

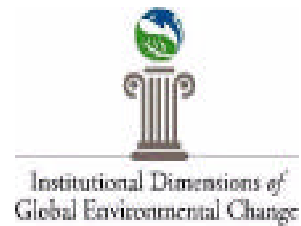
**Institutional Dimensions of
Global Environmental Change**

IDGEC

**The Political Economy of
Tropical and Boreal Forests**

By

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ACKNOWLEDGMENTS

This report was prepared under the guidance of IDGEC's Scientific Steering Committee, including: Oran Young, Chair, Dartmouth College, USA; Russell E. Reichelt, Vice-Chair, Australian Institute of Marine Science, Australia; Elena Andreeva, Russian Academy of Sciences, Russian Federation; Scott Barrett, John Hopkins University, USA; Angela Cropper, The Cropper Foundation, Trinidad and Tobago; Alf Håkon Hoel, University of Tromsø, Norway; Leslie A. King, University of Northern British Columbia, Canada; Paul Mathieu, Université Catholique de Louvain, Belgium; Madiodio Niasse, World Commission on Dams, South Africa; Suparb Pas-ong, Walailak University, Thailand; Peter Sand, University of Munich, Germany; Agus Sari, PELANGI, Indonesia; Merrilyn Wasson, Australian National University, Australia; Yoshiki Yamagata, National Institute for Environmental Studies, Japan.

We would like to thank the following reviewers for their helpful comments and insights: Anan Ganjanapan, Chiang Mai University, Thailand; Dr. Helmut Geist, LUCC IPO; Phil Hirsch, University of Sydney, Australia; Professor Franz Schmithuesen, Swiss Federal Institute of Technology; Professor Peter Dauvergne, University of Sidney; Professor Clark Gibson, Indiana University.

The development of this Scoping Report has been made possible through generous funding provided by the US National Science Foundation grants nos. BCS-9912441, and 0080786, the International Human Dimensions Programme on Global Environmental Change, and Dartmouth College.

Institutional Dimensions of Global Environmental Change (IDGEC) is one of the Science Projects of the International Human Dimensions Programme on Global Environmental Change (IHDP). The core of the IDGEC project is an analysis of the roles that social institutions play as determinants of the course of human/environment interactions.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation, the IHDP Scientific Committee, Secretariat, nor its sponsors, ICSU (International Council for Science) and ISSC (International Social Science Council).

EXECUTIVE SUMMARY

THE POLITICAL ECONOMY OF TROPICAL AND BOREAL FORESTS

The state of the world's forests is an emerging global issue. Global environmental changes, and the social, economic, and political processes of globalization that help drive them, are now influencing local forest conditions and management practices. At the same time, political changes and alliances are facilitating the evolution of novel institutions and the interplay between institutions from different levels of governance. Some of these alliances are clearly aimed at facilitating further exploitation of forest resources and promoting economic development, whereas others are aimed more at controlling or mitigating some of the environmental and social impacts of these transformations. At the international level, a number of environmental regimes, such as the Kyoto Protocol and the Convention on Biological Diversity, are evolving in ways that potentially could have a major influence on forest-land development strategies of nations. At more local levels, decentralization is facilitating what is in some cases a return to more community-based rather than state-centered forms of forest management.

The immediate goal of this scoping paper is to identify key research questions about the role of institutions in modifying the drivers of environmental change in the tropical forests of Southeast Asia and the boreal forests of Canada, the United States, and Russia. We begin our analysis by presenting a framework in which systems of forest governance and forest management practices are seen to modify the influences of the political and social structures and processes, driving changes in forest land use and conditions. Changes in forest condition and the social outcomes of forest management and land uses, in turn, influence the institutional drivers of future changes in a system that feeds back on itself.

Using this framework, we identified priority research questions collected under three inter-related themes: (1) political institutions—effect of decentralization; (2) economic institutions—effect of globalization; (3) environmental institutions—effects of environmental regimes.

The proposed key research questions are:

1. *Under what social and environmental conditions does decentralization result in better forest management practices and outcomes?*
2. *Why do some forms of resource tenure promote sustainable forest management practices and outcomes, whereas other institutional arrangements lead to forest degradation?*
3. *Under what conditions does integration in the global economy lead to more sustainable management of forests?*

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4. *Is the interplay between global and local markets on the one hand and between state and civil society on the other reinforcing, antagonistic, or irrelevant to sustainable forest management?*
 5. *Under what circumstances do international environmental regimes reinforce, or conversely, counteract the intentions and activities of local forest management practices?*
 6. *How can the various international environmental and trade regimes be redesigned so that they interact in ways that will facilitate sustainable and just management of forests and forest lands?*

The social scientists working to tackle this ambitious and multidisciplinary set of questions will need a carefully thought-out strategy. We suggest that the initial emphasis should be placed on building on existing networks in these regions; for example, on resource tenure systems and international institutions. Priority should be given to groups of projects that explicitly seek to explore the linkages between the political economy of forest issues and global environmental changes. Researchers will need a wide variety of study designs and methodologies to understand the interplay of institutions at various scales implied by this research program. As the ultimate goal is to make a contribution toward improving forest governance, it will be important to involve some representative and key stakeholders in design, implementation, and reporting of the program.

INTRODUCTION

Rationale

The state of the world's forests is an emerging global issue. Global environmental changes, and the social, economic, and political processes of globalization that help drive them, are now influencing local forest conditions and management practices. Trade in timber products continues to grow rapidly and consumptive demand from the wealthiest importing nations shows few signs of weakening. At the same time, political changes and alliances are facilitating the evolution of novel institutions and the interplay among institutions from different levels of governance. Some of these alliances are clearly aimed at facilitating further exploitation of forest resources and promoting economic development, whereas others are aimed more at controlling or mitigating some of the environmental and social impacts of these transformations. At the international level, a number of environmental regimes, such as the Kyoto Protocol and the Convention on Biological Diversity, are evolving in ways that potentially could have a major influence on forest land development strategies of nations. At more local levels, decentralization is facilitating what is in some cases, a return to more community-based rather than state-centered forms of forest management. At these different levels, forests are defined and valued differently. Institutions can thus be seen as both causes of and solutions to problems of deforestation (Bromley 1999). It is in this context of global and local changes that we address some of the key issues in the political economy of tropical and boreal forests.

Although we recognize that many of the issues are global in scope, in this paper we focus on just two critical regions, the boreal forests of Canada, United States and Russia, and the tropical forests of Southeast Asia. The two focus regions provide an interesting mix of natural and institutional realities and challenges.

Rapid economic growth over the past few decades in Southeast Asia has been accompanied by rapid conversion of mature forests to secondary forests, plantations, and agriculture. The current status of forests, in terms of cover and conditions, however, varies substantially among countries within the region, reflecting differences in histories of exploitation, wars, and original resource endowments (Table 1). The loss and fragmentation of original forest cover is a global issue because of the high levels of endemic biodiversity in the region.

In contrast, forest cover in the boreal region has remained relatively stable. There is growing concern, however, that the former Soviet-bloc countries will be integrated rapidly into the global economy once political stability conducive to investment is achieved, and that this, in turn, will lead to rapid and non-sustainable exploitation of these forests.

The boreal and tropical forests of the world will play a critical role in the regulation of the future climate of the Earth. The tropical forests of Asia could potentially sequester a substantial amount of additional carbon, as many parts are well below potential maximum biomass as a result of human activities such as logging. The boreal forests, for example, contain 40 percent of the world's

Table 1. Forest Cover and Present Forest Cover as Percent of Original Forest Cover in Southeast Asia and the Boreal Region. Figures in parentheses indicate losses or negative changes.

Country	Forest Cover in 1995 (hectares)	% Annual Change in 1980–1995	Frontier Forest ^a Cover as % of Original Forest ^b (1996)	Present Forest ^b as % of Original Forest (1996)
Tropical forests				
Cambodia	9,830	(2.71)	10.3	65.1
Indonesia	109,791	(1.18)	28.5	64.6
Lao PDR	12,435	(1.41)	2.1	30.0
Malaysia	15,471	(2.83)	14.5	63.8
Myanmar	27,151	(1.75)	0.0	40.6
Philippines	6,766	(3.96)	0.0	6.0
Singapore	4	0.00	0.0	3.1
Thailand	11,630	(3.58)	4.9	22.2
Vietnam	9,117	(1.45)	1.9	17.2
Boreal forest				
Canada	244,571	0.10	56.5	91.2
Finland	20,029	(0.10)	1.1	82.3
Iceland	11	0.00	0.0	0.0
Norway	8,073	0.30	0.0	90.4
Russian Federation	763,500	0.00	29.3	68.7
Sweden	24,437	0.00	2.9	86.0
United States ^c	209,572	0.30	6.3	60.2

a. Frontier forest refers to large, relatively undisturbed forest ecosystems.

b. Original forest is estimated to be that which might have covered the planet 8,000 years ago given current climate conditions. Current forest includes frontier and non-frontier forests.

c. Reflects the whole United States, though the boreal forests are confined to the Alaskan region

reactive soil carbon (McGuire et al. 1995). The long-term effects of sequestering carbon in forests, however, depends greatly on management practices, and also on the impacts of future climate change, for example, on tree demography and disturbance regimes like fire. Thus, the boreal forests could be either part of the “missing link” of CO₂, if they are accumulating carbon (Ciais et al., 1995; Myneni et al., 1996; Randerson et al., 1998), or a carbon source, if recent warming trends enhance fire frequency or decomposition more than they enhance plant production (Kasischke et al., 1995; Kurz and Apps, 1995; Zimov et al., 1999).

Boreal and tropical forests are managed under dynamic and diverse political structures and processes. The boreal forests are basically governed by two contrasting political and economic systems: the Canadian and Alaskan blocks being governed by a western-style democracy existing in a predominantly capitalist system, whereas the Russian block is governed by a socialist-dominated economy that is gradually opening up not only to market forces but also to less-restrictive political arrangements. Southeast Asian tropical forests exist in a setting characterized by equally diverse modes of governance ranging from Western-style democratic systems to systems governed by military juntas. In both

regions, economic development has been strongly influenced by foreign investments and fluctuations in financial markets.

Goals and Approach

The immediate goal of this scoping paper is to identify key research questions about the role of institutions in modifying the drivers of environmental change in the tropical forests of Southeast Asian forests and the boreal forests of Canada, United States and Russia. The ultimate goal is to develop a research agenda that will contribute toward improving forest governance.

We begin our analysis with a simple framework and then proceed to identify key research questions under three broader research themes, namely decentralization, globalization, and environmental regimes (e.g., Pasong and Lebel 2000). The paper ends with a summary of the proposed research agenda and some suggestions on how it might be implemented.

Conceptual Framework

Systems of forest governance and actual practices modify the influences of the political and social structures and processes, which ultimately drive changes in forest land use and conditions. Changes in forest condition and the social outcomes of forest management and land-uses influence the institutional drivers of future change in a system that feeds back on itself (Figure 1).

Political transformations involve changes in the power relationship among various social groups and institutions in society. Key social actors include the state, central and local governments, local communities (farmers, ethnic minorities, logging industry employees), nongovernmental organizations, the military, and domestic and international business.

Environmental governance is the way that society deals with environmental problems, and involves the interaction of formal and informal institutions and actors within society. Forest governance includes such mechanisms as systems for granting concessions for logging or the right to convert forested lands to plantations and agricultural uses.

Forest management practices are the actual activities carried out by resource managers, whether or not they are congruent with the systems of forest governance. These practices determine the actual forest and social outcomes of alternative forest-land uses.

Finally, important feedback to forest governance arises from changes in the biogeophysical conditions of forests. In fact, one of the main impetuses for institutional development and evolution is expected to be changes in the perceived state of forest resources or threats to them. Future threats include regional environmental changes, such as acid deposition, and global environmental changes, such as changing climate and atmospheric conditions.

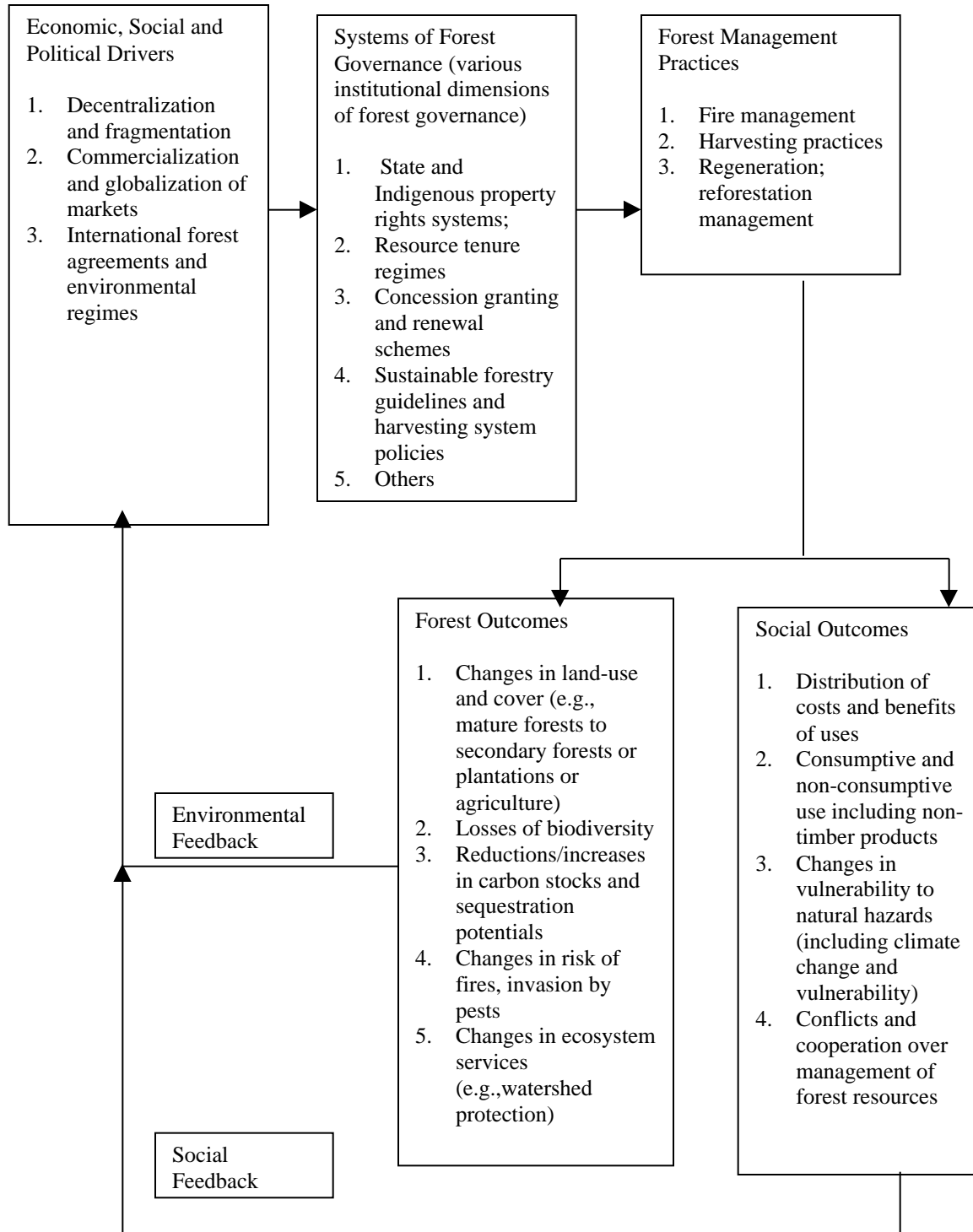


Figure 1. Conceptual framework describing how the relationships among the institutional drivers of changes in forest conditions and social outcomes are modified by systems of forest governance and actual management practices

Research Themes

We begin our analysis by presenting a framework in which systems of forest governance and forest management practices are seen to modify the influences of the political and social structures and processes, driving changes in forest land use and conditions. Changes in forest conditions and the social outcomes of forest management and land uses, in turn, influence the institutional drivers of future changes in a system that feeds back on itself.

Theme 1: Political Institutions—Effects of Decentralization

The manner by which power is distributed between the state and other actors is an important factor that cuts across many issues, including how forests are defined, how benefits and costs are distributed, and how rules are made. Among the emerging institutional arrangements in forestry are political and administrative reform in which central state agencies or provincial administrations are devolving power to more local bureaus, local communities, or civil society actors.¹ Openness and a larger degree of freedom and participation in the public policy process are observable in most countries in the Southeast-Asian region, except perhaps Burma. Although accountability and transparency in public affairs are not yet the rule, social countervailing forces are growing.

RULE MAKING. The processes by which rules are made, either through state policies or through customary laws and traditions, are functions of the manner by which power in society is centralized or decentralized. The process of state building in Southeast Asia can be characterized as the expansion of state power by first sequestering away from local communities and civil society the power to legitimize institutional arrangements, and then transferring it to a body, which we call “government.” The state, thus, has always been the dominant mode of institutionalizing power, since it is the institution that is bestowed with the sole authority to possess legitimate and coercive power. In most tropical countries, forest resources have always been considered as state domains and properties, as comprising part of the national patrimony.²

The military, with an influential role in political institutions and also in business, has played a key role in the development of forest and land resources in many Southeast-Asian countries. The threat of force has been a potent weapon in stifling internal and external political debate about forest lands, and the lack of accountability has provided opportunities for corruption. Under military influence power over natural resources shifts from other stakeholders to the military and its business cronies. The use of force as a means of coercion secures the interests of the military elites, who in turn protect business interests, in what is called “crony capitalism.” Under this pattern of political change, public property rights as well as traditional systems of property rights are often disregarded by the military elites. Resource use under such conditions is unsustainable. Depletion of forests in Thailand, (Laos, Cambodia), and Indonesia during the 1960s to the 1990s may be attributed to large extent to military dominance in the governments.³

However, states do not exercise monopolies of power over “rule-making” over forest resources. Local communities that are traditionally forest-dependent have developed and long upheld mechanisms and processes, or what can be called “institutional arrangements,” which govern the allocation of access and control rights over these resources.⁴ Property rights and tenurial systems are much better defined as bundles of rights that govern access and use, widely understood by community members to be legitimate, rather than as fixed documents of ownership issued by the state to its citizens. The difference in the source of authority, with that of the state derived from law and that of civil society derived from custom and collective consciousness, undoubtedly leads to differences in the manner by which forests are managed, and consequently their condition. Here, it must be emphasized that state organizations as well as civil society institutions exist at both national and local levels.

Such common property rights to land are often transformed to public and later private property. This transformation of property rights has profound implications for land use, and therefore environmental change. Simultaneously, it has abolished or disregarded the pre-existing forms of property rights. Other forms of pre-existing property rights in societies, thus, have been affected in different ways. Communal property rights on forest land and coastal resources, for example, are largely unrecognized, and have been superseded by public and private property rights (e.g., Peluso, 1993; Lynch and Talbott, 1995; Magallanes and Hollick, 1998). Open-access rights that had been in existence among indigenous people long before the emergence of the claims of local communities or the state have been affected. The state, or private firms with sanctions or concessions from the state, often claim open access areas. Large-scale exploitation of forest resources by governments or business often causes conflicts between people whose livelihood depends on these resources and government or business.⁵

One of the impacts of globalization is the weakening of state power and autonomy (see Theme 2). While one of the results of this is the further insertion of the state into the global system, and the exposure of policies, including forest policies, to regional and global imperatives, this also leads to the increased power of civil societies. However, there is a danger in this trend. State-induced policy reform, while opening up the domain of “rule-making” to include civil society structures and processes, may also corrupt the integrity of civil society systems of “rule-making.”⁶ Furthermore, a possible backlash is that the state will take up more conservation-oriented policies as a response to environmentalism, at the cost of livelihoods and other social development concerns for local communities. In Thailand, the shift of policy from logging to the establishment of national parks threatens the welfare and livelihoods of many communities. The impacts of this on resource quality and social welfare and entitlements are a fertile area for inquiry, although data on the adverse effects of colonization and cultural dislocation abounds.

It is in this context, therefore, that a rigorous political analysis is required to support any conclusion vis-à-vis the impacts of the transformation in “rule-

making” processes. Democratization and policy reform, while steps in the right direction, may create processes that compromise the interests even of the sectors that are supposed to benefit from these reforms. Dubash and Seymour (1999) argue that the use of environmental adjustments by the World Bank can be enhanced through a clear understanding of the political landscape of recipient countries, by identifying the “domestic constituencies for forest reform, and the external agents who could be mobilized around forest reform” (p. 15). In addition, the analysis should include an appreciation of the dynamics of power relations existing between and among stakeholders at all levels.

ACCESS TO BENEFITS AND EXPOSURE TO RISKS. In the rhetoric of political leaders, forests are considered part of the national patrimony and are managed for the common good on a sustained basis. Political leaders are supported in their task by science carried out in departments of forestry. This collaboration implies that a public resource like the forests should be managed to benefit the public good, or at least the good of the substantial majority. The multiplicity of goods and services that can be derived from forests and forest lands creates a complex scenario not only in terms of the technical requirements for management but also of the political requirements necessary to handle a multi-stakeholder situation. In practice, however, political actors are often primarily concerned with maintaining political power and controlling the allocation of resources, including lands, government contracts, and loans, and redirecting them to the benefit of themselves and their supporters.

The recent history of forest governance in Southeast Asia has facilitated centralized command and control systems in which substantial benefits are captured by the private sector, and have often placed the relevant public and marginalized sectors at risk. As Menotti (1998) argues, this mode of benefits distribution can be further exacerbated during crisis conditions, with the forests becoming even more vulnerable as sources of capital for states deeply in debt. Forests become attractive sources of foreign exchange earnings that can be used to stabilize currency markets. In a situation of liberalized forest trade, enormous pressure will be exerted to exact from the forest the maximum possible value. If unfettered, such practices may greatly compromise not only the forest’s ecological health but also the social and economic health of communities that are dependent on it.

Data show that the present forest governance regimes in Southeast Asia are characterized by heavy state subsidies.⁷ A similar trend also occurs in countries with boreal forests.⁸ Governments are losing while private logging interests are reaping the benefits. These foregone revenues could have been used not only for social development of forest-dependent communities but even more appropriately to finance environmental restoration and forest protection activities.

It is important to emphasize that the emergence of community forestry is a complex process. While it is true that states lend legitimacy to community forestry, local peoples have organic community capacities to manage their resources, which ironically are threatened when states formalize these into a policy. It has also been shown that collective action from communities, or as

facilitated by mediating civil society institutions such as nongovernmental organizations (NGOs), help facilitate the development or reorientation of policy toward a more community-based focus. The emergence of community-based forest management, wherein the state decentralizes forest management to local communities, has opened up access to benefits by forest-dependent communities.⁹ Communities are granted tenure and are organized to protect the forest through either preventive or restorative intervention strategies.¹⁰ However, this becomes problematic when existing state regulations prevent communities from engaging in extractive activities and when alternative livelihood options are not sustainable due to the absence of viable markets. Forest-based communities are vulnerable to rent seeking by civil-society intermediaries that are involved in social and technical preparatory activities. Consultancy firms, as well as third-party NGOs, participate in the implementation of community-based forest management projects as assisting professionals and intermediaries performing indirect and facilitating labor. However, studies in the Philippines show that in some cases, these intermediaries extract excessive and unwarranted rents (up to 40 percent in some instances), which greatly compromises the delivery of project services not only for the social development of the community but also for the protection and management of the resource (Contreras 1994, 2000; Marquez 1994; and Rico 1996). What aggravates this is the fact that in most instances, community-based forestry projects are funded by the Official Development Assistance (ODA) sources, some of which are loans that have to be repaid.

Most forest management strategies are mainly limited to technical management concerns, and do not include social development issues, particularly health, education and protection of rights, including those pertaining not only to resource use but also to broader human rights concerns. Since a significant relationship exists between social development and resource management, there is a need to strengthen the knowledge base for these relationships through research, particularly of the marginalized and vulnerable sectors such as landless peasants, indigenous peoples, women, and children.

Research Questions:

Under what social and environmental conditions does decentralization result in better forest management practices and outcomes?

Why do some forms of resource tenure promote sustainable forest management practices and outcomes, whereas other institutional arrangements lead to forests degradation?

Theme 2: Economic Institutions—Effects of Globalization

As society becomes more market oriented, and the formal political institutions evolve to facilitate commerce and market expansion, *de facto* control over land-use decisions shifts toward business.¹¹ Patronage networks help build close links between politics and business and help further the goals of their members. Pre-existing local property rights systems are often swept aside in the interests of “the state” and business. The extent to which government intervenes and tries to control the market varies, but in time, and as global forces become more important, government’s effective role is reduced or transformed (see Theme 1). Concern over environmental degradation leads to central intervention in the form of spatial land-use planning and environmental impact analyses, and at the international level, to regional agreements. The ability of governments to effectively implement these plans and guidelines, however, remains quite limited.

The structure of the timber political economy in Southeast Asia is characterized by the dominance of corporate forestry in countries that are also timber exporters.¹² In 1996, Indonesia was the Sixth and Malaysia the eighth largest exporter of forest products in the world (WRI, 1998). The timber economies of Indonesia and Malaysia largely rest on heavy state subsidies on logging and plantation forest estate which are controlled by rent-seeking elites, even as community-based forestry is only paid lip-service.¹³ Corruption is noted to be high in Indonesia, effectively hampering forest protection and law enforcement (Transparency International, 1999).¹⁴ With the development of state and private forest industry in Indonesia, forest lands have been seen as, in turn, a timber resource for exploitation by logging, as land to be converted to grow trees for pulp, paper, and plywood industries, and more recently for the development of oil palm plantations. Many of these transformations have been mutually reinforcing, with the key outcome of conversion of native mature forests to secondary forest, tree crops and other uses.¹⁵ Thus, today, non-timber exports such as oil palm surpass timber as the main export-earning primary commodity.

Two key environmental problems are associated with this transformation of forests and forest lands. The first is that the rate and scale of these transformations, and in particular, rates of extraction of logs, has been clearly unsustainable, even without any consideration of impacts on biodiversity. The second is that many of the “reforestation” and “downstream” processing schemes have not only failed to restore degraded lands and protect remaining forests, but have often facilitated more intensive and wider conversion of productive forest land.

Further liberalization of the timber trade may either encourage or compromise progress toward sustainable forest management. Eliminating tariff barriers, for example, can provide incentives for tropical timber production in Indonesia and Malaysia, and in Canada for its boreal forest production, although there is reason to believe that lowering tariffs may have negligible effects inasmuch as the current tariff structure in timber is already fairly liberalized at

low levels. Nevertheless, in situations wherein timber production occurs in an atmosphere of rent-seeking, weak environmental laws, and lack of recognition of community rights, any move toward increased production can intensify negative environmental and social impacts. This is the problem that may be faced by trade liberalization not only in timber but also for non-timber forest products.

Financial instability and recession create opportunities for foreign investors to gain access and control forest lands for logging or conversion. The declining economy of the former Soviet Union, for example, has encouraged foreign timber companies to invest in Russian forestry operations and has increased the timber flow to Japan and Korea. Large-scale forestry operations have also increased in boreal Canada. The efforts by transnational corporations to develop new sources of revenue and of northern regions to develop cash economies have led to increased forest harvest, with the short-term goals of increasing revenues, and with relatively little concern for the long term sustainability of these forests (Chapin and Whiteman 1998). A similar situation developed in Indonesia following the regional economic crisis in Asia, which in itself was a product of globalization of speculative financial markets (currencies and shares). The structural adjustment programs of the International Monetary Fund continue to facilitate what is effectively a transfer of control over forest land and resources.

Concern over further depletion or degradation of forest resources in one country may become an external driver for deforestation in another. Thus, Thailand has increasingly relied on timber from neighboring Myanmar, Laos and Cambodia. Most of this timber is extracted and transported illegally across the border. The banning of logging operations in Thailand had the effect of relocating the operations to its neighbors. In the absence of well-defined regulatory mechanisms, and in the context of political systems that are confronting insurgency problems, as in Myanmar, cross-border logging and timber trade have led to the dislocation of local communities, as well as the use of forest policy to justify military operations.

Likewise, limited natural resources in Japan have led its large trading companies to pursue active trade importation from resource-rich countries such as those in Southeast Asia.¹⁶ These include many of the world's largest companies. Most function as trade intermediaries and thus have substantial influence over trade networks. Their success has depended on importing huge volumes of natural resources, and by switching suppliers as sources run out. The chain of business linkages is long; logging is done through a complex chain of sub-contracting, often facilitated by patron-client relationships. One consequence is that the logging business has been able to evade taxes and royalties. Another is that illegal and destructive logging practices have been widespread. Corrupt patron-client networks have facilitated these unsustainable logging practices. The net result has kept prices low and the flow of benefits to the communities in the developing countries much smaller than it should have been. (Repetto 1988).

A strong and growing forestry industry, however, does not have to wait for concerns about resource levels at home to spread its operations offshore. Profit incentives and a growth strategy are sufficient. Thus, Malaysian companies are now actively logging forest in Pacific Island states.

It is clear from the above discussion that a meaningful intervention strategy requires a strong knowledge base on the interplay between global and local market forces and the linkages between state and civil societies. Researchers and policy-makers need to understand the dynamics of these relationships, as either reinforcing, antagonistic or irrelevant. Data indicate that global market processes such as trade liberalization reinforces the corporatist mode of forest production and governance at the local level, as in the case of Indonesia and Malaysia. This same process may antagonize the environmental and social agenda of local civil societies, and may contradict community-based forest management interventions that are now strong in the Philippines and Thailand. These may also put further stress on forest resources.¹⁷

Research Questions:

Under what conditions does integration in the global economy lead to more sustainable management of forests?

Is the interplay between global and local markets on the one hand and between state and civil society on the other reinforcing, antagonistic, or irrelevant to sustainable forest management?

Theme 3: Effects of International Environmental Regimes

In Theme 2, we saw how globalization had important implications for forest conditions and social outcomes, through the activities of international finance and business, and facilitated by regional and global institutions promoting further liberalization of trade and investment. In situations where environmental protection are weak or poorly enforced, or local communities and civil society have little power, a common expectation is that liberalization may lead to worse forest and social outcomes. International agreements potentially could provide some counterpoint to these forces of change from outside the borders of traditional forest management units. Thus, the central question addressed in this theme is: *How can international environmental regimes promote sustainable management of forests and forest lands in a just way?*

The logging industry has already made a start. The International Tropical Timber Organization (ITTO) was created as a result of the 1984 International Timber Trade Agreement (ITTA), which was renegotiated in 1994. Facing adverse changes in forest quality, all members have agreed that by the year 2000 they would only export or import tropical timber from “sustainably managed” sources. It should be noted that the ITTA is also intended to promote

industrialization and to increase timber exports. The challenge is to reconcile the sometimes-conflicting pressures coming from profit-seeking and industrialization on one hand and sustainable forest management on the other, and to recognize what institutional mechanisms are required to enable such reconciliation. The emerging regime on timber certification can provide support to this endeavor, with NGOs and the private sector taking the lead in its development. The issue here is the receptiveness of the governments to adopt this as official state policy. Other regional and global institutional mechanisms have emerged in response to changing forest conditions. The increased frequency of forest fires, which in itself is an outcome of changing institutional policies but is also reflective of current resource conditions, created the need to establish in-country institutions and regional partnerships to handle the problem. The World Commission on Forests and Sustainable Development, the Intergovernmental Panel on Forests, Forest Stewardship Council, and Tropical Forestry Action Plan, among other variedly composed institutions, have arisen to promote international cooperation over the use, management and, preservation of forests.

The Convention on Biological Diversity and the United Nations Framework Convention for Climate Change both have generated awareness over deforestation issues (such as greenhouse gas emissions and biodiversity losses) and recommended processes for continued negotiation. While mechanisms for compliance have not actually been established, these global regimes have created awareness, particularly among civil society players, which may enable them to put pressure on their national governments to comply. Furthermore, these conventions have also generated crucial ODA financial and technical assistance to countries in Southeast Asia to conduct their own research on these issues. One other relevant regime is the 1975 Convention on International Trade in Endangered Species of Wild Fauna and Flora, which lists some commercially important timber species. It is unclear how disputes on rulings under this agreement will fare under the much stronger General Agreement on Trade and Tariffs.

Global environmental changes have caused the formation of the above-mentioned international regimes with different agenda. There is a need to inquire into the horizontal dynamics that exist among these international regimes, which include not only those directly related to forest and environment but also those dealing with trade, investment, and development as they impinge upon forest and environment issues; their vertical dynamics with local institutions; the horizontal dynamics among local institutions as they react to these international regimes; and, finally, the actual process by which such agreements are arrived at, including the role of various stakeholder, community, and epistemic networks.

The vertical interplay between global environmental regimes and local institutions, especially resource tenure arrangements, is critical to actual management practices. The interaction is made more complex by the fact that various stakeholders driving the development of institutions at the various scales emphasize different forest values, which lead to a conflict between local and

global resource management agendas. For example, the global environmental regime's emphasis is on carbon and biodiversity, whereas intermediate-scale institutions are more likely to be concerned with watershed functions, and the smaller-scale arrangements with uses such as the extraction of timber and non-timber products.

As economic and ecological crises unfold, the other domains of social conflict, aside from class, are unleashed and find expression not only in rights issues but also in issues that may have a bearing on resource use and quality. Indigenous people's movements have actively carried an environmental agenda, most of which are centered on access to, control of, and sustainability of forest resources. Women's movements along the eco-feminist strand strike deep into the heart of destructive forest practices by revealing their masculine and exploitative practices. Environmentalism, which in most instances is perceived to be a middle-class civil society discourse, can also be found in grassroots civil societies expressed in the context of livelihood struggles of the rural poor (Hirsch 1996). Various environmental actors have taken advocacy positions, using both science and politics as tools to push for their agenda. In this context, it is important to inquire into the emergence of "environmentalism" as a reaction to the present globalization, as well as to examine the associated political tools and strategies that reflect the manner by which environmental movements and discourses shape the mode by which institutions influence and participate in the generation of knowledge and of policy.

Research Questions:

*Under what circumstances do international regimes reinforce, or conversely, counteract the intentions and activities of local forest management practices?
How can the various international environmental and trade regimes be redesigned so that they interact in ways that will facilitate sustainable and just management of forests and forest lands?*

Toward Good Forest Governance: The Research Agenda

This paper identified three themes and their associated research questions, which are summarized in the following table:

THEME	RESEARCH QUESTIONS
Effects of decentralization	<p><i>Under what social and environmental conditions does decentralization result in better forest management practices and outcomes?</i></p> <p><i>Why do some forms of resource tenure promote sustainable forest management practices and outcomes, whereas other institutional arrangements lead to forest degradation?</i></p>
Effects of economic globalization	<p><i>Under what conditions does integration in the global economy lead to more sustainable management of forests?</i></p> <p><i>Is the interplay between global and local markets on the one hand and between state and civil society on the other reinforcing, antagonistic, or irrelevant to sustainable forest management?</i></p>
Effects of international environmental regimes	<p><i>Under what circumstances do these international regimes reinforce, or conversely, counteract, the intentions and activities of local forest management practices?</i></p> <p><i>How can the various international environmental and trade regimes be redesigned so that they interact in ways that will facilitate sustainable and just management of forests and forest lands?</i></p>

The major goal of each of the research themes is to evaluate institutional arrangements with the ultimate objective of achieving good forest governance through a strengthening of existing institutions or designing new ones that best conserve the resource while at the same time ensuring equitable social development.

Methodology

Since this report is written within the framework of the Institutional Dimensions of Global Environmental Change (IDGEC), its theoretical and methodological basis may be found in IDGEC's science plan (Young, O., A. Agrawal, L. King, P. Sand, A. Underdal, M. Wasson. 1999, pp. 74–80). The goal of IDGEC is to assess the role that institutions play in causing and confronting global environmental change. With regards to the changes in the conditions of forests, this is to be explicated in the political economy of forests in two regions of the world: the circumpolar North, and Southeast Asia. This report takes an institutional approach to political economy, in order to account for why the forest conditions in these regions are increasingly unsustainable.

IDGEC has adopted methodological pluralism, encouraging the use of a variety of procedures drawn from a number of social science disciplines as well as the development of explicit linkages to the work of natural scientists interested in global environmental change. With pluralism, IDGEC suggests the following methods. The overall research will give value to an integrated natural and social science approach that takes into consideration the following:

- 1 *Recognizing alternative knowledge claims*, especially traditional and indigenous ecological knowledge. Indigenous knowledge is knowledge in practice. Researchers are encouraged to take indigenous knowledge seriously on its own terms rather than endeavoring to assimilate it into Western scientific knowledge. Traditional and indigenous knowledge is particularly relevant for investigations into indigenous people's management of forests.
- 2 *Case studies*. While case studies present problems of generalization, they can capture the profound complexities of interacting human and bio-geophysical systems and the dynamics of global environmental change. Case studies also facilitate efforts to track the development of institutions over time. IDGEC anticipates that researchers working within its framework will continue to develop detailed qualitative and long-term case studies of specific institutions or clusters of institutions in a single biogeophysical domain. Case studies are particularly relevant for the study of the political economy of forests, for they reveal interactions of and interplay between social, economic and political institutions. Researchers may study them at various levels and scales of social organization, from local communities to regional and international alliances.
3. *Comparative studies*. Comparative analysis is a powerful method in the study of institutions operating at the same or different scales from local to global [(e.g., see Task 1.1.3 of Land-Use and Land-Cover Change (LUCC)]. Researchers who approach the political economy of forests from sociological and social anthropological perspectives will find comparative methods particularly useful. However, those who approach a research problem from economic or political science perspectives will find comparative analysis equally useful, for it allows broad and long-term analysis of problem situations in different countries or regions. A comparison between boreal forests of the circumpolar North and tropical forests of Southeast Asia is most

interesting in terms of the political economy of both regions and its impacts on their forest resources. However, researchers need a good network of knowledge in order to be successful. A comparison at this scale will have strong global implications.

- 3 *Modeling*. Social and political models are different from models in natural science and mathematics. Social and political modeling not to speak of economic modeling, is potentially useful, provided that the purpose of a model is moderate, for example, descriptive, diagnostic, explanatory, or predictive. Constructing a social and political model requires innovative techniques, but is not necessarily too complex for researchers and policy makers to understand. Models can take advantages of scale analysis, in which the model may be scaled up or down to suit its purpose and applicability. Successful forest management of one community or country may well serve as a model to be applied in other communities or countries. Researchers who are more advanced and perhaps more ambitious may want to construct a model aimed at reforming an existing institution or designing a new one. The problem of harmonizing quantitative and qualitative models is well recognized in the IDGEC science plan (p. 79). However, it anticipates that a “stand alone” qualitative model should yield understanding of the role of institutions in global environmental change, and may provide data that are useful for the construction of an integrated model. For IDGEC, modeling of institutional systems should also provide at least contingent generalizations (that is, generalizations expected to hold under more or less restrictive conditions) as the basis for institutional design principles and innovations that may lead to improvements in the performances of environmental institutions at all societal levels.

Data collection methods employed in the social sciences usually are specific to a disciplinary approach and style of inquiry. The study of the political economy of forests is open to an interdisciplinary approach and diverse styles of inquiry, including quantitative, qualitative, descriptive, analytical, and interpretative methods. All require empirical data either of a secondary or primary nature. First-hand empirical data require fieldwork in data collection. All require databases. Several databases on forests at national and international levels are already available.

Strategies for Action

To pursue the abovementioned research agenda, the following goals or targets are envisioned:

1. To be able to develop a network of institutions to tackle the research questions from the view of science; and
2. To be able to link up with policy makers and civil society actors within countries and across countries in order to influence policy.

The following proposed strategies need to be adopted to be able to accomplish these goals:

1. Use existing networks as a starting point, such as SARCS, the Southeast Asian Regional Committee for System for Analysis, Research and Training (START), Association of Southeast Asian Nations (ASEAN) Resource Tenure Network, Asian Forestry Network, and Task 1.1.3 of the LUC program.
2. Use regular review mechanisms of international institutions (e.g., the World Bank in its upcoming Asia Pacific Forest Strategy Review) as a conduit to generate interest on issues, and for possible funding exposure.
3. IDGEC should encourage interactions among scientists and policy makers within and across the two regions (tropical Southeast Asia and the boreal forests). This paper is heavy on Southeast Asian experiences. The arguments herein, while useful for defining a regional research and policy action, can be enriched by an equally deep boreal analysis.
4. Finally, a follow-on workshop with the purpose of drafting the action plan for this flagship activity is both timely and necessary.

Notes:

1. In Southeast Asia, effective political control over forest resources has often been held by states or provinces rather than by central governments (e.g., Leigh 1998, Brookfield and Byron 1990). Maintaining political connections with local leaders is crucial for logging contractors to get licenses and have them renewed. The insecurity of this political rather than institutionalized system creates an economic context in which the common strategy is to log as quickly as possible without regard to future environmental conditions or social costs. Civil society itself is centralized in major urban areas with the result that members often hold quite different perspectives on forest values from rural communities closer to the forest frontier in their daily livelihoods.
2. In forest-rich countries, the condition of forest resources is seen not only as a valuable economic resource but as a source of national pride and identity (Dubash and Seymour 1999).
3. The direct business interests of the Indonesian military in logging began during the timber boom in the 1960s, when Suharto handed out timber licenses to loyal military officers as a way to improve military budgets (Brookfield and Byron 1990). By 1978, the military controlled twelve timber companies. Since then, their influence has been less, but is still substantial. For example, the Armed forces owns 51 percent of the International Timber Corporation of Indonesia which operates Indonesia's largest concession of 600,000 hectares of forest in East Kalimantan, (Suharto's son owns 34 percent, and Hasan owns the other 15 percent).
4. For example, the "adat" system, the traditional institutions governing resource use in Indonesia, is still practiced widely in many areas in Indonesia.
5. One such example for coastal mangrove forests is the development of industrialised shrimp aquaculture in Thailand and elsewhere in Southeast Asia.
6. In the Philippines, the institutionalization of participatory development has led to the proliferation of NGOs that are less committed to reform and are only interested in rent-seeking activities. Indigenous practices are now recog "rule-making," nized, through a law passed by the Philippine Congress in 1998, as legitimate but there is the fear that this legislated empowerment may have the effect of "bureaucratizing" indigenous rule-making and processes, and eventually may weaken its indigenous logic.
7. The low price imposed by government on timber concessions reflects this heavy subsidy, and causes over-extraction and markets distortion. As just one example of the magnitude of state subsidy, the Indonesian government loses an average of US\$1 to US\$3 billion annually. Governments of other countries in the region such as Vietnam and Cambodia also heavily subsidize their logging sector, with Vietnam losing 17 percent of its revenue and Cambodia losing a remarkable 63 percent as foregone logging revenues (Sizer, Downes, and Kaimowitz 1999). Stumpage prices in the Philippines, a non-exporting country, remain below their market values.
8. Canada and the United States, faced with constricting timber markets, have increased logging subsidies to maintain competitiveness (Menotti 1991). It is also reported that Russia foregoes about US\$ 5 billion in income as it collects only 3 to 20% of potential timber revenues (Sizer, Downes, and Kaimowitz 1999).
9. This is particularly true in the case of the Philippines and Thailand.
10. In the guise of environmental and civic work, communities render free labor to the state, even as their effective income is reduced in the process. In the end, it is the marginal communities that subsidize the state in forest protection activities, in stark contrast to states that heavily subsidize the activities of private, and presumably wealthier, corporate logging interests. In the Philippines, forest protection work in the context of community-based forest management is an unpaid voluntary work that rests on the strength of social capital and civic-mindedness among forest-dependent communities, and serves as a form of gratuity to the state for granting them tenure, albeit temporarily with a twenty five-year duration.
11. However, in Myanmar (and Vietnam before entering Doi Moi), the recent trend has been in the opposite direction, namely, from private business interests toward the state. Private property rights and other form of traditional rights have largely been abolished. Collective and state

- property rights systems were established instead. The state or its functional institutions control the use of resources.
12. In Southeast Asia, Indonesia and Malaysia remain the two power-house timber economies among the top exporters of forest products in the region (Bourke and Leitch 1998). Malaysia continues to dominate trade in tropical sawnwood, with at least 50 percent share of the total exports from ITTO-member countries. On the other hand, Indonesia continues to dominate 50 percent of total exports of tropical plywood from ITTO-member countries. However, the exposure of these two economies and their markets to the Asian contagion in 1997–1998 led to drastic declines in the values of both prices and volume of exports. Indonesia's plywood production shed 37 percent of its value in 1998. Prices for boards coming from these two countries lost 30 percent of its value in 1997, and another 25 to 30 percent in 1998 (Adams 1998).
 13. See Note 7 above. The Pembinaan Masyarakat Desa Huan (PMDH), or community development program (CDP), introduced in Indonesia in 1991 required concessionaires to support community development activities around its areas of operation. However, this program failed to articulate a participatory management approach, in the sense that what emerged was a dole-out system of assistance provided to communities (Firman, et al. 1997). While the role of rural communities in forest managements formally recognized in the Basic Forestry Law of 1999 recently passed by the Indonesian parliament, this is not matched by strong legal mechanisms for customary rights recognition and local community empowerment (Down to Earth 1999).
 14. Reports indicate that more timber is produced from illegal logging than from legitimate production (Tickell 1999).
 15. In Indonesia today, a complex mix of competition and mutualism defines the quest for land resources. For example, logging concessions and transmigration schemes have helped provide access, through road building and infrastructure, which facilitates subsequent invasion and conversion rather than regrowth and sustainable harvesting systems. Smallholders, state enterprises, and private businesses are moving in to claim land for industrial tree plantations. Even here competition arises between those interested in developing of large-scale timber plantations to supply pulp and paper mills and other secondary wood industries with oil palm. The system for classifying, planning, and allocating land development permits is central to the conversion between forest-land uses, and has been manipulated by the various stakeholders. The Ministry of Forestry, now renamed the Ministry of Forestry and Estates, gives final permission on conversion of forest lands to agriculture. In practice, however, offices at the provincial and regional levels are more important. The office of the Governor and Regional Development Planning Board (BAPPEDA) have power to grant land and to facilitate the development projects they support through the regulatory process. They favor oil palm, as it is consistent with their provincial economic growth goals. The amount of commercially exploitable timber on production forest land is easily understated to gain permission for conversion. In any case, oil companies often start clearing land before official approval is given, and don't stop if approval is not given.
 16. The trade and investment activities of Japanese corporations have had a huge influence on the logging of old-growth forests in Southeast Asia over the past several decades. The reduced value of logged-over forest and the provision of access provide incentives for further conversion of these secondary forests to commercial crops, other large development projects, and for spontaneous migration into frontier areas. Over 90 percent of Japanese tropical timber imports in the last four decades has come from Indonesia, East Malaysia (Sabah and Sarawak), and the Philippines . During the boom periods in each area, exports to Japan accounted for more than half of that area's log production. Japan's influence over logging in the Philippines is by now very low, but the communities there must now live with the degraded resource base, so the impact in a real sense is still very much present.
 17. Sunderlin (1999) and Sizer et. al. (1999) anticipate that in the face of economic difficulties and forest trade liberalization, pressures to intensify conversion of forest lands to agri-business plantation estates will increase. This may heighten the occurrence of fires, since this method has been relied upon as the most convenient and cheapest way to clear forests (Chandrasekharan 1998).

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The Institutional Dimensions of Global Environmental Change (IDGEC)

The Institutional Dimensions of Global Environmental Change (IDGEC) is a major project of the International Human Dimensions Programme on Global Environmental Change (IHDP). Building on a Science Plan developed through international consultations and guided by the decisions of a Scientific Steering Committee, IDGEC sponsors flagship research activities on carbon management, ocean governance, and forest use; forges partnerships with organizations in the science and policy communities concerned with institutional issues, and maintains a network of individual researchers interested in coordinating their efforts with others working on the institutional dimensions of global environmental change.

IDGEC's research priorities form a hierarchical sequence that moves from broadly theoretical to more applied concerns by addressing matters of (1) *causality* – how much of the variance in the condition of ecosystems is attributable to the effects of institutions? (2) *performance* – why are some institutional responses to environmental problems more successful than others? (3) *design* – how can we structure institutions to enhance their performance? The project pays particular attention to questions relating to the fit between institutions and ecosystems; interplay between distinct institutions; and the prospects for scaling up/down findings relating to institutions operating at different levels of social organization. In the process, IDGEC seeks to foster a constructive dialogue between social scientists pursuing a general interest in institutions and researchers working on solutions to specific environmental problems and to build bridges between those working in different scientific traditions (e.g., collective-action models versus social-practice models of institutions).

IDGEC has an active International Project Office based at Dartmouth College in the United States. Syma Ebbin is the Executive Director of the project and Oran Young is Chair of the Scientific Steering Committee. IDGEC-IPO maintains a website and publishes a newsletter and welcomes inquiries from those interested in the project's research agenda. For further information, please contact IDGEC-IPO, Dartmouth College, 6214 Fairchild, Hanover, NH 03755, USA or <idgec@dartmouth.edu>. All major IDGEC documents are available on the website at <<http://www.dartmouth.edu/~idgec>>.

Major IDGEC Documents:

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