child health measures are instituted.

Universal health care

Drawing on successful practices elsewhere, countries should establish universal health coverage through national health insurance schemes or similar mechanisms. The quality of health care should be promoted through regular monitoring and reviews [35]. Social cohesion and participation in health system management should be promoted [24]. Each country should develop a health system based on its national context and needs. For developed countries, the Nordic model of health systems, based on social equality and using a lifecycle approach is handy [25]. Integrated care with competition among pharmacies, primary care clinics and hospitals is a useful and efficient model, currently practiced in Israel. Some countries may use the Singaporean system, where the hospital is re-shaped to be at the centre of the health care system. Standardization of patient flow and integration with IT will be critical for efficient management. Changing skill mix of staff, reserving the highly skilled for specialized duty will be necessary. All workers from the age 40 years will need to pay old-age health insurance, as it happens in Japan. This becomes more relevant where the life expectancy increases beyond 70 years. Where a fund-holder is a dominant payer, it becomes the centre of an effective health system as is practiced in Hong Kong, Denmark and Italy.

Focus on developing countries

For the underdeveloped world, the idea is to build human resources for health (HRH) force that is adequate, well trained, well paid, well facilitated and motivated [25]. This will take a number of years to realize. But over the period of building up the human resource, task shifting can be employed where appropriate. A salary-and-benefit enhancement program should be put in place to attract and retain staff. Also, highly skilled staff can be shared across regions of a country and with the private sector. An appropriate medical technology and equipment policy should be made [36]. This will enable highly effective but affordable equipment and technology to be used, with the help of manufacturers to service and repair equipment, and to train staff in its use. On medicines, public procurement and distribution should be maintained to provide good quality medicines at an affordable price. Where the private sector provides significant pharmacy services, the price of medicines must be limited through subsidy and policy. Health financing through taxation or insurance must cover everybody from the start. The health care package may be small and with a lower quality at the start. But work should be done to improve the size of the care package and its quality over time. Private sector prices must be brought down and, where feasible, be integrated with the public health system. As a policy, prohibitive health-care prices in the private sector should be discouraged.

Emerging and re-emerging health problems

There are continuing and emerging health issues that now characterize the current era that will need to be addressed through research and appropriate measures [37]. These include threats of degrading ecosystems and of living in crowded and unhealthy

environment, the impact of climate change on vector-borne diseases, the emerging zoonotic diseases, and risks of air pollution. Other threats include the impact of fish-stock depletion and reduced numbers of pollinators (e.g. bees and butterflies) on food and nutrition, the effects of water scarcity on food production and disease patterns, and the impact of environmental change and human displacement on mental health. Injury is projected to become the leading cause of death in Africa [38]. Attention must be put on how to prepare to manage emergencies and disasters in Africa.

Implications for Human Civilization

Power of goodness

Is sustainable development paradigm a pipedream? No. Human history shows that, over the course of time, man has made much progress and overcome gross injustices and vices in society [36]. Slavery, colonialism, imperialism and apartheid have ended. Increasing human connectedness will end racism. Isolationism and unilateralism practiced by some countries is coming to an end. Table 2 shows human vices that were overcome in the past and those that need to be overcome in the future. Some vices, such as the dehumanization of other people, are still firmly entrenched in human psyche [36]. But history has taught us that major shifts in the human mindset do occur.

Human vices fully or substantially overcome	Human vices that remain to be tackled
Morbid aggression to other people	Individualism
Widespread discrimination	Materialism
Widespread violent conflicts	Gross inequity
Slavery	Mindless opulence
Inhuman treatment of other people	Large-scale conflicts
Colonialism	Assertion of racial/ethnic/tribal supremacy
Imperialism	A culture of not caring for others
Apartheid	Domineering behaviour/superpowerism
Institutionalized racism	Not caring about the environment/mother earth
Isolationism	Conspicuous consumption and glitter

Table 2: Human vices already overcome and vices to be overcome.

A new set of values can be adopted to replace the current values upon which the free-market doctrine is built. It is built on individualism, materialism, consumerism, opulence and lifestyles that have no concern for others. The new sustainability-paradigm values of human solidarity, equity and human fulfillment, caring for the environment and the future can be promoted instead. Table 3 below compares free-market values and sustainability values.

Tackling opposition to change

Those opposed to the transition to a new era will be the rich corporations and individuals who have hugely benefitted from the current neo-liberal economic system. But they are only about 20% of the global population. The rest of the population can be mobilized to

change the course of history. The lesson from history is that mass mobilization is the only thing to stop inequality and subsequent violence in the twenty-first century [39]. Continuous raising of sustainability issues and the perils of the free-market must be stepped up and spread far and wide. "Battle issues" issues of "environmental sustainability", "peace", "justice", "equity" and "human fulfillment" should be thoroughly intellectualized and debated. The science of sustainability would highlight integration and the uncertainty of the current discourse and prescribe a normative content.

Free-market values	Sustainability values
Individualism	Human solidarity
Materialism	Sustainable, using just enough materials
Inequity is good	Equity and dignity
Consumerism	Simplicity in living
Opulence	Contentment with what is adequate
Deregulation	Regulations
Competition	Collaboration, complementation
Economic efficiency	Efficiency in human fulfillment
No or little concern for others	Concern for others/inclusive societies
Prosperity measured in terms materials and money	Prosperity measured in human fulfillment and contentment
Globalization for economic prosperity	Globalization for human fulfillment
Economic integration	Socio-economic and political integration

Table 3: Comparing free-market and sustainability values.

Rallying all progressive forces

A lot will depend on the views and actions of the current superpowers and contending superpowers [40]. The jostling for supremacy between the USA and Russia and other contending powers has now become overt [41]. These powerful countries need to be rallied to prevail over events that can lead to a new global arrangement to attain peace, justice, human fulfillment and environmental sustainability. Activists consisting of progressive individuals, NGOs, government leaders, international and intergovernmental bodies will need to form large networks around the world. They need to confront those opposed to sustainability movement, who include special interest-groups and multinational corporations. These groups have to be tackled through intellectual discourse [42]. A new world-order based on the sustainability doctrine will emerge without having to go through violent conflict or a deeper crisis arising from the depletion of the world's vital resources. Human survival in the future, it is projected, will be achieved if we work together as humanity, not as individuals [43].

Conclusion

Recurrent global health care crises are only part of a bigger global socio-economic crisis associated with the free-market globalization. History informs us that transition of humans from one era to the next is usually unplanned and disastrous. As the saying goes, each human

era sows the seeds of its own destruction. The current free-market frenzy has sown the seeds, potential causes of its demise, of conflict, injustice, environmental degradation and resource depletion. Luckily, today we are better equipped with knowledge and technology to plot a trajectory of the world into the future. We can and have to choose to avert the impending disasters by adopting a sustainable world order and civilization based on different values than those of the free-market. The free-market globalized capitalism should be made subservient to the sustainability objectives. This will ensure equitable and reliable health systems are available for all throughout the world.

Declarations

Ethics, approval and consent: This study is based on my PhD thesis Free-market illusions: health sector reforms in Uganda 1987-2007 which went through rigorous ethics and scientific review and approval. This paper is one of my post-doctoral publications.

Consent for publication: I'm the sole author of this manuscript and I consent for its publication.

Availability of data: The materials and data for this paper are from my PhD thesis, which is accessible from the University of Bergen and online.

Funding: The doctoral work from which this paper is derived was funded by the Norwegian Development Agency for Development Cooperation, under a joint staff development program between the International Center for Health, University of Bergen, Norway and Makerere University School of Public Health, Uganda.

Competing interests: Author declare no competing interests.

Acknowledgements: Professor Thorkild Tylleskar of the University of Bergen Norway was my doctoral supervisor; and Dr Anders Jeppsson of Lund University Sweden, Dr Harriet Birungi of Population Services International, Dr Joanna Macrae formerly with the London School of Hygiene and Tropical Medicine, and Professor Joseph Konde-Lule of Makerere University School of Public Health were my main co-authors for several publications from which the doctoral work evolved.

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