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THE 'NATURE' OF DEVELOPMENT STUDIES An Ecological Perspective on Uneven Development

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Introduction: The 'Nature' of Development Studies

This special issue is an effort to align some of the core concerns within development studies with other fields of enquiry where 'nature' plays a predominant role in the broader development discourse. Development studies, in its strictly classical sense, concerns itself with analysing and understanding processes of social change (economic, political, cultural) but also with the planning and managing of approaches for development interventions for a just and equal world. Scholars of development studies maintain that much of the inequalities and uneven distribution of wealth and problems is a consequence of the way the world's political and economic structure is organised (Crush 1995; Rist 1997; Cowen/Shenton 1996; Kothari 2005).

Incidentally, these concerns have not only been the prerogative of scholars of development studies but have been raised by other fields of research as well, namely, ecological economics, social and human ecology, political ecology and human geography. What makes these approaches different is that 'nature' and 'ecology' plays a vital role in their analysis to reveal mechanisms of uneven development and unequal exchange. For example, social ecology views ecological and material impoverishment as embedded in the ways humans interact with their environment at multiple scales. Ecological economics has attempted to illustrate 'ecological' unequal exchange between the industrial core and the peripheral hinterlands as well as between the North and the South, and the impact this has on development options. Political ecology, on the other hand, mostly occupies itself with understanding the relationships between the degradation of resources and marginalisation centred on access and rights over resources, often leading to social conflicts over natural resources. In most of these analyses, biophysical units such as mass, energy, land and

time are proposed as a measure as opposed to the classical monetary units to explain unequal exchange and environmental justice.

As it appears, there seems to be a fairly low level of cross-fertilisation between classical development studies and other interdisciplinary approaches that include ecology as a relevant variable in determining some of the core explanations of poverty and uneven development. This is not to say that the development scholars have been entirely dismissive on the question of nature. Since the late 1990s, there have been attempts to include global ecology in the analysis of the world system perspective, an influential theoretical and analytical paradigm within development studies. According to Chew (1997), the world system approach at first included natural causative forces. Fernand Braudel, especially in his earlier works such as *The Mediterranean and the Mediterranean World in the Age of Philip II* (Braudel 1972), describes the specifics of that society and economy as it grew from the nature of the land. However, world system theorists who followed Braudel failed to include nature in their analysis. Dunlap and Catton, Jr. (1994) maintain that between 1985 and 1990, world system theory, following attacks from voluntarists, historicists, feminists and post-modernists, was beginning to lose favour among social scientists and attention was turned increasingly towards micro-level politics of identity. This was precisely the period during which the environmental debate intensified with our growing knowledge of the ozone hole, destruction of the rain forests and global warming. Stephen Bunker (1985), working on the extractive economy of the Brazilian Amazon, was a lone voice attempting to combine environmental and energy issues with the central issues of world system theory. Prominent world system theorists during this period (such as Immanuel Wallerstein, Samir Amin, André Gunder Frank, Christopher Chase-Dunn and Eric Wolf) treated nature as external and as a backdrop to what they regarded as the principle engine of change, that is, social relations in general and capitalism in particular (Chew 1997).

Since the late 1990s, however, environmental issues have gained prominence within world system theory.¹ For example, Chew (1995) pointed out that the decline of large empires throughout history was attributed to massive deforestation and land degradation. Based on a 5,000-year historical analysis of the rise and fall of the centres of accumulation, Chew (2000: 216) argues that “the limits of Nature become also the limits of the

system [...] the interplay between the limits of Nature and the trends and dynamics of the world system defines ultimately the historical tendencies of world system evolution". Sanderson (1995) also explicitly incorporates environmental factors in order to explain the succession of social forms throughout history. Similarly, Chase-Dunn and Hall (1997) postulate an 'iteration model' that explains ecological degradation within the context of world systems evolution. The model identifies recurring processes linking population growth, ecological degradation, conflict, hierarchy formation, and economic intensification.

The publication of *Ecology and the World-System* (Goldfrank et al. 1999) may be seen as a concerted attempt towards the 'greening of the world system theory'. The organisation of the volume emphasises three ways in which environmental analysis intersects with the long-standing concerns of scholars working within the world systems framework: (1) the emergence of threats to the global environment and of ecological limits to the sustainability of capitalism; (2) the various environmental impacts among different parts of the world economy; and (3) replication and variation among environmental social movements in the contemporary world. In the same volume, Wallerstein (1999) argues that contemporary environmental crisis is attributed to the necessity for entrepreneurs to externalise costs and to the lack of incentives for them to make ecologically sensitive decisions. Moore (2000) has argued that the emergence of capitalism marked not only a decisive shift in the arenas of politics, economy, and society, but a fundamental reorganisation of world ecology, characterised by a 'metabolic rift'.² Moore argues that as new geographical areas were included in the world system under the logic of capitalism, there was a cyclical restructuring and reorganising of the agro-ecological system that intensified exploitation of nature for capital accumulation.

World system theorists have also reacted to neoclassical economists who argue that countries on their path to development will face severe environmental degradation at first. Only after a certain point in economic development will they reach a 'turning point' that signals a move towards improved environmental performance. This hypothesis, termed the *Environmental Kuznets Curve* (EKC) (Kuznets 1955), is challenged by several world system theory scholars. Roberts and Grimes (1997), for example, in an examination of the historical trend over 30 years for national carbon

intensity, report that the environmental Kuznets curve does not represent a historical trend, but is merely a cross-sectional pattern that emerged in the 1980s and that is actually likely to worsen. Burns et al. (1997) discovers that the core and semi-core nations respectively emit the highest amounts of carbon dioxide and methane, the two most important greenhouse gases known to cause global warming. More specific studies on issues such as deforestation and global warming have also been taken up within the framework of the world system perspective. For example, Kick et al. (1996) conclude that whether core countries import or export forest products, they experience less deforestation as a result of their reforestation practices. By contrast, semi-peripheral countries lose either way (by exports or imports), since most of the timber that is imported is utilised in the building of infrastructure to exploit their own forests to meet export demands. This is clearly not a complete list of scholars engaged in analysing environmental issues within world system theory. A few others of interest are: Frey (1993), Barnham et al. (1994), Cicantell (1994), Smith (1994), Gellert (1996), Barbosa (1996), Roberts (1996), Grimes and Roberts (1995) and Jorgenson and Kick (2003).

Apart from research within world system theory, the material basis of social systems has been recognised by development scholars, especially when dealing with rural livelihoods and natural resource conservation. Andrea Kobler's (2009) excellent review of three prominent journals of development studies³ from the 1970s onwards shows a steady increase in the number of articles that explicitly address nature and ecology in their analysis. The theme of natural resource conservation, their management and governance (with respect to agricultural and forest land, water, livestock, wildlife, and fisheries) was addressed quite explicitly in 6 papers in the 1970s, 19 in the 1980s, 46 in the 1990s, and 81 in the 2000s. These were discussed predominantly with respect to rural livelihoods, management of the commons, the importance of recognising traditional ecological knowledge, institutions and environmental governance. The issue of environmental degradation and crisis was reflected in 2 papers in the 1970s, 4 in the 1980s, 8 in the 1990s and 14 in the 2000s. These accrued mostly to land mismanagement and deforestation leading to soil erosion and desertification. An increasing number of papers in the last two decades focussed on urban pollution and waste generation. A few papers discussed

energy security with respect to oil crisis, future availability and price of fossil fuels and its implication for the developing countries, but also exploring options for renewable energy. With respect to the theme of energy, 5 papers were published in the 1970s, 7 in the 1980s, 3 in the 1990s, and 7 in the 2000s. Environment-related conflicts and access to natural resources also featured in these three journals. The authors attributed the analysed conflicts largely to inappropriate policies and higher level interventions with respect to natural resource management. While the theme of environment-related conflicts was only marginal in the first three decades (7 papers in all), some 20 papers appeared in the 2000s with an explicit reference to political ecology. More recently, new themes have emerged within development studies as reactions to broader discourses concerning the environment. Among them, in the 2000s, the theme of natural disasters and vulnerability (6), environmentalism (6), corporate social responsibility (7) and environmental migration (2) seem to be most prominent.⁴

Within the discourse of ‘sustainable development’, there is evidence of pioneering efforts by development scholars culminating in their active participation at the 1992 UN Conference on Environment and Development held in Rio de Janeiro. What followed thereafter was a disillusionment and scepticism over how the debate around sustainable development had evolved. The term itself began to be criticised as being more of a slogan than a theoretical concept guiding even development. Mainstream sustainable development, was perceived as regarding economic growth not as a problem but as a solution, ignoring concerns raised by the ‘limits to growth’ and ‘zero growth’ debates of the 1970s (Redclift 1987; Adams 1990; Sachs 1995; Rist 1997). To scholars of development, sustainable development is inextricably linked to rural livelihoods and the access and control of resources by the rural poor. Meanwhile, a popular approach to sustainable development drew more from the natural sciences rooted in northern environmentalism. Sustainability became synonymous with the conservation and management of the global and regional environment with respect to the earth’s ecosystems, land use, biodiversity, and climate.⁵ A large number of quantifiable indicators began to be proposed to measure sustainability (Hak et al. 2007). Development scholars critiqued the modernist dogma of ‘rational utilization’ and ‘maximizing human benefit’ through technocratic, managerial and capitalist ideologies (Adams 1995). In other

words, to scholars of development studies, sustainable development was at best environmental management through neo-classical and neo-liberal market mechanisms made possible through the appropriate valuation and pricing of natural resources (Woodhouse/Chimhowu 2005). Thus, the initial enthusiasm of development studies scholars within the sustainability debate resulted in a backlash. However, the natural environment continued to feature in several of their publications as noted above, but they downplayed the use of the term 'sustainable development'. While in the 1990s some 15 papers appeared with this term in the three journals reviewed, the use of the term declined drastically in the last decade, and when they did, the term was severely criticised as being vague.

Indeed, ecological issues, the environment and natural resource management are increasingly acknowledged by development scholars in their quest for an equitable world. Whether in critiquing popular paradigms or defining their own agenda of sustainable rural livelihoods, development studies scholars have not remained oblivious to the relevance of nature and the environment in the context of development. However, there is still a great potential to enhance conceptual soundness and methodological insights that might be of advantage to development studies. An increased cross-fertilisation of development studies with other interdisciplinary approaches engaged with similar concerns and ideologies may only be to its advantage. This special issue seeks to introduce some of these approaches and explore the extent to which they can be useful in understanding the process of uneven development, where nature is a major stakeholder. The contributors of this volume by and large attribute unequal exchange as a key mechanism that drives uneven development. In doing so, most contributions emphasise biophysical units as a measure, and thus refer to 'ecological' unequal exchange as it occurs within the world economic order and international trade relations.

The first two papers in this special issue are conceptual in nature. Inge Røpke introduces the emerging field of ecological economics and explores its potential for addressing some of the concerns within development studies. Alf Hornborg argues that unequal exchange between the rich and poor countries takes place by means of an asymmetric transfer of biophysical resources such as energy, matter, embodied land and labour. This is not only fundamental to understanding development gaps, but also

the role of 'technology' as a social redistribution process that presupposes unequal exchange. The following two papers attempt to empirically illustrate the notion of ecological unequal exchange using a number of case studies. Simron Jit Singh and Nina Eisenmenger propose the concept of 'social metabolism' and its operational tool, Material Flow Accounting (MFA) as a means to illustrate ecological unequal exchange by tracking flows of matter in international trade. Anke Schaffartzik introduces the Ecological Footprint (EF) concept and examines how trade is accounted for in EF analysis in order to gauge the utility of the ecological footprint as a tool for quantifying ecological distribution conflicts. The special issue concludes with the contribution of Michael Hauser and colleagues, who take on a complementary approach suggesting local level action as a means to address uneven development. Using a case study from Western Uganda, they argue for a community-led innovation approach in improving small-holder agriculture and rural livelihoods. In other words, uneven development may not only be addressed at the level of macro-level structures, but must be complemented by local action.

- 1 In 1997, the Political Economy of the World System (PEWS) section of the American Sociological Association (ASA) had as their conference theme: The Global Environment: A World System Perspective.
- 2 Developed in preliminary form by Marx and reconstructed by Foster (1999), the concept of 'metabolic rift' illuminates the rupture in nutrient cycling between the country and the city, and within regions on a global scale, in historical capitalism. With the transition to capitalism, products flowed into the cities which were under no obligation to return the wastes to the point of origin. Nutrients were pumped out from one ecosystem in the periphery and transferred to another in the core until its relative exhaustion rendered it unprofitable (Moore 2000).
- 3 These are: *Third World Quarterly*, *Development and Change*, and *Journal of Development Studies*.
- 4 The data presented here is a reconstruction from the empirical work of Andrea Kobler (2009), carried out under the supervision of the first editor. The categories presented here are not watertight and there are some obvious overlaps. However, the decision on categorisation of these papers was based on their dominant theme.
- 5 The four highly influential global environmental change programmes (GEC) are: International Geosphere-Biosphere Programme (IGBP), International Human Dimensions Programme (IHDP), World Climate Research Programme (WCRP), and DIVERSITAS – an international programme for biodiversity science.

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