

Political Economy Journal of India

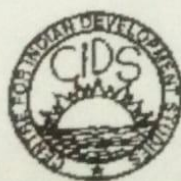
Vol. 28 Issues 3 & 4, July – December 2020, ISSN 0971-2097

Our Motto: Inspire Budding Teachers Excellence in Research

56th Issue

Focus on

Global Carbon Dioxide Emissions in Hamilton Filter Model,
Indio-SAARC Trade Relations: A Trade Potential Approach,
Impact of Firm Size and Paddy-Wheat Cropping System on Diversification
of Agriculture-A Micro Study,
Prompt Corrective Action -A Measure for Financial Sustainability of Banks,
Tribal Women of India: A Note on Their Role in Socio-Economic Sphere,
The Essentiality of Ecology for Economics: A Review Essay on Climate
Change: The Introductory Analysis (Book Review)



Journal of Centre for Indian Development Studies

The essentiality of ecology for economics: A review essay

on *Climate Change: The Introductory Analysis*

Dante A. Urbina

Bhowmik, D. (2019). *Climate Change: The Introductory Analysis*. New Delhi: Shandilya Publications.

The words “ecology” and “economics” share the Greek root *oikos* (eco- in English), which means “house.” In this way, economics can be understood as the science which studies household management. But, in a broad sense, our “house” is planet Earth, the great ecosystem. Consequently, economics cannot be separated from ecology. However, most of economists ignore how ecosystems not only affect but also constitute the economy. In mainstream economics it is conceived that ecological aspects are merely exogenous variables, not endogenous ones.

This is not the case with *Climate Change: The Introductory Analysis* by Debesh Bhowmik. His book performs a rigorous exploration of the different interrelationships between economics and ecology focusing on the great ecological (and economic) issue of our time: climate change. Thus, in chapter 1 he refutes those who deny anthropogenic causality, namely, that human activity has a significant causal role on global warming. In this way, Bhowmik analyzes the evolution of temperature over the past 100 years by considering how climate models predict the temperature if only natural climate changes occurred and finds that the predictions are systematically lower than the actual observed temperature. By contrast, when human causes are considered along with natural causes of climate change, the predictions become remarkably more accurate. So, climate change is not merely a natural phenomenon but rather it is also shaped by human activity in a significant extent. As Bhowmik points out, “scientists have found that the current rate of temperature increase is higher than any previously seen in the last 800,000 years. Evidence strongly indicates that human-driven changes in the atmosphere are contributing to the unprecedented rate of temperature increases” (p. 2).

Then, Dr. Bhowmik discusses how climate change affects different aspects of economic and human development. For instance, he finds that climate change is associated with events such as floods, windstorms, droughts and heatwaves. In this respect, he reports that, while in countries where women have comparable status to men, natural disasters affect men and women equally, the negative impact is stronger on women in countries where they have a low economic, social and political status. In turn, he finds that climate change affects more to the poor than the rich. Thus, for instance, it is found that “food security and climate change are deeply interconnected. If the glaciers of the Himalaya melt, it would affect the livelihood and survival of 300 million people in India and China and up to one billion people throughout Asia. Africa’s small farmers, who produce most of the continent’s food and depend mostly on rain, could see harvests drop by 50” (p. 112). In this way, due to climate change, “the composition of agricultural effects is likely to be seriously unfavorable to developing countries, with most severe losses occurring in Africa, Latin America and India” (p. 138).

Another relevant issue is climate change policy. In explaining a country’s international climate policies, one must consider not only the domestic but also the international political exigencies and conditions. In this respect, Bhowmik notes that, despite the environmental problem is a transboundary problem, it “is not being dominated by the developing countries” (p. 161). Nevertheless, we find that several developing countries have made important efforts. Thus, for example, “while traditionally resisting the international community’s demand for any commitments to be made by poorer countries, India in 2009 approved the Copenhagen

Accord, which required all the major developing countries to implement nationally appropriate mitigation actions” (p. 216). The fact that India have made important efforts in fighting climate change has been preceded by a great moral and spiritual leader: Rabindranath Tagore. About him, Bhomik writes: “Tagore was an environmental pioneer. Rabindranath Tagore first became concerned about man’s impact on the environment after seeing an oil spill at sea on his way to Japan in 1916. The experience provoked Tagore to write at length about his annoyance at the way modern man was failing to respect nature. Tagore was a great teacher of environmental economics as well as an environmental activist” (p. 272).

Tagore was right. In the modern paradigm, economic growth is considered as the main objective for all society, which leads to environmentally damaging patterns of production and consumption. In this way, more economic growth implies more extraction of minerals, more coal for powering new factories, more plastic waste, more oil fueling new cars, more natural gas for heating new homes. However, there is a glimmer of hope because, as Bhowmik notes, “in recent years dramatic improvements in the performance and affordability of solar cells, wind turbines and biofuels (ethanol and other fuels derived from plants) have paved the way for mass commercialization” (p. 220). In order to incorporate environmentally friendly modes of production in our global economy the mere dynamics of the “free market” is not enough. Strong institutions and policies are required. As Bhowmik point out, “the role of international institutions matters in context of policy issues of climate change and its implementations” (p. 305). He also analyzes the issue of climate finance, which considers how much money is needed for mitigation and adaptation, how financial resources will be transferred to diverse recipients in developing countries, how outcomes will be monitored, and so on.

Besides, we have the issue of nuclear energy. Some propose nuclear power as a great solution to climate change by arguing that the generation of electricity by nuclear fission does not lead to greenhouse gas emissions. However, this solution is a delusion. First, because the production of electricity is not the only human activity that generates greenhouse gas emissions. Thus, we must also consider activities such as agriculture, transport, heating, and deforestation. In fact, “the CO₂ released worldwide through electricity production accounts for 9 per cent of total annual human greenhouse gas emissions” (p. 379). On the other hand, it must be considered that nuclear power does not constitute a renewable energy source. As Bhowmik explains, “high-grade, low-cost uranium ores are limited and will be exhausted in about 50 years at the current rate of consumption. The estimated total of all conventional uranium reserves is estimated to be sufficient for about 200 years at the current rate of consumption. But in a scenario of nuclear expansion, these reserves will be depleted more rapidly” (p. 379).

Finally, the issue of taxes is discussed. Bhowmik argues that “carbon taxes offer a potentially cost-effective means of reducing greenhouse gas emissions. From an economic perspective, carbon taxes are a type of Pigouvian tax. They help to address the problem of emitters of greenhouse gases not facing the full (social) costs of their actions” (p. 435). Nevertheless, an objection to carbon taxes is that they can be regressive by directly or indirectly affecting low-income groups disproportionately. But, as Bhowmik proposes, “the regressive impact of carbon taxes could be addressed by using tax revenues to favour low-income groups” (p. 435).

So, in *Climate Change: The Introductory Analysis*, we find not only an “introductory” analysis but also thorough discussions about different aspects of the relation of climate change with inequality, development, food security, institutions, and so on. Consequently, this book is necessary for all economist who want to understand how climate change affects the economy.