

Governing Environment

Governing Environment:

*Federal Perspective
from India and Canada*

By

Sanjay Sharma

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By Sanjay Sharma

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Sanjay Sharma

FOREWORD

Federalism is an ever-evolving theory of governance. In recent years, it has generated a new theory of environmental governance and resource sharing where local resources and developmental initiatives are collated as national strengths and resources to be re-shared. The environment as a subject of federal studies involves a critical appraisal of the politics of the environment, the chain relationship between humans and the environment, the community perspective on ecology and associated developmental economics, the policy framework, and the governance structure.

The present work broadly applies federal methodology in delineating a system of environmental governance with special reference to India and Canada. Having originated from a PhD, the present work seminally contributes to the further theory building and policy development on the environment. We have been studying the environment as scientists, economists, and anthropologists. These frameworks have relevance in understanding the environment, but in many respects they produce mono theories, heavily loaded with disciplinary boundary signification. Federal studies ruptures the mono construction of the environment as a restricted unit of knowledge available only to a specialist. Broadly following the interdisciplinary logic of the formation of an idea, the present work is highly relevant in generating a new perspective on environmental studies. This work presents a meaningful departure from the previous frameworks of studies, such as those of Marxists and feminists. It studies the environment as a system that requires careful redrafting and reworking of three structures of relationships between: (i) human and the environment, (ii) resource community and state, and (iii) inter-governmental contestations. I congratulate the author for bringing out such an interesting study, beneficial to students, researchers, scholars, academicians, policy planners, and other stakeholders.

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LIST OF ABBREVIATIONS

- APC Annual Premier Conference.
- BNA British North America.
- CCFM Canadian Council of Forest Ministers
- CCME Canadian Council of Ministers of the Environment.
- CCMM Canadian Council of Ministers of Mines
- CEPA Canadian Environmental Protection Act
- CCREM Canadian Council of Resource and Environmental Ministers

- CEAA Canadian Environment Assessment Act
- CEAA Canadian Environmental Assessment Agency
- CEMA Canadian Environmental Management Authority
- CGWB Central Ground Water Board
- CHT Canada Health Transfer
- CPCB Central Pollution Control Board
- CRF Calamity Relief Fund
- CST Canada Social Transfer
- CZA Central Zoo Authority
- DDP Desert Development Programme
- DGFT Directorate General of Foreign Trade
- DPAP Drought Prone Area Programme
- EFC Eleventh Finance Commission
- EMA Emergency Management Act
- EPA Environment Protection Act
- EPCO Environmental Protection Compliance Order
- EPR Environment Protection Rules
- EPRC Environmental Protection Review Commission
- FMC First Minister Conference
- GEB Gross Expenditure Base
- GSDMA Gujarat State Disaster Management Authority
- GSPCB Goa State Pollution Control Board
- GST Goods and Services Tax
- HMIRC Hazardous Material Information Review Commission
- HPC High Powered Committee

- IEPC Inter Agency Emergency Preparedness Council
- IMD Indian Meteorological Department
- ISC Inter State Council
- IWDP Integrated Wasteland Development Programme
- JEPP Joint Emergency Preparedness Program
- MEMO Manitoba Emergency Management Organization
- MOEF Ministry of the Environment and Forest
- MPCB Maharashtra Pollution Control Board
- MSC Meteorological Service of Canada
- NCCF National Calamity Contingency Fund
- NDC National Development Council
- NDMA National Disaster Management Authority
- NDMP National Disaster Mitigation Program
- NDMS National Disaster Mitigation Strategy
- NDRF National Disaster Response Force
- NEAA National Environment Appellate Authority
- NEC National Environment Council
- NEPA National Environment Protection Agency
- NFCR National Fund for Calamity Relief
- NGT National Green Tribunal
- OSDMA Orissa State Disaster Management Authority
- PCC Pollution Control Committee
- POGG Peace Order and Good Governance
- PSEPC Public Safety and Emergency Preparedness Canada
- SDMA State Disaster Management Authority
- SDRF State Disaster Response Force
- SPCB State Pollution Control Board
- TFC Twelfth Finance Commission
- TFF Territorial Formula Financing
- WBPCB West Bengal Pollution Control Board
- WHMIC Workplace Hazardous Material Information Commission

INTRODUCTION

The primary focus of the present work is to examine the efficacy of federalism and the federal system of governance in managing environmental questions in the contemporary federal polities. In the twentieth century, the environment has emerged as a major concern. The average temperature of the earth's surface has increased by 0.74°C since 1750, and is estimated to increase by 2°C–4°C by the end of the twenty-first century. If the average temperature increases in such a rapid manner then it may lead to many drastic changes in the ecosystem. Many biological species are undergoing the process of gradual extinction. The shifting nature of the eco-balance is causing frequent devastating storms, floods, and droughts. Further, the agrarian belts are shifting due to the rising global temperature. Even agricultural production is expected to drop in the tropical and sub-tropical regions. These changes may disrupt land use and food supply. A rise in the sea level by 18–59 cm in the twenty-first century is also an acute impact of a rising temperature and causes grave consequences, such as the submergence of many islands and coastal areas.¹ Rapid industrialisation and urbanisation are also causing serious concerns of pollution, deforestation, and natural and manmade disasters. From the perspective of biological concerns, one can see the gradual shifting of plant and animal ranges towards the poles and areas of higher elevation; for example, India's apple-growing belt has shifted towards higher altitudes in the last three decades.² One can also witness changes in the lifecycle patterns of many species.

Recently, the Indian Ministry of the Environment and Forests published a report titled “Climate Change and India,” popularly known as the “4X4 INCCA” report. It concentrates on the impact of climate change on key sectors like agriculture, water, natural ecosystems and biodiversity, and health in four regions of India: the Himalayan region, the Western Ghats, the Coastal Area, and the Northeast Region. It gives the following important findings:

- (1) If man-made GHG emissions were completely halted today, the sea-level will continue to rise to the end of this century.

- (2) The annual mean surface air temperature is projected to rise by 1.7°C–2.0°C in the 2030s. The seasons may be warmer by around 2.0°C in the 2030s.
- (3) All the regions are projected to experience an increase in precipitation in the 2030s with respect to the 1970s. The increase is highest in the Himalayan region and lowest in the Northeastern region.
- (4) Irrigated rice in all the regions is likely to marginally grow in yields due to the warming, as compared to the rainfed crops, as the irrigated rice tends to benefit from the CO² fertilisation effect. Maize and sorghum are projected to have reduced yields in all regions.
- (5) Water yield is projected to increase in the Himalayan region in the 2030s by 5–20%. However, water yields are likely to be variable across the Northeastern region, Western Ghats, and Coastal region. In some places in these regions it is projected to increase, and in some places it is projected to decrease.³

The fifth assessment of the intergovernmental Panel on climate Change (IPCC) is in four volumes: Climate Change 2013: The Physical Science Basis; Climate Change 2014: Impact, Adaptation and Vulnerability; Climate Change 2014: Mitigation of Climate Change; Climate Change 2014: The Synthesis Report. The conclusion of the IPCC working groups opens up with Albert Einstein’s statement: “Problems cannot be solved at the same level of awareness that created them.” Its major findings are:

- (1) The atmosphere and the oceans are becoming warmer.
- (2) The amounts of snow and ice have diminished.
- (3) The sea level has risen.
- (4) The concentrations of GHGs have increased.
- (5) CO² concentrations have increased by 40% since preindustrial times from fossil fuel emissions and net land use change emissions.
- (6) The ocean has absorbed about 30% of the emitted anthropogenic carbon dioxide, causing ocean acidification.
- (7) Human influence on the climate system is clear.
- (8) There is high confidence that changes in total solar irradiance have not contributed to the increase in global mean surface temperature over the period 1986 to 2008.
- (9) Continued emissions of GHGs will cause further warming and changes in the climate system.

The report ends with a very influential statement of Mahatma Gandhi: “A technological society has two choices. First it can wait until catastrophic failures expose systemic deficiencies, distortion and self-deceptions ... Secondly, a culture can provide social checks and balances to correct for systemic distortion prior to catastrophic failures.”⁴

There are many other reports that put forward the fact that the environment is degraded by human interventions, and global warming led climate change is its proof. Former Vice President of the USA, Al Gore, through his documentary *An Inconvenient Truth* (2006), revealed the dangers of climate change and its impacts on the habitat and ecology of the earth. In 2010, the World Bank released a report titled “World Development Report 2010: Development and Climate Change.” It examines climate change and its possible impact on the course of development. Last year, on November 24, 2014, the World Bank released a report entitled “Turn Down the Heat: Confronting the New Climate Normal.” It talks about the adverse impacts on the climate if the temperature rises to 4°C, and how these impacts can be controlled by keeping the rise within the level of 2°C. According to Rachel Kyte, World Bank Group Vice President and special envoy for Climate Change, “an urgent and substantial technological, economic, institutional and behavioral change is needed to reverse present trends. Economic development and climate protection can be complementary. We need the political will to make this happen.” Our course of development has degraded the environment, and numerous reports, documentaries, and findings support this.

The emergence of green political parties across the world divulges the importance of environmental issues. The Green Party [Die Grünen] was founded in Germany in 1993 and has received a considerable vote share, participating in various coalition governments, such as with the Social-Democratic Party in 1998. It emphasises sustainable development, renewable energy, and green transport policies. Besides Germany, 18 other European countries like Belgium, Switzerland, Luxemburg, Finland, France, and Austria also have green political parties. Green political parties are also active in Australia and New Zealand. A Green was formed in 1984 in the USA with a mandate for a cleaner and safer world. However, it does not have significant electoral representation as yet. A green party is politically active in Canada and has a significant vote share. There are numerous green parties in Latin American countries, and Brazil had an environmental movement in 1986 that gave birth to the Green Party of Brazil, a coalition partner in the left-wing government headed by Lula Da Silva. In 1992, ecologists of Chile fought the presidential election,

giving a boost to environmental concerns. Chile's ecologists registered the Ecologist Party in 2008 and won a town council seat. A green ecological party was founded in Mexico in 1986 and participated in many elections. Recently, in 2006, the Green Initiative Party was formed in Argentina. The presence of green parties shows increasing concerns among people across the globe about the degradation of the environment. This does not mean that countries without green parties are not concerned about the environment, rather that they may be facing more crucial issues of survival like hunger, illiteracy, social discrimination, and malnutrition. The United Nations also considers environmental concerns and leads the world in improving environmental conditions. The Millennium Development Goals are igniting countries to bring about improvements in gender relations, literacy rates, maternal mortality, and development. Environmental Sustainability is the seventh goal, which is apprehensive about losing forestlands and increasing greenhouse gas emissions.

Unprecedented events like the shrinking lakes of California, the forest fires of Presscoat, Ariz in 2013, the tsunami hitting Japan and Indonesia in 2011, increasing floods in many European countries, the increased duration of summer in Britain, France, and Germany, the water crisis of São Paulo in Brazil, and the recent earthquake in Nepal are evidence of the fact that environment challenges are increasing at local and global levels. This is gaining the attention of people across the world. At the national level, the environmental question requires a concerted effort and coordinated action among different levels of governments. It is not the sole responsibility of any one level. As the environment has inter-regional and transnational ramifications, there is an urgent need for federal management and the sharing of responsibilities. It is in this context that a federal system of governance assumes critical resilience in addressing the question of the environment.

Environmentalists are demanding recognition of nature's right. In this are two different perspectives: homocentric and ecocentric. The homocentric perspective holds that all issues should be explored from the perspective of human interest. On the other hand, the ecocentric perspective emphasises that humans have a responsibility to nature. Nevertheless, how to define the right of nature is a problematic issue. Positively, it entails the retention and maintenance of diverse components of the environment. Negatively, it prevents the exploitation of the environment in any form. It has been argued by political theorists that nature has its own right, and man has a moral responsibility to protect nature's right. The importance of these rights has been recognised nationally and internationally. Internationally, many initiatives have been

undertaken to make nations aware of the environment and evolve international cooperation for its protection and promotion, e.g. The United Nations Conference on the Human Environment 1972, the Rio Earth Summit 1992, and the World Summit on Sustainable Development 2002. It was at the Rio Conference that The United Nations Framework for the Convention on Climate Change (UNFCCC) was formed by the participant states to develop a strategy and initiate actions to control climate change and global warming. While deciding on the respective efforts to deal with climate change, it was agreed that all states do not have equal responsibility as developed states initiated industrialisation, and therefore bear greater responsibilities for addressing climate change. This was principally agreed in by the UNFCCC, and is known as Common but Differential Responsibilities (CBDR). The Kyoto Protocol was an important outcome of this convention. In 1997, the Conference of Parties (COPs) took place at Kyoto, Japan, where the climate change protocol was signed. The detailed rules for the implementation of the Kyoto protocol were formed at the Conference of Parties (COP 7) held at Marrakesh, Morocco in 2001. Its first commitment period was from 2008–12, which is now over. This treaty was renewed with a second commitment period of 2013–20. During this period, industrialised states have to reduce their carbon emissions by 18% to below the 1990 level.

However, there is a renewed debate about the commitment of countries towards the environment. They have divergent perspectives about their roles and responsibilities for environmental concerns like climate change and global warming. Developing countries generally argue that worldwide environmental degradation has taken place due to the excessive exploitation of natural resources and heavy industrialisation by developed countries. On the other hand, developed countries argue that as the environment is shaped by each nation, each has an equal responsibility for environmental protection. This debate was witnessed in the recent COPs of the UNFCCC to address and decide the responsibilities of countries to control climate change. However, in recent COPs, like COP 14 in 2007 at Bali, COP 15 in 2009 at Copenhagen (Accord), COP 16 in 2010 at Cancún (Agreement), COP 17 in 2011 at Durban, COP 18 in Doha in 2012 (Climate Gateway), COP 19 in Warsaw (Poland) in 2013, and COP 20 in Lima (Peru) 2014, there have been deliberate attempts by developed countries to dilute the Common but Differential Responsibilities (CBDR), who want to impose legal bindings on developing countries to share a targeted reduction in carbon emissions. However, in last year's COP 20 at Lima, all countries agreed to bring their

own Intended Nationally Determined Contributions (INDCs) so that 2015's COP 21 in Paris can produce an effective treaty on climate change.

Political Ecology: Theoretical Analysis

Before we proceed further, it is worthwhile mentioning that the environment, as a discipline of knowledge, as a political theory, and as an ideology of interests, is only of recent origin. Most of the historical studies are value-loaded, though they succeed in situating the environment in a divine prescription of the retention of "nature." The environment is a self-conscious field of academic inquiry that emerged with the publication of *Ecology and the Politics of Scarcity* (1977) by William Ophuls, *Ecology of Freedom* (1982) by Murray Bookchin, and *Rational Ecology* (1987) by John Dryzek. These studies mainly revolve around the question of "ethics," a normative theory of the environment. However, Andrew Dobson's *The Politics of Nature: Explorations in Green Political Theory* (1993) is considered a groundbreaking study, presenting a "Political Science" (or theory) of the environment. Dobson presents three sets of arguments: (1) the natural world affects and is affected by political decisions; (2) the politics of the environment is closely linked to the theory of equity and justice in a society; and (3) the environment constitutes a critical site of inquiry, introspection, and policy investment. Subsequent studies are marked by great paradigm divides of liberal, capitalist, and Marxist ecologies. A central analytical concern of both schools of thought is to situate the ownership of natural resources. The protection, preservation, and development of the environment is both *by* and *for* the market, but the latter seeks to retrieve the environment from the state for the society or people—a subaltern mode of ownership and control. In-between the divided paradigm we find a plethora of textual studies where the efficacies of laws on the environment have been examined. Political ecology has emerged as a significant area of study to relate ecology and political decision-making with regard to the environment. Political ecology interrelates human organisation with environmental forces. However, political ecology is not a single political theory, but an accumulation of many theories.

Liberal Theory

The liberal theory of political ecology believes that the freedom of speech and expression is essential for ecological concerns. The liberal theory follows Mill's idea of absolute freedom of thought and expression. It

contends that the freedom of thought brings a consensus about the ways and means of protecting the environment. It maintains that freedom of speech has given space to many international, national, and local organisations like Greenpeace, Oxfam, and the Centre for Science and the Environment. These agencies are playing an important role in creating environmental awareness as well as convincing the government to rethink environmental issues. The liberal theory also believes in the free market economy, and rests upon the Lockean idea that the state should protect the right to life, liberty, and property. Anderson and Leal endorsed the free market economy in their work *Free Market Environmentalism* (2001). They opine that the free market economy is not responsible for environmental degradation, and that critics of the free market economy undermine the adaptive capabilities of human beings. Similarly, the liberal theory also proposes that the right to property is not a hurdle in environmental protection as the individual is more concerned about their private property. Besides, if a community is given control over natural resources, then the individual, as a member of the community, is not responsive to it.

Authoritarian

Authoritarian thinkers believe that there can be only an authoritarian solution to environmental problems. Robert Heilborner in *An Inquiry into the Human Prospect* (1974) mentions three major problems faced by humanity: population growth, the spread of nuclear weapon, and environmental problems. He recommends that religious spirit and military discipline can create solutions to these problems. Most of the authoritarian thinkers rely on the Malthusian thesis of population growth and resource scarcity. Political scholars like Garrett Hardin believe that environmental degradation is caused by population growth and its increasing pressures on the available resources. The authoritarian explanation of ecological problems is not carried forward in academic discourse, but authoritarian tendencies can be located in international discourse where developed countries blame developing countries like China and India for their huge populations as major sources of pollution.

Conservative

Conservatives follow the Burkian philosophy of maintaining traditional values, a slow pace of change, and prudence. Conservative ecological scholars support the preservation of the existing environment and

conserving the available resources. They are against any radical change, and in a way they are apprehensive about the free market economy that is bringing revolutionary change in the human-environment relationship. R. G. Collingwood in *Idea of Nature* (1960) discusses Greek cosmology, the Renaissance, and the modern view of nature. He suggests that nature needs to be protected, and massive interventions on nature will be proven as harmful for humanity. Conservatives are criticised for their anti-change attitude, and this is regarded as an anti-development theory. The conservative theory is also criticised for its pro-elite status quo stand. It advocates non-intervention with regard to the environment and favours the elite, as they want to arrest the further use of the environment for the masses. However, conservative ecological theory has not gained much importance.

Marxist

Marxist political ecology is premised upon the proposition that the bourgeoisie and capitalist modes of production are primarily responsible for the degradation of the environment. The working class has been exploited not only in economic terms but also because of environmental degradation. Marxist philosophy opines that capitalism prioritises profit making and follows the homocentric perspective of ecology. Class antagonism, created by the capitalist mode of production, is oblivious to preserving and conserving nature, and is moving towards mindless consumption at the cost of nature. David Harvey in “The Nature of Environment: The Dialectics of Social and Environmental Change” (1991) explains how capitalism converts social labour and natural product into money. He states:

There is something about money valuation that makes them inherently anti-ecological, confining the field of thinking and of action to instrumental environmental management.⁵

Atkinson, in *Principles of Political Ecology* (1992), emphasises green environmentalism and sustainable development. However, along with many other things, he blames capitalism for environmental degradation. Haila and Levin maintain in *Ecology* (1992) that the social control of production is required to address the environmental issues. Concerning the future of modern society, they maintain that exploiting capitalist class cannot make justice with the environment. Alain Lipietz, in his article “Political Ecology and Future of Marxism” (2000), analyses Marxist ideas and green movements, stating that they have similar platforms as both are

premised upon the “order of existing things.” He interrogates human and nature relationships. Most Marxian intellectuals and labour movements have found a safe transit from red to green ideology.

Dependency theory is another important branch of Marxist political ecology. Dependency theorists like A. G. Frank, F. Cardoso and S. Amin have criticised the stand of modernists. Modernists believe that backward developing states are hangovers from the past, and will develop as soon as they come into contact with developed states. On the other hand, dependency theorists argue that it is the integration and dependence with capitalist developed states that are responsible for the backwardness of most developing states. World system theory is another branch of dependency theory. According to Immanuel Wallerstein, a leading scholar of world system theory, since the sixteenth century a global market has integrated all the cultural systems into a single integrated economic system. In this integrated market system, while profit is generated by primary producers, it is appropriated by capitalists. These theories also blame the capitalist mode of production for the ecological problems at the international level. The question of environmental inequities in India is discussed by Madhav Gadgil and Ramchander Guha in *Ecology and Equity: the Use and Abuse of Nature in Contemporary India* (1995). They contend that different classes in Indian societies have distinctive control and claims over environmental resources. It leads to conflict between them and thereby gives the result to environmental movements attached with different ideologies. They combine political economy with ecology for environmental reforms in the third world.

Communitarian

Communitarianists emphasise a self-reliant community where decision making involves stakeholders. Communitarian scholars like Bookchin, Goldsmith, and Charles Taylor suggest a non-hierarchical, participatory, and egalitarian community where members within the community are capable of addressing and deciding their relations with nature. This is the most contemporary and significant ecological theory. Over time, the rights of first nations and tribals over the natural resources are recognised by different states, e.g. in India in 2013; the exploration of bauxite mining in the Niyamgiri Hills by the Vedanta group has stalled because indigenous inhabitant Dongria Kondh strongly opposed the project. There are many other examples in the rest of the world where the rights of local people have been recognised over natural resources. There is a participatory spirit in managing and using natural resources. Dobson, in *Green Political*

Thought (1990), acknowledges that a communitarian ecological spirit in contemporary debates is prevalent. It curbs the authoritarian tendencies and promotes the participatory solutions for environmental concerns. The participatory spirit is required in national policies and on the international platform of environmental discourse.

Ecofeminism

Ecofeminism represents diverse feminist perspectives for ecology. It focuses on the nature-nurture controversy. Ecofeminism stresses women's links with the environment. It perceives that ritually, ethnically, and traditionally, women and nature have a close and organic link, and both are victims of the oppressive social systems. Ecofeminists contend that women and nature have been deprived of their rights in the past, and both have experienced a hierarchical social order where they are abused to serve the interests of men. Therefore, this subordination of women and nature can be emancipated only in a changed social order where both will be given adequate rights to empower and grow. Rosemary Reuther, in *Integrating Ecofeminism, Globalisation, and World Religion* (2004), strongly believes that feminist and ecological movements should come together to fight the suppression and exploitation of women and nature. She, through her writings, has explored theological perspectives and claimed that Christianity doesn't sanction the oppression of women and abuse of nature. There are various discourses on Ecofeminism. Cultural ecofeminism places women closer to nature in comparison to men. It maintains that the role of women as housekeepers and mothers makes them closer to nature. If given the opportunity, a woman can perform a better role for the protection and development of nature. Radical ecofeminism lays emphasis on the idea of establishing separate women colonies and ending the hegemony of men over women and nature. Shiva and Mies, in *Ecofeminism* (1993), explore ecofeminism from the perspective of increasing industrialisation, which is damaging the environment and role of women in protecting nature. Both stress how women can end the oppression under patriarchy and relate the female movement with other social movements like the environment and illiteracy. They also discuss the north-south debate while locating their role and responsibilities towards the environment. Warren and Erkal, in *Ecofeminism: Women, Nature, Culture* (1997), believe that nature and women can never be liberated from their misery if society is built on the foundation of male domination. They emphasise that existing socio-economic relations need to be reformulated on the principle of equal

rights. Ecofeminism is discussed both as a theory and in how Wangari Maathai of Kenya and Vandana Shiva of India, and many others, are actively involved promoting ecofeminism.

Cultural Ecology

Cultural ecology studies the relations between the environment and the cultural aspects of society. It is premised upon the belief that the socio-cultural set-up of a society is associated with its geographical conditions and weather patterns. Julian Steward, an anthropologist, is associated with the foundation of cultural ecology. In *Theory of Cultural Change: The Theory of Multilinear Evolution* (1955) he discusses the various methods of cultural change. However, he suggests that the cultures of different societies are primarily shaped by the surrounding environment. This adaptation, an important creative process, is called cultural ecology, a concept that has to be distinguished from the sociological concept Human Ecology, or Social ecology. The cross-cultural irregularities that arise from similar adaptive process in similar environments are functional or synchronic in nature.⁶

Cultural ecology emphasises the use of traditional wisdom and practices to protect nature. Paul Ribbins, in *Political Ecology: A Critical Introduction* (2004), writes that politics seeks to unravel environmental access, management, and transformation. He maintains that politics is inevitably ecological, and ecology is inherently political. Madhav Gadgil and Ramchander Guha, in *Fissured Land: An Ecological History of India* (1993), trace the ecological history of India. They analyse how the British during colonial rule deprived people of their environmental rights which they had enjoyed for hundreds of years. Colonial rulers made policies and acts to preserve the natural resources and forced local tribes to move out of their natural habitats. This resulted in many violent conflicts between colonial rulers and local tribes, like the popular Santhal movement in 1855, and the Mopla movement in 1921. Part two of the book deals with the ecological history of India and reveals the relations between nature and culture. Cultural ecology explores the organic relations between people and the environment and warns of the consequences resulting from a disturbance of these relations.

Postmodernist Theory of Ecology

Postmodernists believe that the existing political actions for ecological problems and issues are disillusioning the people. These ecological

movements are market driven and dilute the real problems and the understanding of them. Postmodernist thinkers like Ingolfur Bluhdorn in *Post-ecologist Politics: Social Theory and the Abdication of the Ecologist Paradigm* (2000) contend that existing environmental movements are merely symbolic in nature and do not aspire to address and resolve the environmental problems. He quotes the following two statements at the beginning of his book:

The environmental crisis is in crisis. Someday someone will attempt to establish a career by demonstrating that it only ever existed in people's heads. (Ulrich Beck)

We here propose to do just what Copernicus did in attempting to explain the celestial movements. When he found that he could make no progress by assuming that all the heavenly bodies revolved round the spectator, he reversed the process, and tried the experiment of assuming that the spectator revolved, while the stars remained at rest. (Immanuel Kant)⁷

He suggests that most of the ecological discourses of the modern period are without theoretical foundation. Most of the modern ecologists have lost their natural discourse, and failed to link ecology and society. He tries to link ecology and society by exploring the theory of post-ecologist politics. He reinterprets the ideas of Max Horkeimer and Theodor W. Adorno to analyse their deeper meaning for nature and their links with humans. Thereafter, he focuses on Ulrich Beck's *Risk Society* (1992), where he locates the abolition of nature, which is absent from the work of two earlier thinkers. He likes Beck's work because it contains postmodernist elements, e.g. he replaces the older linear model of modernisation with reflexive modernisation. Finally, he finds that Niklas Luhmann has more postmodernist traits as he provides a non-modernist principle of self-referentiality. In this way, Bluhdorn builds up his theory of post-ecology.

Most ecological studies belong to these categories. The co-relationship between law, the environment, and governance (federal) has hardly been studied. A narrow and pedantic view would not serve the cause of nature. It is in this context that the present study marks a modest departure from previous studies. No specific study here has been referred to for reasons of a loss in the generality of understanding. One finds a complex interplay between the environment as a political theory and federalism as a system of government. Together, they standardise the policy networks of the environment. In other words, a policy study approach is recommended for understanding the complex question of environmental governance. It is in

this context that there is an urgent need to explore a federal theory of the environment.

As generally understood, federalism provides a system of “self-rule plus shared-rule.” Its strength lies in the institutionalisation and constitutionalisation of each dimension of governance. It has a participatory stress. All federal governance is subject to the division of competence on the basis of the recognition of two federal rights: (i) the right to decide, and (ii) the right to act. While the right to decide refers to the decisional autonomy of the units of government, the right to act means executional autonomy. The two forms of autonomy are expected to produce efficient governance (of the environment), which is otherwise impossible within the traditional system of public administration, marked by undue hierarchy, subordination, and desk failure.

A federal system is marked by different degrees of constitutionally protected and coordinated non-centralisation, decentralisation, and deconcentration. The exercise of allocated powers follows a predictable path of decision and action at each level of government or structure of authority, and the better management of time, space, and resources. As a matter of fact, federalism is a key to the core concept of good governance. As the UN definition maintains, good governance consists of the mechanisms, processes, and institutions through which people and civil society articulate their interests, exercise their rights, and mobilise themselves to ascertain political accountability and transparency. Intrinsically good governance is always participatory.

The present work explores the feasibility of federalism as a system of good governance in managing environmental issues. Canada and India have been selected to draw comparative lessons. In a way, the present study uniquely examines environmental governance from the hitherto unexplored perspective of federalism. Simultaneously, for a better conceptual understanding, it examines the different theories of federalism and modes of distribution of powers, authorities, and functions. Accordingly, it prioritises the discipline of federalism from the environmental perspective. Given the symmetrical federal experiences, India and Canada naturally qualify as a domain of study. Issues of the environment have been factorised and classified according to their critical significance in terms of policy choices. The combinatorial structure has been evaluated in terms of the better federal management of the environment. In the process, many new dimensions of federalism and the environment have emerged, which may contribute to the critical mass of knowledge on the subject.

The crucial hypothesis of the present work is that federalism as a system of governance is better suited to deal with environmental

questions. It has been tentatively assumed that federalism can provide an effective solution to the emerging concerns of the environment. This is because federalism essentially provides a model of disaggregated governance without any extensive and intrusive mark of hierarchy. The environment is a concern of the society and polity on the one hand, and the territorial diversification of law, economics, and administration on the other. As the environment is a post-industrial development, classical federalism is not sufficiently equipped to address the question of the environment. As we know, classical federalism is based on a dual-system of rule and disengaged governance, and therefore the theory of federalism needs to be explored according to its generic spirit of “living together.” In the process, the question of centralisation or decentralisation has been contextually analysed. An attempt has also been made to show whether centralisation (or nationalisation of environmental governance) is a virtue or an evil. Rule making in order to standardise policy outlook and to meet treaty obligations may witness a concentration of power at one pole, but its execution can be diversified. Similarly, local resources can be aggregately and creatively planned and mobilised to meet national fiscal deficiencies. Lastly, it has been shown that federalism, as a system of “self-rule and shared-rule,” still holds importance in dealing with the problem of post-industrial and post-capitalist development. Meta narratives have been constitutionally structured where the structure of “authority” has been critically explored.

Chapter Plan

The present work, besides this introduction, is divided into six chapters. The first chapter, “Exploring Theories of Federalism,” makes a modest attempt to situate the theory and philosophy of federalism in order to delineate its central techniques of distribution of competence and its applicability from the perspective of environmental governance. This chapter analyses the different theories of federalism. The theory of peace explores the ideas of Daniel Elazar and Johannes Althusius. Elazar considers federalism as self-governance and shared-governance. On the other hand, Althusius explains that the essence of federalism is association (symbiotics). K. C. Wheare and A. V. Dicey have explored federalism from the vantage point of legality. Their ideas are discussed in the legal theory of federalism. Their analyses rest upon the division of power and the sharing of responsibilities in legal terms. The sociological theory of federalism has been deliberated upon by William S. Livingston and Will Kymlicka, who believe that federalism provides a social union that

maximises individual freedom. The territorial aspect of federalism is analysed by R. D. Dikshit and Duchacek in the spatial theory of federalism. John C. Calhoun and Pierre Joseph Proudhon have worked on the political theory of federalism, which explores the balance between autonomy and integration through political and constitutional means. This chapter also analyses the ways of distribution of competences, mainly the “right to decide” and “right to act” between different levels of governance.

The second chapter, “India and Canada: Twin Federal Nations,” presents a model centric analysis of two polities, particularly concerning their distinctive mode of distribution of power. This generically helps to locate and analyse the federal governance of the environment in their respective polities, tracing the evolution of federal governance in India and Canada and their sharing of competences. India is defined as a Union of States by Article 1 of the Indian Constitution. There are more organic than mechanical relations between the Union and the states in India. This chapter also discusses the various mechanisms by which the centralisation of powers is possible in odd circumstances. Canadian federalism, like the Indian, is non-covenantal. Initially, the division of competence was in favour of the federal government provided by the BNA Act of 1867. However, the later judicial interpretation of clauses and successive acts, like the Constitutional Amendment Act of 1982, have created harmonious relations between the federal and provincial governments. This chapter also analyses the formal and informal conflict resolution mechanisms in Indian and Canadian federalism. Formally, there is a Supreme Court in both countries for judicial resolution. The interstate council in India and the First Minister's Council in Canada are discussed as non-judicial mechanisms for the cooperation and resolution of inter-governmental disputes.

The third chapter, “A Federal Investigation of the Environment,” analytically situates the key concerns of the environment from the federal perspective. The issue of the environment has been analysed through a critical appraisal of legal constitutional provisions, policy frameworks, and institutional mechanisms in two polities. In India as well as in Canada, the environment comes under the competence of federal units. However, in the later period, federal governments have brought the environment under the shared competence. Besides all this, the environmental laws of both countries are discussed. The chapter reveals that Indira Gandhi, the Indian Prime Minister, participated in the United Nations Conference on the Human Environment in 1972, and thereafter many environmental laws like the Wildlife (Protection) Act, 1972, the Water (Prevention and Control of Pollution) Act, 1974, the Water (Prevention and Control of Pollution) Cess

Act, 1977, and the Air (Prevention and Control of Pollution) Act of 1981 were passed. Environmental laws in Canada are discussed under different categories like Generic Environment Legislation, Environmental Impact Assessment Legislation, Environment Protection Legislation, Legislation on Pollution, and Legislation on Natural Resources. In addition to environmental laws, the environmental regulation agencies of both federal polities are also discussed.

The fourth chapter concerns "Federal Governance of Disaster," a late entry in federal discourse that is exhaustively analysed, and comparative experiences are suitably explored. Disaster management is analysed from the perspective of federal and provincial acts, policies, and the collaboration between the federal-provincial governments. In India, the Disaster Management Act was enacted in 2005, providing for national, state, and district disaster management authorities. The legal provisions and practical implementations of disaster management are also discussed.

In a similar vein, "Hazardous Waste Management: A Federal Analysis," is explored in the fifth chapter. This chapter analyses the specific issue of hazardous waste in both federal polities. Hazardous waste is an important and seldom discussed environmental issue. This chapter finds that both federal polities do not have any laws that directly address hazardous waste. Hazardous waste management is part of many acts like the Port Act 1908, the Custom Act 1962, the Environmental Protection Act 1986, and the Foreign Trade Act 1992 in India. Similarly, in Canada hazardous waste management is covered by the Fisheries Act 1985, the Canadian Environmental Assessment Act, the Canadian Environmental Protection Act (CEPA) and the Federal Toxic Substances Management Policy. Varied authorities in both federal polities are explored in this chapter.

The last chapter, "Fiscal Federalism and Environmental Governance," explores the fiscal dimensions of the problem under study. This chapter explains that federal polities require the distribution of resources on the revenue distribution and sharing of expenditure responsibility. It also analyses how the federal government generally owns a large share of revenue in order to maintain equity and efficiency in the national economy. The sharing mechanisms of environmental and disaster management cost in India and Canada are also discussed. In India, various recommendations of different finance commissions are analysed. The latter half of the chapter analyses the "Main Estimates" related to the environment of Ottawa and provincial governments.

It is a modest confession that the present work might have overlooked many other important dimensions, but given the scope of the study an