

Eradicating Poverty, Resource Allocation, and the Environment

Tristen Taylor

Stellenbosch University

ABSTRACT: Hennie Lötter, in his book *Poverty, Ethics, and Justice*, contends that we have a moral obligation to eradicate global poverty, but does so under the assumption that eradicating poverty is possible under current political and economic policy. Roughly 1.8 billion people (the consuming class) currently consume the majority of the world's economic production. About 5.2 billion poor people (the non-consuming class) would like to consume at similar levels. Is it possible for the non-consuming class to approach levels of material welfare similar to that of the consuming class? What would be the impact on the global environment if the billions of the non-consuming class started to consume at a reasonable standard? The answers to these questions are rather bleak for the cause of eradicating poverty: discussions on global poverty like Lötter's fail to cohere with data on the environment and regarding resources constraints. Without radical transformation of current economic and political philosophy, the assumption that the eradication of poverty is possible is a false assumption.

1. INTRODUCTION

Like most countries in the global south, the overall and primary political goal of South Africa is to eradicate the widespread poverty that blights the country: South Africa's official development plan states, "The National Development Plan aims to eliminate poverty and reduce inequality by 2030." In 1994, the now ruling African National Congress (ANC) highlighted the necessity of eradicating poverty for the proper functioning of a political democracy and social cohesion, stating, "No political democracy can survive and flourish if the mass of our people remain in poverty, without land, without tangible prospects for a better life."¹

These political statements find a strong philosophical basis in a recent work of South African philosophy on global poverty: H. P. P. Lötter's book on poverty, *Poverty, Ethics and Justice*, makes a strong ethical case for the eradication of poverty on a global scale. Lötter states that, "poverty is an inhuman condition that we have a moral obligation to root out completely," and "poverty presents one of the most urgent moral challenges facing humanity."²

If we take the idea that poverty is a threat to fundamental human values, social structures and democracy as true—and there is no *prima facie* reason not to—then it seems to follow that we must eradicate poverty (and not merely have the desire to do so and not merely reduce it to some degree). We can and should take the consequences of this conclusion even farther, namely that if we refuse to eradicate poverty—by conscious design or through simple inaction—we would be committing immoral acts. And, probably immoral acts of a near genocidal nature, for as Lötter points out, “Poverty has been called ‘the world’s most ruthless killer and the greatest cause of suffering on earth.’”³

In other words, not eradicating poverty would be to sign the death sentences of millions and to allow a kind of mental and physical torture of perhaps billions.

Given the strong moral imperative to eradicate poverty and the obvious desire of poor countries to raise the living standards of their citizens to that of the developed world, the path prescribed by practical philosophy seems quite clear: we must direct our societies, economies and political structures to the task of eradicating poverty. In effect, we should follow Freidrich von Hayek’s maxim that, “the main condition for such progress is that . . . we learn once more to turn all our resources to wherever they contribute most to make us all richer.”⁴

However, as argued in this article, the eradication of poverty for five billion people is highly unlikely under the current world economic and political order for two reasons. There simply may not be enough physical resources available on the planet to provide the level of goods and services necessary for non-poor lifestyles. Even if there are enough resources for poverty eradication under current economic and political practices, the environmental consequences of an additional three or five billion people consuming at current middle-class of consumption would be catastrophic for global civilisation.

The goal of poverty eradication rests upon an opposing assumption, which is that we can, under the dominant political and economic order, eradicate poverty but don’t because we have not incorporated the ethics of poverty eradication into our political actions. If we were to do so, the institutions of the modern world would be able to eradicate poverty. This article specifically investigates this assumption by holding it up to data on global resource availability and the environmental consequences of human development. Far too often, and as evidenced in Lötter’s work, philosophical ethical mandates (and poverty eradication is a good example of such a mandate) do not reference themselves against solid empirical data. This article will attempt to cross-reference the moral obligation to eradicate poverty with empirical data on resource availability, future supply and demand, and commodity prices. This article also cross-references the moral obligation to eradicate poverty with data and models on current and future environmental impacts.

Expanding from Stephen Gardiner’s recent work on climate change and liberal democracy this article will conclude that there is a foundational problem for all liberal political philosophers who subscribe to poverty eradication, namely that their position is incoherent with the physical properties of the Earth.

As an alternative method of dealing with poverty, this article suggests that in order to eradicate poverty, to meet our strong moral obligation to do so, we have

to adopt a political and economic philosophy that radically redistributes wealth and caps consumption in a coercive manner. In doing so, the ethics of poverty eradication needs to reorient away from the obligations of the rich towards the poor and to the ethically permissible actions of the poor's class struggle to redistribute resources and cap consumption.

2. DEFINING POVERTY

When discussing poverty, there is often a philosophical problem with the concept itself: what is poverty? Who is poor? The mainstream economic method is to use daily income as a definition: for example, extreme poverty is living under an income of USD1.25 a day.⁵ The problem with this approach is that it loses the relative nature of poverty: living on USD972.50 a month may be poor for a single person in America,⁶ but would not be poor for a single person in South Africa, where the poverty line is set on an upper-bound limit of R779 (USD50) a month.⁷ Not being able to account for the relative nature of poverty tends to mask the effects of poverty within more wealthy societies.

Some recent attempts within philosophy to capture this relative aspect of poverty are to define poverty as a lack in terms of what society requires to be able to participate meaningfully in that society⁸ or as an absence in one or more key capabilities that define a flourishing human being.⁹ The problem with such definitions is that they struggle to capture the scale of the problem of poverty in economic discussions, since the definitions don't employ some kind of quantifiable marker compatible with current datasets.

This article won't seek to engage in the debate about the definition of poverty, but instead will follow the mainstream economic model (i.e., using income as a marker). This article's use of income as a marker is only to illustrate a wider set of problems for anti-poverty theorists, and should not be considered to ignore the relative nature of poverty. That said, it is worth taking a look at how many poor people there are in the world using the World Bank's PovcalNet dataset.¹⁰ About 1 billion people are living in what is termed extreme poverty (under USD1.25 a day). About 2.7 billion people live on under USD2 a day, while just over 5.2 billion people live under USD300 a month.¹¹ This last figure is, perhaps, the most important for it gives an idea of the sheer scale of the problem of poverty globally. The modern world is a world of poor, huddled masses. The typical human experience is Lagos or Delhi, not New York or Tokyo.

A complementary method of looking at poverty eradication is to divide the world into those who consume resources substantially and those who don't. In effect, what we have is a world where a minority consumes goods and services (the consuming class of 1.8 billion) and a majority who don't consume significant goods and services (the non-consuming class of 5.2 billion) but wish to do so. Furthermore, we all seem to be under a strong moral mandate to increase the welfare, and hence raise the consumption level of goods and services, of the non-consuming class.

The moral imperative to eradicate poverty seems to find comfort in current economic trends: in a recent analysis, the economic consultants McKinsey predict

that the global middle class (defined by McKinsey as per capita daily spending of between USD10 and USD100 a day: i.e., the consuming class) will grow from its current 1.8 billion people (2010) to 4.88 billion in 2030, with 90 percent of the increase in the consuming class coming from the Asia-Pacific region.¹²

The Economist points out that the number of people living in extreme poverty has fallen from 1.9 billion people in 1990 (defined as income under USD1 a day) to 1.2 billion people under USD1.25 a day in 2010. Since 1980, China alone has pulled 680 million people out of extreme poverty through rapid economic growth, thanks in part to Deng Xiaoping's economic liberalisation. *The Economist* believes that, given the right policies of liberalising markets within and between countries—free trade, globalisation, and the breaking of monopolies—the number of people in extreme poverty should be reduced by 2030 to about 100 million people, most of them, as *The Economist* puts it, in “intractable countries in Africa.”¹³

To note the obvious, China's impressive poverty reduction occurred under the politics of communism. Furthermore, the rise of wealthy nations in the West occurred in contexts where human rights and justice were applied scarcely: America's acquisition of wealth was derived in part from slavery, conquest and genocide. Great Britain colonised large parts of the world. Therefore, to address poverty does not necessarily entail constitutional democracy, human rights, or the application of liberal conceptions of justice, despite the positions of some philosophers (like Lötter¹⁴) or the ANC.

3. TWO QUESTIONS ABOUT POVERTY ERADICATION

If McKinsey and *The Economist* have accurate economic forecasts and if, more generally, anti-poverty theorists and activists work towards ending poverty, two questions come to mind:

Question I: Is it possible for the non-consuming class to approach levels of material welfare similar to that of the consuming class? Are there enough natural resources in the world for this to happen?

Question II: What would be the impact on the global environment if the billions of the non-consuming class started to consume at a reasonable standard?

In answering these questions, we should assume that the economic order of the world today is broadly similar to the economic order in which the world will attempt to eradicate poverty. This assumption is reasonable for it seems unlikely that the global economic order will undergo radical transformation in at least the next two decades.

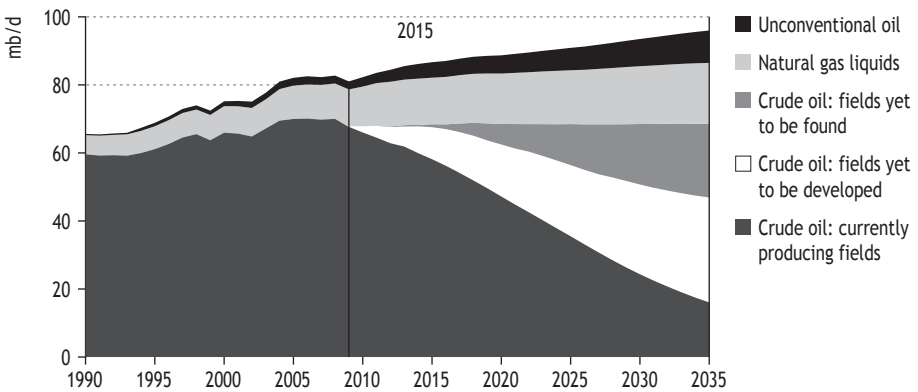
3.1 Question I: Poverty and Natural Resources

An initial answer to Question I can be derived from asking the simple question, what if the non-consuming class lived in countries with levels of consumption similar to Sweden (population in 2010 of 9.38 million)? What would they required in terms of energy? Looking at Swedish levels of consumption in energy has some comparative advantages: Sweden is a relatively efficient user of energy, is not

noted for very negative environmental practices, has a high Human Development Index and low Gini coefficient.

One of the key, perhaps the most key, industrial inputs of any country is petroleum. Petroleum is at the heart of any modern economy. Sweden's 2010 consumption of petroleum was 321,000 barrels of oil a day, giving an annual per capita consumption of 12.49 barrels of oil. If 5.2 billion people consumed oil as Swedes do, that would give an annual consumption of about 65 billion barrels of oil for those 5.2 billion people. The entire world currently produces about 35 billion barrels of oil a year, with Saudi Arabia producing 3.92 billion of those barrels. To meet the non-consuming class's demand for oil, even at relatively low Swedish rates of consumption,¹⁵ would require the annual production of sixteen Saudi Arabia's.¹⁶

Even if the non-consuming class were to be extraordinarily efficient in oil usage and used half of what Swedes currently do (or use oil at the rate people do in Lithuania), that would still require eight new Saudi Arabia's worth of oil production. The problem is that nowhere in future oil production projections is this kind of massive increase in oil production considered. To say the least, future oil production looks far more constrained than finding an extra 65 million barrels a day and great challenges exist in the upstream petroleum sector to meet current demand. The following chart shows where the International Energy Agency thinks oil production will come from in the next two decades:¹⁷



[Figure 3.19] World oil production by type in the New Policies Scenario

Essentially, the International Energy Agency is betting on a major reversal in discovery rates (fields yet to be found) and increased production in fields not yet in development to maintain current levels of global oil production. These are two very large bets, and a substantial body of work states that such petroleum resources are geologically unavailable at any kind of reasonable cost.¹⁸ Put another way, considerable funds and energy will have to be expended in order to service the current petroleum requirements of the existing consuming class, and there is no guarantee current requirements can be met due to a lack of affordable supply.

It seems highly unlikely that a major increase in petroleum production would be possible to meet the future demands of the non-consuming class.

Another kind of resource limit already reached is fisheries production. As an ecosystem, the oceans are already in a state of collapse. All fish stocks are being exploited at their full potential, are being over-exploited, or have already collapsed, according to the United Nations Environment Programme.¹⁹ In other words, we are currently catching all that we can from the oceans and current marine catches are definitely beyond those compatible with sustainable fish populations.

Rates of marine extraction are too high at the present and too destructive (blowing up coral reefs, bottom trawling, gill nets, etc.) to be sustainable, and we have used the ocean as a large dumping ground. Nitrate pollution joins plastics, radioactive materials, heavy metals, poisonous chemicals such as mercury and DDT in the oceans, and thus hastens the collapse of the ocean ecosystem. Ocean acidification continues unabated. The destruction of marine environments is a distinct ecological limit that our economic system has already met, and continued exploitation will only dramatically increase costs to human society as a whole and, in particular, the billions who gain sustenance from the oceans. We are entering an epoch where the oceans will cease to be a major natural resource. Human beings have never, in their entire biological history, been in such a situation, and it is unlikely to be pleasant. It is highly unlikely that the oceans will be able to support any meaningful increase in the consuming class, let alone increases of either three or 5.2 billion people.

In outlining the rise of three billion people to the USD10 to USD100 per day income range by 2030, McKinsey highlights the kind of expansion of resources that will be required, when compared to resource expansion over the last 20 years: a 140% increase in water supply, 250% increase in land under production, 57% increase in global steel production, and a 32% increase in primary energy production. Even the McKinsey report expresses doubts about the supply potentials of these key resources and also highlights significant risks of global shortages of phosphate, nickel, zinc, potash and gold.²⁰

To further illustrate the issue of natural resources and poverty eradication, we can look at a set of key global production outputs—antimony, cement, coal, cobalt, copper, fluorspar, gold, iron ore, lead, manganese, natural gas, nickel, oil, phosphate rock, plastic, platinum group metals (PGM), potash, silver, steel, tin and zinc—from 1950 to 2009. The total amount of production of all of these key materials, across the board, is greater today than in 1950. Per capita production of these materials is higher today than in 1950 with the exception of lead and tin production. Lead usage has changed considerably in the last sixty years as lead has been phased out of petrol, pipes and paints (due to its harmful health effects). Tin has been partially replaced by aluminium and plastics and is now largely used in solder. The crucial minerals (such as zinc, copper, iron ore, antimony, PGM and silver) for an industrial society have all seen significant per capita production increases. Furthermore, per capita increases in production not only mean that the minerals and energy industries have managed to extract more from the earth than previous years, but also at a rate higher than the human exponential population growth, which is quite an achievement.²¹

Table 1

Commodity	Real Price Increase Since 1960	Real Price Increase Since 2000	Commodity	Real Price Increase Since 1960	Real Price Increase Since 2000	Commodity	Real Price Increase Since 1960	Real Price Increase Since 2000
Oil	1061%	177%	Sorghum	21%	107%	Diammonium phosphate	30%	116%
Australian Coal	139% (start 1970)	142%	Rice (Thai 25% broken)	196%	105%	TSP (triple superphosphate)	31%	108%
South African Coal	40% (1984)	127%	Rice (Thai 5% broken)	-14%	88%	Urea	46%	152%
US Natural Gas	384%	-35%	Wheat (US HRW)	-2%	105%	Potassium chloride	142%	132%
Europe Natural Gas	430%	129%	Oranges	35%	100%	Lead	96%	254%
Japan LNG	150% (1977)	154%	Beef	0.6%	58%	Tin	85%	208%
Coffee Arabica	-39%	20%	Chicken	39%	31%	Nickel	68%	31%
Coffee Robusta	-45%	71%	Sheep	65%	62%	Zinc	41%	27%
Tea	-49%	14%	Sugar (world)	7%	62%	Gold	628%	279%
Fish Meal	149%	217%	Tobacco	-52%	15%	Platinum	224%	105%
Palm Oil	-31%	107%	Logs (Malaysian)	74%	21%	Silver	375%	261%
Soybeans	7%	91%	Sawnwood (Malaysian)	4%	8%	Aluminium	-34%	-11%
Barley	82%	96%	Cotton	-44%	15%	Iron ore (spot)	116%	253%
Maize	6%	119%	Phosphate Rock	107%	154%	Copper	96%	203%

The rise of wealthy, industrialised societies (and the subsequent increases in the consuming class) has required dramatic increases in the both global energy and land outputs. The aforementioned rise in production capacity and output has not resulted in over-production but rather in a highly stressed production system as witnessed by rising commodity prices across the board, which is a fair proxy for the ease of supply. If we examine World Bank historical data on key commodity prices from 1960 to 2013,²² what we find is that the real prices of commodities (in 2005 dollars) have increased dramatically from 1960 and from 2000, as illustrated in Table 1 (previous page).

As the world's economy has grown from 1960 and the Chinese economy from 2000, commodity prices have risen, driven by rising demand and by supply constraints, and despite both absolute and per capita production increases. These are signs of stressed extractive, agricultural and fishing sectors, and it is doubtful that the global productive system can accommodate further demand stresses from the eradication of poverty and a rise in human population. If this data is further combined with declining rates of discovery of oil and certain minerals, reducing ore yields (in particular copper), slowing of agricultural yield increases, limits on available agricultural land, increasing water scarcity and collapsing fisheries, the proposition that the global productive system can accommodate between an additional three billion or 5.2 billion people consuming at a rate above USD10 a day is dubious.

In a report on future food consumption, the United Nations Environment Programme (UNEP) specifically addressed the impact of the global middle class (USD10 to USD100 a day income) rising to a population of 4.88 billion people. The UNEP concludes that:

Due to existing planetary boundaries that will limit cropland, rangeland and fishery expansion, it is difficult to envisage that the current global food system could meet this consumptive demand.²³

The trend up to at least 2030 is for significant increases in commodity prices in agriculture, minerals, energy, fisheries and aquaculture sectors:²⁴ it seems that difficulties of supply will drive price rises of key commodities over the long-term. There is also the distinct danger that increasing competition for a finite and possibly diminishing set of key resources necessary for industrialisation and the maintenance thereof would spark economic and physical warfare, which are probably the antitheses of poverty eradication.

The problem for anti-poverty theorists is that rising demand in the context of low supply has an inverse relationship in terms of poverty reduction. As demand rises and supply struggles to meet that demand, prices will rise. Rising energy and food prices increase poverty, and if the long-term trend is for tighter food and energy markets, then we run the danger of increasing or entrenching poverty, especially in low-income countries and often with disastrous results: for example, food price hikes in 2008 and 2011 have been attributed to sparking off social unrest and civil war in North Africa.²⁵ Problems with the supply of key resources necessary for wealth generation indicate that debates on poverty require a significant shift in focus towards the availability of physical resources and the

social, economic and technical matrix that provides the resources necessary for poverty eradication.

There seems to be two propositions regarding resources, poverty and the current economic system: A) there is not enough materials to eradicate poverty or B) that what resources do exist are constrained in supply and will be increasingly and prohibitively expensive to consume. If either A) or B) hold, then discussions on the ethics of poverty have a serious problem. To say that poverty is a terrible moral ill and that we must eradicate it is akin to saying that death is a terrible moral ill and that it must be abolished. The morality of death itself is a pointless discussion as death cannot be avoided, and if death is a moral ill then it is a moral ill that we are forced to accept.

Accepting poverty as an unavoidable part of current economic system is one option for poverty theorists. Perhaps philosophical discussions about poverty should focus on how to live well with poverty, similar to philosophical discussions on dying well: granted, philosophers telling poor people how to live in poverty sounds, well, a bit rich.

Another option, I will argue at the end of this article, is that environmental issues (such as resource supply) force poverty theorists into a position of having to adopt new economic systems, and the adoption of such economic systems would imply fundamental changes to the current social and political order.

3.2 Question II: Poverty and the Environment

The environmental consequences of increasing the living standards of the non-consuming class are dire. From the previous discussion on the world's fisheries, it is highly doubtful that the oceans could support an extra one billion people consuming more marine organisms, let alone three or five billion people. The oceans are already in a state of collapse, and increased extraction will only increase the rate of collapse. Increases in farmed fish (aquaculture) to meet rising demand will put further pressure on pelagic fish (used to make fishmeal), and shifts to non-marine aquaculture inputs, such as soybeans, will only further increase pressures on land-based agriculture.

The McKinsey report highlights the additional pressures on land resources, citing that increases will be required in new agricultural land to meet demands of an expanding middle-class: between 40–50 percent of all available land will have to be apportioned to agriculture, and much of the new land brought into productive will necessarily involve deforestation, increased carbon emissions, and a higher cost of supply.²⁶ This expansion will occur in a context where aquifer and groundwater depletion is already running at an unsustainable rate and global agriculture already consumes 70 percent of global freshwater. As Chatham House puts it:

Intensifying water scarcity therefore has the potential to curtail future yield growth and lead to increased incidence of crop failures, exacerbating global food insecurity and malnutrition.²⁷

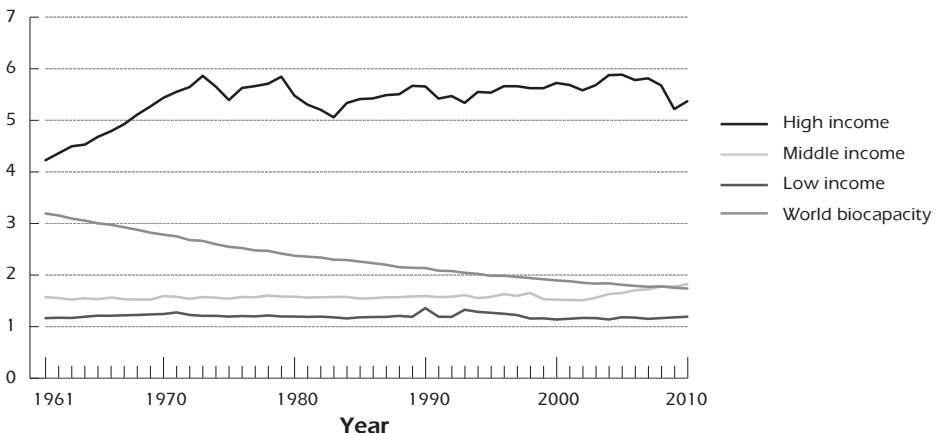
Climate change illustrates the stark environmental consequences of eradicating poverty under current economic conditions. The Intergovernmental Panel on

Climate Change's (IPCC) recent 5th Assessment Report on the science of climate change warns us that not only is a two degrees global atmospheric temperature rise entirely likely—barring a highly aggressive and rapid carbon emissions mitigation pathway—but also points out that truly catastrophic temperature rises are possible within this century.²⁸ A world with anything over a four degrees atmospheric average temperature increase (since 1861–1880) by 2100 will be a difficult and hostile place for civilisation to exist. We are facing four degrees or more temperature rise this century alone without substantial mitigation.²⁹ The World Bank clearly states that a four degrees warmer world has to be avoided at all costs.³⁰

In order to meet the needs of three billion people entering the 10USD a day plus bracket, McKinsey estimates that global greenhouse gas emissions would rise to 66 gigatonnes per annum. Sixty-six gigatonnes of GHG emissions by 2030 would put the world on course for a five degrees temperature rise by the end of the century.³¹

Kevin Anderson and Alice Bows state that even with aggressive and rapid mitigation, the best we can do at this stage is two degrees of global warming.³² For Anderson and Bows mitigation for two degrees would require something like a 10 percent per annum global reductions in greenhouse gas emissions for decades from Annex 1 (developed) countries from 2010 and 6 percent reductions from non-Annex 1 (developing) countries from 2025, and such reductions would probably require a large-scale global economic contraction.³³ Humanity has done nothing comparable to this kind of emissions reduction: the greatest emissions reductions to date came from the collapse of the Soviet Union at 5 percent per annum for a decade³⁴ and collapse of the Soviet Union was hardly an example of poverty eradication.

The following graph from the World Wildlife Fund illustrates succinctly the problem of environmentally unsustainable consumption, only low-income countries are presently living within the planet's biocapacity:³⁵



[Figure 35] Ecological Footprint (gha) per capita in high-, middle- and low-income countries (World Bank classification and data) between 1961 and 2010 The green line represents world average biocapacity per capita (Global Footprint Network, 2014; World Bank, 2013)

The general problem facing poverty eradication as a defining moral obligation is that the environment cannot sustain a major shift of people from the non-consuming class to the consuming class, and such a shift would likely move the Earth into a physical state hostile to the maintenance of our current material wealth and societal complexity. Or, put even more simply, poverty eradication is not possible under current economic modes of production, distribution and consumption because of environmental constraints.

3.3 Poverty and Development Pathways

At the present, countries like China, India, Indonesia, Nigeria, Kenya, etc. are faced with a choice between two development pathways (or some combination thereof). The first is rapid industrialisation focusing on energy-intensive and heavy industries (such as steel production, aluminium smelting, ship-building, chemicals production), and low-wage manufacturing. The second is an extractive industries model: raw material export-orientated economies such as Qatar, South Africa, Australia, Brazil, etc.. Both of these models are dirty, carbon and energy intensive, exploit workers, consume vast amount of physical resources such as concrete, fossil fuels and livestock, radically change societal structures, entrench elite power structures and contain many pitfalls to successful completion such as resource curses, social unrest, war and corruption. Economic history does not seem to provide reliable alternative models of development, adding only destructive patterns of stealing wealth from other nations: slavery, colonialism, plunder.

Faced with vast poverty, social suffering and subsequent political instability, it is almost too much to ask the developing world not to adopt rapid industrialisation, extractive economies or some combination thereof, even if it means sacrificing generations to the hungry maws of sweatshops and narrow, dangerous shafts deep underground. In fact, promoting the goal of poverty eradication seems to entail the adoption of these economic practices. Unless poverty theorists provide a feasible economic alternative, their position is fundamentally incoherent as poverty eradication seems to involve widespread resource use that is either not possible or will cause planetary armageddon.

Similarly, environmental philosophers have to take cognisance of global poverty. It is highly unlikely that countries in the developing world will not adopt ecologically destructive modes of development and accept the brutality of poverty instead. Moreover, given the IPCC's recent report on adaptation, one cynical, realpolitik lesson can be gleamed from the catalogue of climate impacts: wealthy nations are best placed to adapt to climate change, and a developing country had better get itself into the bracket of a developed country and do so quickly. If this means opening up new coal reserves (such as currently happening in very poor Mozambique) and firing up the satanic mills, so be it. This is exactly what seems to be happening across the world. A 2012 World Resources Institute report suggests that 1,199 new coal-fired plants are currently being proposed across the globe: 363 in China, 455 in India, 48 in Russia, 49 in Turkey and 30 in Vietnam.³⁶

In order to 'save' the earth, far more is required than the establishment of natural parks, invoking animal liberation, or turning off the lights for an hour

(Earth Hour). What is necessary to save the planet is a feasible economic system that enables the 5.2 billion people of the non-consuming class to live without poverty—to live with full stomachs, libraries, roads, health care, universities, running water, proper housing, and the internet—and without destroying the planet. We need an economic system that produces the benefits of thousands of years of economic, social, cultural and technological change but without the associated major environmental consequences.

4. DISCUSSION

How do we get a feasible economic system that eradicates poverty without destroying the environment? This is perhaps one of the biggest questions in political, ethical and economic philosophy at the moment, as no economic system can be seen in isolation from political and cultural contexts. Put another way, for the Bolsheviks to implement communism in the USSR, they had to change society and did so, often against society's wishes. The old political, religious and cultural practices of Czarist Russia had to be crushed in waves of repression. The rise of capitalism and industrialisation thoroughly transformed city and country life in Great Britain. The Nazi Party completely transformed Germany and was thus able to place the economic outputs of a nation at the disposal of Hitler's personal wishes, and in the process reinvented slave labour. Communist, capitalist and fascist economic systems all required substantial changes to social and political systems.

Stephen Gardiner makes a similar point in *A Perfect Moral Storm*. He posits that climate change is a test of not only the world's political and social systems but also of the political philosophy that underlies those systems. Basically, as climate change is a clear and present threat to our welfare and civilisation, and as the current political and moral systems have failed to address the problem of climate change, we have a fundamental failing of political and moral philosophy, namely that liberal democracy is inadequate to deal with problems like climate change.³⁷

Gardiner's critique should invoke in philosophers like Lötter a moment of reflection. Lötter's solution to poverty—collective action and responsibility—relies upon the philosophy and the institutions of liberal democracy.³⁸ If Gardiner is correct, liberal democracy is inadequate to deal with climate change and climate change will increase poverty. Put another way, if political liberalism has failed to provide a solution (through reform of its institutions and with democratic citizen action) to the global problem of climate change, why would it solve current levels of global poverty and climate-induced poverty?

Therefore, a feasible economic system to eradicate poverty would likely require a radical change in our political philosophy and thought: the notion of class struggle needs to be resurrected. The current system's consumption and production patterns are heavily weighted towards the consuming class. Individuals in the top income percentiles, both globally and nationally, currently consume the vast majority of the world's economic output and do so at an unsustainable rate. The consuming class is already committing class warfare: the rich are appropriating finite resources that are required for the welfare of everyone else. The consuming

class's unsustainable resource consumption is highly likely to cause significant global environmental decay and collapse, with the consequences falling disproportionately on the non-consuming class.

For the world to be able to eradicate poverty within known ecological constraints, another form of class struggle needs to take place. A poverty-eradicating and ecologically-sustainable political and economic system will need to transfer a significant portion of the finite set of available resources away from the consuming class and to the non-consuming class. This resource reallocation would have to happen in both the developed and developing world, and implies coercive economic, political and social actions: it is naïve to think that the consuming class will voluntarily reduce their living standards. What is also implied is that there has to be a cap on individual consumption: some form of economic *autarky* that limits individuals' consumption of goods and services within a society to what is ecologically sustainable and in accordance with a non-poor standard of material welfare.

Another implication from the discussion above revolves around the subject of obligations regarding poverty. In a recent edition of this journal, Gregory Robson put forth an argument on what the rich should do towards the poor, based off of Peter Singer's argument for beneficence. The article was entitled, "What We Owe the Global Poor: In Defense of a Moderate Principle of Sacrifice." The obligation's subject is misplaced in these types of arguments: the eradication of poverty, given the already existing class struggle, is not for the rich to achieve (the "we" in Robson's article) but rather for majority of the poor to accomplish through political, social and economic revolution.

The notion that wealthy decision-makers in society will abandon the acquisition of wealth and redistribute their economic and political power is suspect. Nearly every major religion has indicated that the rich should share with the poor, yet, century after century, the rich have continued not to eradicate poverty.

Given the implausibility of the global rich voluntarily redistributing their wealth, the ethics of poverty eradication should not be directed at what the rich should do but rather at what are the ethically permissible actions for the above-mentioned revolution: for example, does Lötter's ethical mandate to eradicate poverty override property and other rights? What if 70 percent of a country's population votes on anti-poor measures (such as rolling back welfare benefits)? Does the cause of poverty eradication trump the democratic principle of majority rule? What levels of coercion in the redistribution of wealth are appropriate? What do we do with the rich who refuse to sacrifice and/or continue to destroy the environment? Poverty theorists and environmental philosophers need to reorient their approach away from the wealthy's moral obligations.

Likewise, discussions about poverty like Lötter's are not really about poor people but, instead, are about the old themes of class struggle, economic and political power, and resource allocation. Discussions about poverty also need to include the new themes of ecological constraints and resource scarcity. For the world to no longer be poor, class struggle will be required to destroy the global elites' power to appropriate resources. Class struggle will be required to institute

a radically new kind of economic structure. The alternative is a system where the rich continue to consume the poor and the planet, for as Rousseau once stated:

The wealthy, on their part, had hardly begun to taste the pleasure of command, before they disdained all others, and, making use of their old slaves to acquire new, thought of nothing but subduing and enslaving their neighbours; just like those ravenous wolves, which, having once tasted of human flesh, despise every other food, and seek only to devour men for ever after.³⁹

ENDNOTES

1. National Planning Commission, *National Development Plan-2030* (Pretoria: National Planning Commission, 2012), 24.
2. H. P. P. Lötter, *Poverty, Ethics and Justice* (Cardiff: University of Wales Press, 2011), 177.
3. *Ibid.*, 56.
4. Friedrich Hayek, *The Road to Serfdom* (London: Butler & Tanner Ltd., 1945), 155.
5. *The Economist*, "Not Always With Us." <http://www.economist.com/news/briefing/21578643-world-has-astonishing-chance-take-billion-people-out-extreme-poverty-2030-not> (1 June 2013). Accessed December 2015.
6. U.S. Department of Health and Human Services, "Poverty Guidelines 2014." <http://aspe.hhs.gov/poverty/14poverty.cfm>. Accessed March 2014.
7. Greg Nicolson, "South Africa: Where 12 Million Live in Extreme Poverty," *Daily Maverick* (3 Feb 2015).
8. Lötter, *Poverty, Ethics and Justice*, 36–7.
9. Martha C. Nussbaum, "Capabilities as Fundamental Entitlements: Sen and Social Justice," *Feminist Economics* 9 (2003): 54–5.
10. PovcalNet: the on-line tool for poverty measurement developed by the Development Research Group of the World Bank. <http://iresearch.worldbank.org/PovcalNet>. Accessed May 2014.
11. PovcalNet data is limited to only the developing world, and some recent data for some countries is missing.
12. Richard Dobbs, Jeremy Oppenheim, Fraser Thompson, Marcel Brinkman, and Marc Zornes, *Resource Revolution: Meeting the World's Energy, Materials, Food, and Water Needs* (McKinsey & Company, 2011), 33.
13. *The Economist*, "Not Always With Us."
14. Lötter, *Poverty, Ethics and Justice*, 280.
15. Sweden is ranked 39th in the world in oil consumption. See EIA, "Total Petroleum and Other Liquids Production—2014." <http://www.eia.gov/countries/country-data.cfm?fips=SW>. Accessed May 2015.
16. Currently, the wealthy OECD countries consume 50 percent of the world's oil with a total population of 1.23 billion. Even if we count the other 50 percent of the current oil production that goes to non-OECD countries towards the petroleum needs of 5.2 billion people living like Swedes, we would still need 47.5 billion extra barrels of oil a year.
17. International Energy Agency, *World Energy Outlook 2010* (Paris: IEA, 2010), 122.

18. For example, Colin J. Campbell and Jean H. Laherrère, "The End of Cheap Oil," *Scientific American* (March 1998): 81–3.
19. Christian Nellemann, Stefan Hain, and Jackie Alder (eds), *In Dead Water* (UNEP, 2008), 17.
20. Dobbs et al., *Resource Revolution*, 43, 63.
21. Author's own analysis from Colonial Geographical Surveys, *Statistical Summary of the Mineral Industry 1946–1952* (London: Her Majesty's Stationary Office, 1954); Overseas Geographical Surveys, *Statistical Summary of the Mineral Industry 1951–1956* (London: Her Majesty's Stationary Office, 1958); Overseas Geographical Surveys, *Statistical Summary of the Mineral Industry 1957–1962* (London: Her Majesty's Stationary Office, 1964); Institute for Geological Sciences, *Statistical Summary of the Mineral Industry 1962–1967* (London: Her Majesty's Stationary Office, 1969); Institute for Geological Sciences, *Statistical Summary of the Mineral Industry 1967–1971* (London: Her Majesty's Stationary Office, 1973); Institute for Geological Sciences, *World Mineral Statistics 1972–76* (London: Her Majesty's Stationary Office, 1979); Institute for Geological Sciences, *World Mineral Statistics 1976–80* (London: Her Majesty's Stationary Office, 1982); British Geological Survey, *World Mineral Statistics 1981–85* (Keyworth: British Geological Survey, 1987); British Geological Survey, *World Mineral Statistics 1985–89* (Keyworth: British Geological Survey, 1991); British Geological Survey, *World Mineral Statistics 1990–94* (Keyworth: British Geological Survey, 1995); British Geological Survey, *World Mineral Statistics 1995–99* (Keyworth: British Geological Survey, 2001); British Geological Survey, *World Mineral Production 2000–04* (Keyworth: British Geological Survey, 2006); British Geological Survey, *World Mineral Production 2005–09* (Keyworth: British Geological Survey, 2011); United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2010 Revision* (CD-ROM Edition, 2011); PlasticsEurope, *Plastics—the Facts 2010* (PlasticsEurope, 2010), 9; U.S. Geological Survey, *Cement Statistics 1900–2009* (USGS National Minerals Information Center, 2010), <http://pubs.usgs.gov/ds/2010/140> (accessed August 2011); World Steel Association, *World Steel in Figures 2011* (Brussels: World Steel Association, 2011), 7.
22. World Bank Commodity Price Data (The Pink Sheet). http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1304428586133/pink_data_a.xlsx (5 March 2014). Accessed May 2014.
23. W. Moomaw, T. Griffin, K. Kurczak, J. Lomax, *The Critical Role of Global Food Consumption Patterns in Achieving Sustainable Food Systems and Food for All, A UNEP Discussion Paper* (Paris: United Nations Environment Programme, 2012), 20.
24. Bernice Lee, Felix Preston, Jaakko Kooroshy, Rob Bailey, and Glada Lahn, *Resources Futures* (London: The Royal Institute of International Affairs, 2012), 85–7.
25. Marco Lagi, Karla Z. Bertrand, and Yaneer Bar-Yam, "The Food Crises and Political Instability in North Africa and the Middle East," New England Complex Systems Institute. arXiv:1108.2455 (September 2011), 2–3.
26. Dobbs et al., *Resource Revolution*, 47.
27. Bernice Lee, Felix Preston, Jaakko Kooroshy, Rob Bailey and Glada Lahn, *Resources Futures* (London, The Royal Institute of International Affairs, 2012), 49.
28. Intergovernmental Panel on Climate Change, *Working Group I Contribution to the IPCC, Fifth Assessment Report Climate Change 2013: The Physical Science Basis, Summary for Policymakers*, 22 and 36. http://www.climatechange2013.org/images/uploads/WGIAR5-SPM_Approved27Sep2013.pdf. Accessed September 2013.
29. In all but one scenario (four in total) in the IPCC report warming increases beyond 2100, with the worst case scenario hitting 6.5 degrees: Intergovernmental Panel on Climate Change, *IPCC WGI Fifth Assessment Report* (IPCC, 7 June 2013), 1636.

echange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf, accessed October 2013.

30. The World Bank, *Turn Down the Heat: Why a 4° Warmer World Must Be Avoided* (Washington DC: The World Bank, 2012), xviii.

31. Dobbs et al., *Resource Revolution*, 54.

32. Kevin Anderson and Alice Bows, "Beyond 'Dangerous' Climate Change: Emission Scenarios for a New World," *Phil. Trans. R. Soc. A* 369 (2011): 41.

33. Anderson and Bows, "Beyond 'Dangerous' Climate Change," 34.

34. Kevin Anderson, "Climate Change Going Beyond Dangerous—Brutal Numbers and Tenuous Hope," *Development Dialogue* 61 (September 2012): 25.

35. World Wildlife Fund, *Living Planet Report 2014* (2014), 59.

36. Ailun Yang and Yiyun Cui, *Global Coal Risk Assessment: Data Analysis and Market Research* (World Resources Institute, 2012), 5.

37. Stephen Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (Oxford: Oxford University Press, 2011), 217–8.

38. Lötter, *Poverty, Ethics and Justice*, 280.

39. Jean-Jacques Rousseau, *Discourse on the Origins of Inequality* (1755), in *The Communist Manifesto and Other Revolutionary Writings: Marx, Marat, Paine, Mao, Gandhi and Others*, ed. Bob Blaisdell (Mineola: Dover Publications, Inc., 2003), 17.