








CHAPTER 16


ELIMINATING THE BIOSPHERIC REFUGEE CRISIS



 **A *BIOSPHERIC REFUGEE* IS AN INDIVIDUAL MEMBER OF A SPECIES (E.G., *HOMO SAPIENS*) FORCED TO LEAVE A FORMERLY HABITABLE AREA OF THE BIOSPHERE BECAUSE THE AREA HAS BECOME LESS HABITABLE.**

-  Humans living in the Maldives Island group who are likely to be displaced by rising sea levels are an example of potential biospheric refugees.
-  The concern for biospheric refugees is already one of the major global crises of the 21st century.
-  Using the term *biospheric refugee* highlights the point that the Biosphere is global and has finite resources and a finite carrying capacity for humans.

ONE OF THE PRIMARY FORCING FACTORS PRODUCING BIOSPHERIC REFUGEES IS OVERPOPULATION.



-  **New projections indicate the global human population could reach 17.5 billion by 2100.¹**
-  **Religious, political, and anti-science ideology have made free and open discussion of the human population a taboo in most cultures.**
-  **No global problem can be addressed unless a free and open discussion includes the evidence accepted by mainstream science.**

 **A MAJOR OBSTACLE TO AN INFORMED DISCUSSION OF OVERPOPULATION IS THE REJECTION OF THE PREPONDERANCE OF SCIENTIFIC EVIDENCE IN FAVOR OF A “BALANCED APPROACH.”**




-  **The news media’s concept of balance is to have equal representation from both “sides” and ignore the preponderance of scientific evidence from credentialed scientists who have published in peer-reviewed scientific journals. This approach gives the impression that a dispute exists among scientists when none does.**
-  **The disregard for mainstream scientific evidence has led to another important point: “Everyone’s entitled to his own opinion, but not to his own facts” (Senator Daniel Patrick Moynihan).**



ANOTHER PRIMARY FORCING FACTOR PRODUCING BIOSPHERIC REFUGEES IS CLIMATE CHANGE.

-  **Climate change affects both agricultural productivity and renewable resource regeneration.**
-  **Climate change is already making some regions less habitable or uninhabitable.**

THE MERCHANTS OF DOUBT² HAVE SIGNIFICANTLY INCREASED THE RISKS TO ALL HUMANITY BY DELAYING ACTION ON GLOBAL CLIMATE CHANGE (E.G., REDUCTION OF GREENHOUSE GAS EMISSIONS).

-  In the United States and elsewhere in the world, denial of climate change by special interest groups that feel threatened by the scientific evidence has blocked action on greenhouse gas emissions and denigrated the scientists whose research provided the evidence.
-  The best remedial, immediate action is for all citizens to become more scientifically literate. Just understanding the scientific process and how to check scientific credentials is a big step in the right direction.
-  Scientific literacy, even a modest amount, will make casting doubt on robust scientific evidence orders of magnitude more difficult.







“THE ESSENTIAL POINT IS THIS: ONE DEFAULT POSITION OR THE OTHER MUST BE EMBRACED, FOR THE MOST PRACTICAL REASONS. NO GOOD CAN COME OF DEMANDING ABSOLUTE PROOF. THE DEFAULT POSITION REVEALS WHERE MEN OF COMMON SENSE, IN A CERTAIN JURISDICTION, HAVE AGREED TO PLACE THE BURDEN OF PROOF. IT IS THE DENIAL OF THE DEFAULT POSITION THAT MUST BEAR THE BURDEN OF PROOF.”³

- 🌐 The default position (i.e., doing nothing) means that the universal laws of biology, chemistry, and physics will determine the consequences of no action, and the default position will almost certainly involve more misery and loss of human life, plus still more damage to the Biosphere.
- 🌐 In the Maldives, sea level rise⁴ will make these low-lying island uninhabitable. By taking no action, humankind leaves the fate of the Maldivians to the universal laws.
- 🌐 Somalia is at the top of the Failed States Index,⁵ where severe shortages of food and potable water exist.
- 🌐 In some cases, what effective action to take might be unclear; in other cases, the will and motivation to take action may be lacking.





THE TWO MOST ASTONISHING DEFAULT (DO NOTHING) POSITIONS ARE EXPONENTIAL POPULATION GROWTH AND CLIMATE CHANGE.


- 🌍 Humanity has the means to prevent ever more humans from living in misery, but chooses to do nothing.
- 🌍 Humanity has the means to reduce anthropogenic greenhouse gas emissions and is approaching the atmospheric greenhouse gas threshold between dangerous and extremely dangerous almost casually.⁶
- 🌍 Why should humanity believe the doubts cast on scientific evidence after all that scientific research has done for *Homo sapiens*?
- 🌍 Why is an intelligent species avoiding tough choices when doing so will result in catastrophe and misery?
- 🌍 Does humanity want to see how much misery will result or is the present-level, persuasive evidence sufficient to ensure that something should be done?



 **“FOR WHO DECEIVES ME ONCE, GOD FORGIVE HIM; IF TWICE, GOD FORGIVE HIM; BUT IF THRICE, GOD FORGIVE HIM, BUT NOT ME BECAUSE I COULD NOT BEWARE” (1611 Tarlton’s Jests [1844]).**


-  **Why are US citizens so reluctant to defend science that has improved health and well being and agricultural productivity and helped make US workers the world’s most productive?**
-  **The assault on science began to intensify after World War II and has increased into the 21st century.**
-  **Many of the world’s leading scientists fled from Nazi Germany and Stalin’s USSR to the United States because of the assault on science in Europe and Asia.**





FINANCIAL GLOBALIZATION HAS RESULTED IN THE BIOSPHERE BEING TREATED AS A COMMONS WITH MONEY BEING THE PRIMARY ACCESS TO ITS RESOURCES.

-  **The Biosphere's components (i.e., species) are being treated as commodities rather than as components of the planet's life support system.**
-  **The vast disparity of wealth per capita means that the poor, and increasingly the middle class, cannot compete for finite resources (e.g., food) on a finite planet.**
-  **In addition, food production and distribution has been placed in the hands of a few large corporations.**
-  **“... The concentration of wealth is natural and inevitable, and is periodically alleviated by violent or peaceable partial redistribution.”⁷ This situation is not conducive to a society's stability.**

 **A HUMAN POPULATION THAT IS INCREASING EXPONENTIALLY AND A SHRINKING RESOURCE BASE DUE TO DAMAGE TO THE BIOSPHERE ARE ALMOST CERTAIN TO PRODUCE SOCIAL UNREST.**

-  **Inhabitants of compromised regions will inevitably attempt to move to areas they perceive as more attractive, putting more pressure on finite resources in those areas.**
-  **Since biospheric resources are finite in any region, refugees are unlikely to derive much benefit from relocation, but refugees are desperate and not always rational.**

 **“ONE OF HARDIN’S MOST STARTLING CONCLUSIONS (ALSO NOTED BY CHARLES GALTON DARWIN IN 1960) IS THAT, UNDER CERTAIN CIRCUMSTANCES, CONSCIENCE MAY ELIMINATE ITSELF FROM A POPULATION.”⁸**

-  **Survival of civilization requires a commitment to preserve and nurture the Biosphere from all of humanity. Even a few despoilers will not work.**
-  **Global cooperation will be possible only if the number of biospheric refugees is minimal. Even if starving people remain in place, they are a destabilizing factor.**
-  **Humanity is dependent upon the Biosphere and must be responsible for maintaining its health and integrity. Society must be willing to provide funds to monitor the condition of the Biosphere, which is essential to maintain its health and integrity.**
-  **Biospheric resources and services must be shared more equitably.**

Acknowledgments. I am indebted to Darla Donald for transcribing the handwritten draft and for editorial assistance in preparation for publication.

References

- ¹ Engelman, R. 2011. The world at 7 billion: can we stop growing now? *Yale's Environment* 360 18July <http://e360.yale.edu/content/feature.msp?id=2426>.
- ² Oreskes, N. and E. M. Conway. 2010. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. Bloomsbury Press, New York, NY.
- ³ Hardin, G. 1993. *Living Within Limits: Ecology, Economics and Population Taboos*. Oxford University Press, New York, NY.
- ⁴ Cairns, J., Jr. 2010. Lifeboat ethics revisited: what should be the reaction to the Maldives crisis? *Asian Journal of Experimental Sciences* 24(1):17-20.
- ⁵ Failed States Index. 2011. The Fund for Peace, Washington, DC. <http://www.fundforpeace.org/global/?q=fsi>.
- ⁶ Anderson, K. and A. Bows, 2011. Beyond “dangerous” climate change emission scenarios for a new world. *Philosophical Transactions Royal Society A* 369(1934):20-44.
- ⁷ Durant, W. and A. Durant. 1968. *The Lesson of History*. MJF Books, New York, NY.
- ⁸ Cairns, J., Jr. 2005. Biographic memoir, Garrett Hardin. *American Philosophical Society* 149(3):413-419.