

Plan C 1.0: Mobilizing to Save the Biosphere

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Plan A is how the planet is being run at present: large human numbers and industrial activity – global industrialization. Under Plan A, the Earth's biosphere is being destroyed – the sixth mass species extinction, the direct result of large human numbers and industrial activity, is well under way. Plan B is Lester Brown's concept for an alternative future. He has revised his Plan B several times, and the fourth version is now available (*Plan B 4.0: Mobilizing to Save Civilization* by Lester R. Brown (W. W. Norton & Company, 2009).

Plans A and B are essentially the same, in terms of destructive impact on the biosphere. Both involve large human numbers and industrial activity. Both are destroying the biosphere. Plan A is unplanned and uncontrolled growth – unmanaged chaos. Plan B is planned and controlled exploitation, in an attempt to sustain a large human population and large amount of industrial activity – as large as possible (e.g., eight billion). Both Plans A and B represent attempts to continue large human numbers and industrial activity for as long as possible. They both represent programs for “business as usual” – continuation of the large-scale destruction of the biosphere caused by the high level of resource utilization of large-scale industrial activity.

Neither Plan A nor Plan B serves as a long-term-sustainable system of planetary management, for two main reasons and several secondary ones. First, our planet-destroying civilization is the *cause* of the destruction of the biosphere in which human life evolved and on which human life depends. This civilization should not be saved – it must not be saved. If the mass species extinction is to be stopped and humankind is to be saved, this civilization must be ended as quickly as possible. Second, we are just now passing Hubbert's Peak – the point in time at which global oil production starts to decline, as the planet's oil reserves deplete. Large-scale industrial civilization will end soon because the energy on which it depends is exhausting. Other reasons why Plans A and B are unlikely to work for very long are the facts that human societies have been observed to evolve to a high level of complexity that can no longer be supported and collapse when they attempt to simplify, and that dynamic systems in general (natural or otherwise) tend to fail catastrophically when serious problems are encountered. See Joseph A. Tainter's *The Collapse of Complex Societies* (Cambridge University Press, 1988) and Jared Diamond's *Collapse: How Societies Choose to Fail or Succeed* (Viking, 2005) for discussion of these points.

In simple terms, our civilization must not be saved because it is destroying the biosphere. This begs the question, however, as to whether there are some aspects of our civilization that are worth saving, to promote the survival of the biosphere and humankind and to promote quality of life in the future. Are there any? If so, what are they? To answer what aspects of our civilization are worth saving requires the answer to existential questions such as: What, if anything, is the purpose of human existence? What are people for? To date, our philosophers have not answered these questions satisfactorily. Our scientists have not been able to identify the reason for (cause of) existence, and they do not understand why existence works as it does.

Plan C is an alternative to Plans A and B. The premise for Plan C is that the only feasible solutions for long-term-sustainability of the biosphere and humanity are those in which the human population is so low that it has a negligible impact on the planet's environment. The planet's biosphere continued in a relatively stable equilibrium for millions of years with a human

population estimated to be a few million. That size of population has been proved to be feasible. Brown's Plan B and others like it (e.g., Jeffrey D. Sachs' *Common Wealth: Economics for a Crowded Planet* (The Penguin Press, 2008)) aim for solutions that attempt to maintain a large number of human beings and high level of industrial activity on the planet. These approaches are simply continuations of the status quo, which has caused the global environmental crisis. They are demonstrated failures.

Modern industrial activity has consumed half of the planet's petroleum reserves. The Earth's human population has increased from a few hundred million to over six billion because of the large amount of energy from fossil fuels, principally oil, and human numbers will decline to a few hundred million or less as petroleum reserves deplete. At current rates of consumption, all of the petroleum will be used by 2050, and so the global human population will drop to a low level by that date. It is unlikely, however, that the human population will decline slowly. As global oil production starts to decline, the likelihood of global resource wars will increase. It is not likely that human population will decline slowly as people simply starve to death. It is much more likely that human population will decline in large drops, through war as nations compete for shrinking energy resources.

Although there is a spectrum of alternative futures that one may imagine, four alternative futures, or "scenarios," that come to mind and cover the range of reasonable possibilities are the following.

Scenario 1: No Global War. As global petroleum reserves deplete, the human population decreases proportionally, because of famine. People simply starve to death. In the words of T. S. Eliott ("The Hollow Men"): "This is the way the world ends, not with a bang but with a whimper." Under this scenario human population declines from a high of 6.3 billion to about 100 million over the next 40 years – an average decline of about 150 million per year. The unfortunate aspect of this scenario is that the sixth mass species extinction (extinction of an estimated 30,000 species per year) continues. The biosphere suffers massive damage. The likelihood of human survival is slim, since it will have destroyed its "nest" (the ecosystem in which it evolved).

Scenario 2: Low-Level Nuclear War, Caused by Terrorists. Under this scenario, terrorists succeed in detonating a small number of nuclear weapons. Since their goal is to cause as much damage as possible to Western civilization, they would likely attack energy sources, such as the five largest dams, the five largest oil fields, the five largest coal fields, as well as a few large cities. The primary motivation for this scenario is radical Islam, which believes that it can bring about the return of the Twelfth Imam by causing global war. Under this scenario, it is possible that global civilization could be mortally wounded, since much of the energy on which it depends would be destroyed (made radioactive for 30,000 years). An advantage of this scenario (and the following one) is that since a relatively few nuclear weapons is detonated, the level of radioactive fallout generated planetwide is low. It is possible (but considered unlikely) that the occurrence of this scenario would trigger the occurrence of Scenario 4 below (large-scale nuclear war).

Scenario 3: Low-Level Nuclear War, Caused by Corporatists. Under this scenario, the rulers of the world industrial system seek to stabilize the situation caused by the reduction in global oil production by reducing demand, i.e., by destroying nations that compete for the dwindling energy supply and contribute to biospheric destruction (environmental destruction, pollution, global warming, species extinction). Under this scenario, a minimum of 150 million people would be targeted each year. No energy sources would be targeted, since the goal of

Corporatists is to extend the life of remaining energy supplies for as long as possible. This scenario has the same unfortunate consequences as Scenario 1, viz., massive damage to the biosphere and the likely extinction of mankind.

Scenario 4: Large-Scale Nuclear War. Under this scenario, a large-scale nuclear war (global nuclear war) erupts, involving the detonation of 1,000 – 5,000 nuclear bombs. This scenario envisions that all nuclear powers detonate many of their weapons on enemy targets. Under this scenario, global civilization comes to an immediate end. The mass species extinction stops, but the radioactive fallout would make much of the planet uninhabitable (like the areas near Chernobyl, but on a grand scale).

In order to develop a strategy for assuring human survival, it is necessary to move to a low human population as quickly as possible. What is sought is a strategy for survival. What we are dealing with is a stochastic system, and the methodology for determining good strategies is called statistical decision theory. The decision criterion that is proposed for addressing this problem is called the criterion of “minimal regret” – select (or design) a strategy that minimizes (or keeps low) the “regret,” or the worst that can happen to us. There are a number of approaches to determining suitable strategies. A simple approach is to determine solutions (strategies) for each of the scenarios listed above, and pick one for which the outcome is not too bad no matter which scenario occurs. If no strategy works very well for all scenarios, an alternative approach is to determine a strategy that minimizes the likelihood that the “bad” scenarios occur.

Of the four scenarios listed above, Scenarios 1 and 3 have particularly undesirable outcomes. Large-scale industrial activity continues for as long as possible (i.e., until the energy runs out), the biosphere is substantially destroyed, and the likelihood of human survival is low. Scenario 4 has the drawback that the large amount of radioactive fallout from large-scale global nuclear war might render the planet uninhabitable for human beings. Hence it would appear that the least objectionable scenario of the four listed is Scenario 2.

With respect to likelihood of occurrence of the scenarios listed above, the following comments are made. It seems unlikely that any existing nuclear power would deliberately precipitate a global nuclear war (Scenario 4), since it would be destroyed in the conflagration. This is the phenomenon of Mutually Assured Destruction (MAD), which was successful in keeping the US and USSR from destroying each other during the “Cold War.” The world’s rulers will initially work hard for Scenario 1 to occur, since it generates the most wealth for them, and they do not care that the biosphere is destroyed or the human race becomes extinct. If ever they see that the massive die-off by famine of 150 million people per year is forming a threat to their system, they will move to reduce energy demand by eliminating the surplus population, by war. (Rulers generally promote scarcity (via large populations) since control of resources enhances their power, but not to the point of threatening their position.) This action has been taken by rulers many times in the past, so that Scenario 3 has a high likelihood of occurrence. It is not considered likely that the occurrence of Scenario 3 will lead to Scenario 4 (global nuclear war), since the Corporatist rulers would agree on which countries should be annihilated. Since radical Islam is seeking the destruction of the modern industrial world, and the number of nuclear bombs possessed by Islamic states is increasing fast, the likelihood of Scenario 2 is very high – just about certain. The occurrence of Scenario 2 may trigger Scenario 4, but this is considered unlikely. The major nuclear powers are programmed to respond quickly and massively to large-scale ballistic missile attacks, but can discriminate the detonation of a few terrorist bombs from a massive attack by a strong nuclear power.

In summary, it appears that Scenario 2 affords the best opportunity for minimizing damage to the biosphere and maximizing the survival of humanity, and that it has the greatest likelihood of occurrence.

The next step in planning for the future is to decide on strategies to implement conditional on the occurrence of each of the preceding Scenarios. This should be done for all four Scenarios (since it is not certain which of them will actually occur). Since planning resources are limited, most effort should be allocated to planning for Scenario 2 (the most likely scenario to occur, and the one with the least objectionable outcomes, with respect to survival of the biosphere and humankind). If Scenario 2 occurs on a sufficiently large scale, so that a substantial portion of the planet's energy resources are destroyed, then the human population will plummet immediately. At this point, the survivors will have the opportunity to establish a new, long-term-sustainable system of planetary management. What system is implemented will be determined by the survivors. An arrangement that has been proposed as a system of long-term-sustainable planetary management is a "minimal regret" population consisting of a single small high-technology nation of about five million people and a globally distributed low-technology population of about five million hunter-gatherers. This population is a "solar civilization," i.e., it exists on the Earth's recurrent budget of solar energy, without dependence on fossil fuels or nuclear energy. The purpose of the high-tech population is control of the size of the planet's population (by restricting the use of technology to the high-tech nation). The purpose of the low-tech population is to reduce the likelihood that the Earth's human population might be annihilated by a single catastrophic event. The minimal-regret population is considered a feasible solution to the problem of planetary management, since it operates on recurrent solar energy and involves a human population size that existed on Earth for millions of years. (For more discussion of the minimal-regret population, see *Can America Survive?* at <http://www.foundationwebsite.org/canam4x.htm>.)