

Globalization and the Adaptive Capacity of Nation-States: New Challenges and Opportunities

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Abstract

Adaptation to climate change poses a perplexing problem for nation-states. In the managerial discourse of climate change, there are high expectations of the capacity for nation-states to form climate change policy and make strategic investments to protect its citizens and resources from the climate change threat. Yet the integration of markets, the horizontal and vertical dissemination of governance paradigms, transitions to representative democracy and the globalization of ideas, to name a few such trends, can have important implications for the respective capacities of the state, civil society, businesses and global institutions to respond to global climate change, particularly in young democracies and less developed countries. The new buzz word ‘glocal’—meaning the need to amalgamate local and global actors as the basis of decision-making—epitomizes the perspective that in face of new challenges to global sustainability the nation state should relinquish power to higher and lower scales of decision-making. The concept of nation-state sovereignty is now viewed by many as outdated and irrelevant to the most pressing problems affecting human security.

While it is not clear as yet what the future of the nation state is, it is clear that there exists a new complexity in international relations and environmental policy, with new actors assuming positions of influence and power, and that this complexity will have implications for how nation states will respond to climate change. Three issues affecting globalization and the state speak directly to the concern over adaptive capacity: 1) the assumption that globalization will improve the transfer of technology and enhance the spread of ideas and innovation, 2) the increasing prominence of private and organized non-state actors – often operating transnationally –in national decision-making processes and 3) the implications of state retrenchment and retreat in the context of neoliberalism, particularly in developing world contexts. This article takes a critical look at the evolving role of the state in terms of these three issues in order to evaluate the evolving domains in which the actions of nation-states are most effective and how processes of global economic and cultural change may be harnessed to facilitate adaptation

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1. Introduction

Over the last few years there has been a proliferation of studies focusing on the definition of adaptation and the identification of the most critical factors shaping adaptive capacity. The intrinsic applied nature of adaptation means that much of the burden of action has been increasingly moving from the scientific realm to nation states, multilateral and bilateral development organizations, citizen's groups and communities that will be expected to respond to negative impacts of a changing climate. Given the high uncertainties in climate change scenarios, improving adaptive capacity—that is, the “potential and capability to change to a more desirable state in the face of the impacts or risks of climate change.” (Brooks and Adger forthcoming)—is becoming an alternative focus of policy efforts rather than the promotion of particular adaptation options (Smithers and Smit 1997; Yohe and Tol 2001).

A review of the adaptation/adaptive capacity literature reveals a growing consensus around the factors believed to build adaptive capacity such as free flow of ideas, knowledge and technology, more flexible and efficient institutions and governance schemes, policies that enhance human, social and political capital and more equitable flow of resources. Whereas most authors seem to agree on the generic factors leading to adaptive capacity, how this capacity is actually built or enhanced in the context of day to day governments still remains significantly unspecified. Moreover, while there has been attempts to better understand the impacts of multiple stressors in measuring differential vulnerabilities to climatic change (Handmer, Dovers et al. 1999, O'Brien and Leichenko 2000), less attention has been paid to what factors affect the development of adaptive capacity in the political and policy arenas where it will be needed. Indeed this literature has, for the most part, sidestepped the discussion of what makes states more capable of designing and implementing policy to increase adaptive capacity, especially in the wake of structural transformations triggered by globalization. While state-centered theory has emphasized international geopolitical and economic conflicts as a determinant of state's interests, not enough attention has been paid on how global processes have affect state's capacity to make policy to respond to global climate change.

We contend that the effects of globalization on nation states' ability to build adaptive capacity are two fold. On the one hand, capacity may be enhanced by the expansion of the sphere of public problems to include concepts of sustainability, climatic change, biodiversity, and human rights as issues that should be inserted in the governmental agenda. The globalization of ideas also provides policy systems with new tools for policy design and implementation that in principle should build the conditions for adaptive capacity. These include efficient use of technology, free flow of information, democratic decentralization, construction of social capital, and synergistic public-private partnerships.

On the other hand, globalization has introduced new and diverse challenges for the nation state not only in terms of managing rapid economic and cultural integration, but also with respect to

governance and decision-making, the use of science and information in policy, and the types of problems governments are called upon to address (Stiglitz 2003). Globalization may also have further strained the resource basis of nation-states and contributed to growing inequalities, especially in less developed countries (Huber and Solt 2004, Wade 2004). Processes such as neoliberal policy reform and the proliferation multilateral trade agreements have complicated state action by transferring power both to lower scales of decision-making (decentralization) as well as to the private sector. While decentralization theoretically allows for better decision-making at the local level, it may also significantly constraint state's ability to regulate and distribute resources which may be critical to facilitate adaptation.

The “glocalization” of environmental action puts the nation-state at a crossroads: at the same time that its advocates call for a smaller role for the nation-state, the latter is expected to play a prominent role in the construction of adaptive capacity to respond to environmental risk. Although these trends will enhance or erode capacity for adaptation in part according to scale and context, at this early stage in adaptation research, it is important to identify the broader characteristics of these trends that shape the possibility of action.

We believe that by examining what governments are doing right now we can better understand the opportunities and constraints to enhanced adaptive capacity. We focus on three broad policy areas widely believed to shape adaptive capacity: knowledge and the use and transfer of technology, new governance paradigms, and the availability of financial, human, social and political capital, using as examples current policy issues in Latin American countries. We choose Latin America because, as a less developed region, it is expected to be significantly affected by climate change (Baethgen 1997, IPCC 2001: Chapter 14) but also because the effects of globalization and neoliberal policies on income distribution and state capacity in the region seem to have been especially negative (Wade 2004, Hoffman and Centeno 2003). We specifically examine the implementation of three policies as proxies for these broader processes: the adoption of genetically modified (GM) seeds in agriculture, the decentralization of natural resources management, and the effects of state retrenchment and neoliberal politics on agricultural policy making.

By examining these processes in the context of Latin American countries, we hope to identify opportunities and constraints to adaptive capacity building in the region and better characterize the role of nation states in what many times are contradictory processes. In the next sections we look at the literature on adaptation and analyze a few policy examples vis-à-vis the dual effects of globalization on state capacity. Section two briefly reviews the adaptation literature, focusing on the factors contributing to adaptive capacity building. Section three examines the effects of globalization on the three policy areas mentioned above through examples concerning the adoption of GM seeds in agriculture, decentralization of natural resources management, and the effects of state retrenchment on agricultural

and fisheries policy. We conclude with a few general remarks on globalization and adaptive capacity we believe can inform both the scholarship and practice of adaptation to climate change and suggest further areas of inquiry.

2. What is adaptation and adaptive capacity?

Adaptation to climate change has been defined as a process of adjustments to anticipated (or experienced) adverse impacts of climate change that result in the reduction of vulnerability (IPCC 2001). Although adaptation has not always been the focus of climate change policy response, it has now become a prominent issue in the negotiations of the United Nations Framework Convention on Climate Change (UNFCCC) and has been inserted into the agendas of multi-national and bi-national development agencies (Burton, Huq et al. 2002). As part of this effort, the UNFCCC is encouraging developing countries to undertake adaptation needs assessments and to outline possible strategies towards reducing their vulnerabilities through National Adaptation Programs of Action (NAPA).

While there is recognition that adaptations may often occur spontaneously and individually as particular economic actors perceive and respond to climate stresses (Smit and Skinner 2002), the international discourse on global climate change also carries a logical expectation of specific, planned nation-state action. This expectation goes beyond national compliance with and participation in the UNFCCC agreements and communications (action in the international sphere), and assigns to the nation-state the responsibility for action to mitigate the vulnerability of particular sectors and populations in the internal, domestic political sphere. In this sense, nation-states are expected not only to mitigate their contribution to greenhouse gases but also to improve their capacity and that of their citizens to adapt to climatic changes that now appear inevitable.³ This call for targeted national policy interventions to address climate vulnerability within national boundaries is embedded within a larger discourse that emphasizes the need for improved institutions, market incentives and regulatory mechanisms at the global level to address the climate change challenge (Adger, Benjaminsen et al. 2001).

Although adaptations to climate change necessarily entail leadership at the scale of the nation-state, the diversity of institutional relations that cross scales of decision-making and organization and that may impede or facilitate national action has not been an explicit focus of discussion. Speculating on what the responsibilities of specific actors might be in the adaptation process is made more complex by the fact that the capacity for adaptation of any particular system is not all internally generated, but rather is also a

³ For instance, Article 4.1(f) of the Framework Convention states that all Parties shall “Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change.”

product of the interactions and negotiations of power within and between nation-states, civil society, businesses and international institutions.

While the full capacity of a system to adapt may not be apparent until the system faces direct challenges to its continued existence, a variety of proxies for adaptive capacity have been proposed to facilitate an evaluation of the degree to which different systems will adjust to future change. In abstract terms, adaptive capacity has been described in terms of a system’s resilience, robustness, flexibility, stability, thresholds of tolerance and range of coping (see discussion in Smit and Pilifosova 2001). In more concrete terms, a series of system characteristics relating to both physical elements (infrastructure, material wealth, technology) and social/institutional elements (human capital, political legitimacy, institutional strength) have been proposed as critical contributors to adaptive capacity (Smit, Burton et al. 2000)(Table 1).

Table 1: Determinants of Adaptive Capacity

Determinant:	Encompasses:
Human capital	Knowledge (scientific, “local”, technical, political), education levels, health, individual risk perception, labor
Information & Technology	Communication networks, freedom of expression, technology transfer and data exchange, innovation capacity, early warning systems, technological relevance
Material resources and infrastructure	Transport, water infrastructure, buildings, sanitation, energy supply and management, environmental quality
Organization and social capital	State-civil society relations, local coping networks, social mobilization, density of institutional relationships
Political capital	Modes of governance, leadership legitimacy, participation, decentralization, decision and management capacity, sovereignty
Wealth & financial capital	Income and wealth distribution, economic marginalization, accessibility and availability of financial instruments (insurance, credit), fiscal incentives for risk management
Institutions and entitlements	Informal and formal rules for resource conservation, risk management, regional planning, participation, information dissemination, technological innovation, property rights and risk sharing mechanisms

All of these attributes could theoretically be applied at any scale of decision-making to evaluate adaptive capacity. In their review of the literature, Smit and Pilifosova (2001) differentiate the

enhancement of adaptive capacity by three scales of decision-making: global, nation-state and local. They emphasize the importance of global economic integration, market liberalization, technology and scientific exchange for building capacity at the global scale while suggesting participation, democracy and equity as critical elements in the development and implementation of adaptation strategies at local scales. In their view, the nation-state should be responsible for facilitating information flows, targeting vulnerable regions in policy development, facilitating local and private sector initiatives and generally promoting growth through global economic integration. The perspective of the nation-state as an intermediary is also dominant in the UNFCCC and IPCC reports, which emphasize the importance of the creation of “enabling environments” for adaptation, in which fair trade policies, the removal of technical, legal and administrative barriers to technology transfer, sound economic policy, appropriate regulatory frameworks and transparency are encouraged in both developing and developed nations to enhance the flow of information and technology for adaptation (UNFCCC 2001: 26).

While few would deny that opening access to technology, better regulatory frameworks and increased transparency are desirable not only for addressing climate change but also for addressing a whole host of development concerns, the process by which the “enabling environment” is created has received little attention in the climate change adaptation literature that has been rich in prescription, but slim in empirical examples. Moreover, there has been little discussion on how the adaptation literature can be informed by empirical research from other fields of inquiry focusing on governance and policymaking, for example. A brief review of the policy sciences literature shows that policy design is just one step of a very complex process and that the realities of policy implementation—or what happens when the best laid plans meet the real world—can crucially affect policy outcome (Pressman and Wildavsky 1970). These issues are inherently related to both the role of the nation-state as a maker of policy and of science as informing the policy making process. We hope to contribute to the adaptation debate by focusing on a few empirical examples of policy implementation in Latin American countries, especially exploring the role of globalization in creating opportunities and constraints for building adaptive capacity.

3. Globalization and the nation-state

In response to the new political, economic and environmental challenges of globalization, the relevance of the nation-state has been called into question (Drucker 1997; Spruyt 2002). The integration of markets, the extension and complexity of environmental change, and increasing homogenization of culture and the lifestyle expectations that accompany these changes have expanded the scope of what formerly were considered primarily domestic problems while creating new challenges to governance that are only now being recognized. Yet the opportunities afforded by globalization in terms of human and financial

resources, exchange of ideas, knowledge and technology and activism across borders which has supported the emergence of new democracies around the world, may have increased the capacity of domestic actors both public and private to respond to the potential effects of climate change. Here, it makes sense to speak of several “globalizations” (Guidry, Kennedy and Zald 2000) whose complex interactions and the way they affect day-to-day decision making need to be assessed, if we hope to design and implement effective policy.

Moreover, it is important to understand how such processes affect state’s capacity to implement policy geared towards increasing adaptive capabilities across policy and human systems. Capacity here necessarily has to go beyond the “ability of state leaders to use the agencies of the state to get people in the society to do what they want them to” (Midgal 1988:xi) to creating the conditions that would enable private actors such as organizations, businesses and individuals to increase their own capacity to adapt to multiple stressors but especially to climate change. Theda Skocpol (1985:17) suggests that while “basic questions about a state’s territorial integrity, financial means, and staffing maybe the place to start any investigation of its capacity...most fruitful studies of state capacities tend to focus on particular policy areas. More specifically, such studies seek to understand the relevant means, or policy instruments, states may have at their disposal to implement policy. They also identify opportunities and constraints to policy implementation in view of economic, political and geopolitical factors.

In this article, we focus on three specific areas that speak directly to the concern over adaptive capacity: 1) the implications of globalization for technology transfer and innovation, 2) state retrenchment in the context of neoliberalism, particularly in developing world contexts 3) the emergence of new governance paradigms such as decentralization and the role of private and non-state actors – often operating transnationally -- in national decision-making.

3.1 Globalization, Information and Technology

It has been argued that adaptation to climate change may be facilitated by the information revolution – the increased access to data, news and information through the variety of media that now form the global communication system (Handmer, Dovers et al. 1999). Increased access to technology, particularly technology that enhances economic productivity while enabling more sustainable development, is seen as one of the many benefits of globalization. Technology transfer is a central element in the UNFCCC and forms part of a stated effort to build capacity of developing nations to respond to climate change (UNFCCC 2001).

However, the literature focusing on environmental technologies (e.g., “specific adaptations”) suggests that for such initiatives to be successful, “generic” enabling environment must be created by a strong state. This proposition may lead to a vicious cycle in which a weak state is not able to create the

necessary environment to make meaningful transfer and use of technology a reality. In turn, by failing to create the conditions for effective technology use, the state remains weak. Thus, whereas technology transfer is undoubtedly necessary, to be sustainable, and to enable the state to address particularities of its own risks and vulnerabilities, the state needs to have capacity to innovate and rapidly solve problems as they arise, particularly in relation to “climate surprise” scenarios.

The case of the spread of agricultural biotechnology, or Genetically Modified Organisms (GMOs), is particularly interesting because the technology is viewed by some as a potential means of adaptation to climate risk (Panel on Biotechnology 1999; Dooley 2001), and in many ways epitomizes the opportunities and challenges of globalization. Some argue that a more aggressive use of GMOs is necessary step in increasing world food productivity and addressing the challenge of future world food supply (Panel on Biotechnology 1999; Evenson 1999). However the globalization of grassroots environmental and consumer movements (and the call for public participation in policy formation by the Cartagena Protocol on Biosafety) has also meant that the use of transgenic seeds has become highly controversial (Newell 2003: 33-37). Internally, different interests groups with national governments are increasingly involved in complex and apparently “schizophrenic” negotiations with each other and with vocal citizens’ groups, industrial and sector lobbies and with international organizations and transnational agribusiness concerning the regulation of biotechnology (Newell 2003).

Realizing the benefits of biotechnology while controlling for potential environmental, social and economic impacts critically depends on state capacity for research, enforcement and management (Sharma, Crouch et al. 2002; Cohen, Komen et al. 2004). The relative success of biotechnology use and management in China and India, for example, is attributed to aggressive long-term public investment in scientific research, the explicit integration of biotechnology in national policy goals and the capacities of particular individuals to mediate public and private sector interests (Newell 2003).

The cases of China and India are, however, exceptions. Public investment in agricultural research has been declining world-wide (Echeverría 1998). The high cost of new agricultural technology (e.g., transgenic or biotechnology) implies that in the future many developing countries will have to depend to a greater extent on the private sector for the development of agricultural technology at the possible expense of “developmental” or social research objectives (Cohen, Komen et al. 2004). There is also some concern that new protection for patents and intellectual property, incorporated into many bilateral and multilateral trade agreements, may constrain the development of technology in many nations, by inhibiting learning-by-imitation and reverse engineering (CEPAL 2002; Griffin 2003). Others argue that strong national intellectual property rights agreements may actually facilitate domestic research initiatives by providing financial incentives for technology development (Pray and Naseem 2003).

The rapid adoption of genetically modified soy (GM soy) in Argentina after the government removed obstacles to the importation of GM seed in 1997 is illustrative of the potential for new technologies to both build and challenge national capacities. Unlike in Brazil, where the Brazilian Agricultural Research Corporation has teamed up with Monsanto on transgenic seed development (Pray 2001), in Argentina the seeds were developed and are now marketed exclusively by Monsanto and no national institutions were involved in the development of the technology. Concern has been raised in the popular media about the spread of herbicide resistant weeds, the loss of soil productivity, and the displacement of smallholder farmers and their more diversified farm systems (Branford 2004).

Argentina now faces pressure from environmental groups and consumers to regulate the use of biotechnology, while some farming groups—having substantially profited from the first GM soy harvests—demand greater access (Pray and Naseem 2003). The government's own position is divided. A 20% export tax imposed during the 2002 economic crisis allowed the government to also benefit from the soy boom. According to some non governmental groups, Monsanto, the owner of the patent for the GM soy, is now claiming that the country's farmers owe over \$300 million in unpaid royalties, and has threatened to deny Argentina access to the technology if they cannot guarantee their profits (see Turner 2004). Thus while the rapid dissemination of GM soy in Argentina is illustrative of the general adaptability of the nation's farmers and the potential economic benefits of biotechnology, the potential negative environmental externalities entailed in GMO use and the implied dependence of the farmers and country on an imported technology for which royalties must be paid raise questions about the overall capacity gains for Argentina from the use of GM soy.

The efforts of nation-states to regulate biotechnology has been made more difficult by their various and often conflicting obligations under international trade agreements, conventions and relationships with international donors, as well as competing interests within and between government agencies (Newell 2003). For example, Cullet argues that the Indian government has been struggling to create legislation that protects national sovereignty over its biological resources, while complying with the country's obligations under the TRIPS agreement of the World Trade Organization (Cullet 2001). Mexico has justified its prohibition on the importation of GM seeds under the Cartagena Protocol on Biosafety, but faces challenges to this policy under NAFTA and the WTO as well as by domestic lobbies (CEC 2004). Managing technology transfer for adaptation thus not only depends on public sector investment in research and a strong national policy framework for specific technology use, but also on the ability of governments to internally coordinate the pursuit of domestic policy goals while negotiating various obligations under international treaties and responding to the multiple and often conflicting demands of citizen groups, multinational business and domestic political coalitions (Newell 2003).

3.2 Decentralization, ideas, governance paradigms and stakeholder participation

The widespread exchange of ideas and the emergence of new governance paradigms affect individual and collective capacities to respond to potential climate hazards. Ideas—here defined as a cluster of principled beliefs affecting the design of strategies of action geared towards policy outcome — shape the way actors and networks of actors pursue their goals (Lemos and Oliveira 2004).

Throughout Latin America, the emergence of new paradigms of good governance has re-invented the policy arena and created new opportunities for capacity building. Changes include privatization of services, decentralization of authority (from de-concentration to devolution), and often the creation of deliberative governance or stakeholder councils of public and private actors. Although efforts to purposefully incorporate stakeholders in the public policy making process is not new, only recently has their role been transformed from the negative association with bureaucratic authoritarianism to legitimate participation in democratic governance. In the wake of the emerging democracies in the region, a new array of public-private partnerships has arisen to supplement public governments. Fiscally strapped governments attempt to off-load service provision either to private actors or to subnational units, giving rise to oversight and/or consultative bodies. Similarly to other regions of the world, the modern state, unable to deal with social complexity on its own, embark in a process of co-regulation in which organized groups of civil society play an important role both by lending the state legitimacy and by providing specific knowledge the state does not possess (Giugni and Passy, 1998).

In Latin America (and other less developed regions), the increasing redefinition of political regimes (from authoritarian to democratic), economic systems (from state-led to neoliberal) and the reconstruction of popular participation have redefined popular representation forging new structures of relations between state and societal actors. Chalmers et al. (1997: 545) call these “associative networks” that is, structures that link state and societal actors through interpersonal, media, and/or interorganizational ties in the context of problem solving interactions. The emergence of associative networks is related to a series of factors which influence state-society interactions such as: a) decentralization of decision making, b) the impact of new sources of communication and knowledge acquisition, c) the emergence new governance paradigms which advocate greater social and popular involvement in decision-making as a means to increase competitiveness and cost-effectiveness of public administration, and d) “political learning from elites and popular actors induced by the failure of established strategies and institutions to respond to changing political and economic realities.” (Chalmers et al., 1997: 555).

These new forms of governance have emerged and gained credence against the backdrop of democracy and globalization. All over the region governments have embarked in policy experiments that simultaneously attempt to democratize decision making and help to close the social gap resulting of years

of economic crises and poor distribution of resources and differential vulnerabilities. In this context, decentralization has figured prominently in the agenda of many Latin American countries in an array of policy arenas ranging from fiscal and administrative reforms to the increasing decentralization of the management of natural resources such as water and forests. Decentralization is an important example not only because of its direct link to globalization but also because many of its conditions and outcomes are believed to be essentially associated to the construction of adaptive capacity. Thus decentralization may promote many of the desirable characteristics of “adaptable” systems such as public participation, and shared governance, and may improve both policy outcomes—through more efficient management of resources, for example—and policy processes—through practices such as transparency, accountability, and democratic decision making. However, while globalization may have increased the possibility of decentralization by supporting new governance paradigms and increasing the flow of technology and ideas, it may also have constrained decentralization by limiting the resource base and the nation state’s capacity to implement policy.

Although the study of decentralization and its institutions mostly focus on local adaptive capacity, it also offers a window on the capacity of the nation state to design and implement policy. This may be especially true in the case of democratic decentralization that goes beyond the transfer of power from central to local governing bodies to include accountability to local constituencies and specific action to promote the participation of stakeholders (Ribot 2002, Lemos and Oliveira 2004).

In principle, the advantages of decentralization are many: the transfer of power and resources to lower levels of decision making stimulates stakeholder participation, transparency and accountability since the likelihood of the involvement of local agency increases. It also promotes democratization of decision making at the local level. In turn, local participation encourages stewardship and better resource management. Additionally, the likelihood of institutional “fit” increases since solutions are more likely to match perceived problems and local knowledge and technologies are more likely to be considered and incorporated. Finally, decentralization may increase institutional flexibility and policy efficiency.

In Latin America the drive to decentralize has ranged from national level fiscal and administrative reform (Mello Jr. 2000, Dillinger and Webb 1999) to the creation of specific decentralized councils to design and implement policy in areas as diverse as education, health and urban planning and administration. While it maybe too soon to assess the policy outcome of many of these reforms, there are indications that in many Latin American countries decentralization is falling short from accomplishing its goals, particularly in the case of natural resources management. Reasons range from lack of political will and state capacity to the role of different local actors who resist changes that threaten their control over natural resources (Larson 2002, Lemos and Oliveira 2004, Gibson and Lehouq 1999).

For instance, broad efforts to decentralize water management in many countries in the region have yielded mixed results. In Chile—as a result of the country’s strict adherence to neoliberalism—water has been privatized. However, in most areas full-fledge water markets have failed to materialize and to generate the expected advantages of market-led solutions; instead since 1985, the “market” has been continually subsidized by the Chilean government (Bauer 1997). In Mexico decentralization of water management has, for the most part, followed the fate of decentralization attempts in other policy areas, resulting in excessive government dominance and failure to build representative stakeholder participation (Wester et al. 2003). In Brazil, an encompassing water reform has resulted in the creation of over one hundred river basin councils all over the country. The Brazilian reform has as goals integration, public participation, sustainable use and the implementation of a permit and charge system to replace the previous sectoral and hierarchical management model. Although the reform has spread out quickly, empirical evidence shows that the results across river basins have been substantially different in terms of stakeholder participation and rates of implementation (Abers and Keck 2004). Even in cases where the reform managed to achieve many of its goals (especially stakeholder involvement), there are indications that it has failed to break with traditional patterns of skewed power distribution and local politics (Ballesteros 2004, Lemos and Oliveira 2004).

Thus although decentralization has provided more opportunities for societal participation, these opportunities have been substantially skewed in favor of elites and at the expense of the most vulnerable users. In addition, local politics have played a crucial role in reform success as local reform-oriented and conservative policy networks fight for resource control and political gain (Lemos and Oliveira 2004). In her review of decentralized forest management in Nicaragua, Larson (2002) finds that even in the best case scenarios (committed local government with access to outside human and financial resources), there are many obstacles to overcome, including lack of local capacity, commitment and resources. Although Larson is optimistic regarding the positive direction of many local governments learning curve, her research shows that building capacity is a complex issue in an environment of a weak, poor nation state. Similarly, Gibson and Lehoucq (1999) found that in the case of decentralization of forest management in Guatemala, political pay-off (in the form of support from central government and local community pressure) was the most significant variable explaining local mayors’ commitment to implement forest management. All these examples illustrate that even when there is widespread support for decentralization and the positive outcomes it is supposed to promote, implementation can be quite complex.

3.3 Neoliberalism and state retrenchment and inequality

Neoliberalism, characterized by the conviction that export-oriented market-led policies will lead to a more efficient use of resources, greater trade and thus more rapid economic growth, has been one of the more

heatedly debated aspects of the current phase of rapid globalization (Spoor 2000; Stiglitz 2002). One broadly advocated neoliberal reform has been the downsizing and retrenchment of the state. Throughout the 1980s and 1990s, countries pursuing a neoliberal agenda have systematically privatized state-owned enterprises, divested from agencies supplying goods and services, and reduced state payrolls (Bulmer-Thomas 1996). In many developing nations, state retrenchment has been extensive, occurring not only in relation to pension systems and social security, but also in the telecommunication sector, energy industry, water, mining and agriculture (Ocampo and Martín 2003).

In principle, with enhanced economic productivity and more efficient service provision as a result of retrenchment, the nation-state should benefit from greater social welfare and economic stability and thus potentially enhance adaptive capacity generically (CEPAL 2002: 207). Yet in the Latin American context liberalization has not resulted in unequivocal improvements in economic stability and may have exacerbated trends in poverty and inequality (Huber and Solt 2004). According to the theorized attributes of adaptive capacity (Table 1, above), high inequality, economic instability and the social burden of poverty all are likely to increase a nation's sensitivity to climatic hazards and change, while simultaneously decreasing its capacity to respond proactively to climatic risks.

Robert Wade argues that growing inequality in market-exchange rates are detracting from the financial capacity of developing nations to participate physically in activities at an international scale – such as the multilateral trade negotiations, or the climate change convention – that entail expenditure on hotels, transport, and other consumption in foreign currency and in foreign places. Such growing inequality between countries also implies a trade-off for cash-strapped nations between using resources for increasingly expensive imported goods and making need domestic investments (Wade 2004). Internally, the simultaneous processes of retrenchment, market liberalization and increasing inequality have also produced new demands on state services to which the retrenched state cannot respond and to which the private sector is incapable of or disinterested in addressing.

The possible implications of state retrenchment for adaptive capacity can be seen in Mexico's agricultural sector, which, like many economic sectors in the developing world, is both characterized by a large number of small-scale producers as well as relatively small numbers of large-scale capitalist enterprises. As the process of state retrenchment progressed in Mexico, public expenditure in agriculture and fisheries declined from 11% of the federal budget in 1990 to less than 4% in 2000 (Fox Quesada 2003: Statistical annex pg. 247). Between 1985 and 1995, the majority of Mexico's agricultural input and service parastatals were either privatized or eliminated and most of its commodity marketing agencies were liquidated (Appendini 2001). Public investment in agricultural credit, insurance, research and extension was also reduced (de Janvry, Chiriboga et al. 1995).

In place of the old agencies new institutions have been created, including the Mexican Council for Sustainable Development, a decentralized commission composed of private and non-governmental farmer groups, agribusiness, governmental agencies and educational organizations. The language of participation, empowerment and sustainable development now permeates agricultural programs and policy. Yet despite the stated intentions of most of the new programs, the reduced expenditure and diminished presence of state organizations in rural areas have left a void that the private sector and the various non-governmental and civil groups have had difficulty filling (de Janvry, Sadoulet et al. 1995).

While the loss of public service providers and public agricultural investment is having direct implications for the adaptive capacity of peasant farm households (Eakin 2002), these changes may also affect the capacity of the nation-state more indirectly through the country's economic stability, capacity for governance and ability to mobilize rural residents to mitigate their risks. Changes in rural poverty related to the agricultural reforms are of particular concern. During the period of most aggressive retrenchment and liberalization, rural poverty has not improved, and some analysts believe that poverty has in fact increased (Kelly 1999; Hernández Laos and Velásquez Roa 2003). There has also been some concern that the loss of state support has had environmental consequences, as households bring more marginal land into production in order to meet subsistence needs and lack the labor they once had to maintain soil productivity. Without the technical and financial support to engage with the challenges posed by open competitive markets, rural households are increasingly turning to migration – both to Mexico's already unmanageable cities, and to the United States – and in the process place new demands on public service provision and Mexico's capacity to defend human rights internationally.

The smallholders that remain have become increasingly vocal and sometimes violent, taking over public buildings and blocking highways in protest of their marginalization and the adverse economic consequences of Mexico's participation in the North American Free Trade Agreement (see, for example Thompson 2001). Reflecting the type of "polycentric development coalitions" now being advocated by some scholars and international development agencies (Korzeniewicz and Smith 2000), in 2004 the agricultural ministry attempted to diffuse some of the mounting tension through a long series of roundtable discussions with a diversity of farmer associations resulting in the National Agreement for the Countryside. While some groups signed on to the Agreement, not all groups were satisfied with the outcome and the process resulted in the fractioning of the farmers' movement. Many of the groups have since accused the government of not complying with its promises and are once again threatening widespread protests.

In this context, the government's current efforts to reduce vulnerability to climatic variability in agriculture—by encouraging these farmers to adopt "a culture of insurance" or to switch crops altogether (SAGARPA 2003)—is likely to be challenged not only by the shortage of extension staff and institutional

mechanisms for communicating new technologies to smallholders, but also by the growing anger and distrust smallholders have for public institutions. Once again, the nation-state's capacity to address domestic demands while pursuing the economic ideal of the free-market global economy entails significant national institutional capacity (Huber and Solt 2004).

4. Conclusions

While the prediction of the “withering away” of the nation-state during this latest phase of global economic integration may have been exaggerated, it is clear that globalization has had important effects on what is considered the responsibilities of nation-states, their institutional form and their scope and capacity for action. The wide diffusion of new ideas about governance, participation, environmental management and human rights and welfare has contributed to change in the ways policies are conceived and implemented. In relatively short timeframes, across Latin America the landscape of government institutions has been transformed. Public agencies have been slimmed and state-owned enterprises have disappeared, new environmental institutions have arisen, the language of sustainability is now permeating public discourse, media reports and policy. The withdrawal of the state and the promise of public participation have given rise to new spaces for action, and now decentralization is being touted as an essential component of improved governance.

In principle, this process should enhance adaptive capacity in a variety of dimensions, including the strengthening of institutions, the building of political capital and social organization and the growth of human capital. The indicators of adaptive capacity listed in Table 1 carry the implicit assumptions that increased participation and local involvement in decision-making is inherently good, that economic growth will bring greater flexibility, that greater technological stocks will enable countries to address the needs of their vulnerable populations. A close examination of how nation-states are managing their insertion into global markets and of how they are putting new governance paradigms to practice illustrates that the benefits of globalization for the adaptive capacity of national governments are unlikely to be immediate or necessarily easily obtained.

There is a rich empirical literature in the social sciences on how the multi-faceted process of globalization is transforming the identity, capacity and structure of nation-states, of which we have only gleaned the surface. The issues of technology transfer, state retrenchment and decentralization are only a few of the many changes that are now occurring which have practical implications for building national capacity for managing the present and future challenges of climate change. While far more work could be accomplished in refining the particular attributes of adaptive capacity for particular places, there is also an urgent need to ground the theory and concept of adaptive capacity in the complexity of its creation and erosion in government offices, local communities, private businesses and civil organizations.

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