

The commons and development: unanswered sociological questions

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Abstract: Do processes of political and economic development hinder or promote the creation of common property institutions (CPIs) to govern common pool resources? Despite the seeming importance of this question, development sociologists have never really tried to answer it. This paper explores the intersection of development processes, the commons, and common property institutions and concludes that development has countervailing influences that both promote and impede the formation of CPIs. Because social capital enables collective action, the accumulation of social capital through development provides a basis for an expansion in the numbers of CPIs in a society. At the same time market expansion through development led globalization and labor migration weaken CPIs. Business cycles have similar influences. Economic booms weaken CPIs while subsequent economic downturns increase the likelihood that resource users will form CPIs.

Keywords: Commons, common property institutions, development, social capital

“The central question ... is how a group of principals who are in an interdependent situation can organize and govern themselves to obtain continuing joint benefits when all face temptations to free-ride, shirk, and otherwise act opportunistically”. (Ostrom 1990, 29)

I. Introduction

In *Governing the Commons* (1990) Elinor Ostrom addresses a fundamental question, articulated above, about the social origins of collective action. The question could not be more important given that human societies face the ‘life threatening challenge’

of climate change in the 21st century (Keohane 2010; Mansbridge 2010). A failure to contain through collective action the massive, human induced build-up of greenhouse gases in the atmosphere could transform the earth's climate in profound ways that would endanger the lives of billions of people. The Nobel committee's decision to award the 2009 prize in the Economic Sciences to Elinor Ostrom speaks to both the importance of the question that she outlines above and the clarity of her analyses of communities that have preserved common pool resources (CPRs).

Ostrom builds her theory at a meso scale, around collections of contiguous communities where common property institutions (CPIs) have either succeeded or failed. She points to the importance of contextual influences in her theory (Ostrom 1990, 55), but, as some observers have noted (Bermeo 2010), the larger, macro-sociological determinants of successful CPIs remain difficult to discern. Ostrom (1990, 2005, 2009) has developed a rational choice, Institutional Analysis and Development (IAD) framework to outline how individuals make decisions about joining organizations. She has also outlined situational variables that influence the likelihood that resource users will create a common property institution to conserve a natural resource, but the connections between these design principles and contextual changes in the larger society remain unclear. In particular the links between large transformative changes, like development, and the appearance of CPIs are not clear.

Agrawal (2001) attributes this gap in our understanding of CPIs to the prevalence of case studies in the literature on the commons and CPIs. The case studies excel in identifying one or two proximate factors as essential to the success of the CPI under study, but they are not designed to interrogate the influence of changes in the larger context on CPI successes or failures. Without evidence about these general patterns, it has been difficult to develop a theory about the influence exerted by macro-sociological changes on the incidence of CPIs, so questions about contextual changes have persisted (Poteete et al. 2010, 232–245). To address this gap in our understanding of CPIs, I try to spell out in this article how the macro-sociological trends associated with political and economic development would affect the incidence of CPIs in societies. To this end, the paper begins by discussing the effects of economic development on social capital, a crucial determinant of CPI formation. A second section of the paper focuses more specifically on the ways in which development processes might impact CPIs, given the usual attributes of both CPI participants and organizations. The last substantive section of the paper briefly discusses the effects of business cycles on CPI formation and dissolution. Table 1 provides short definitions for important terms in the paper.

2. Theoretical points of departure: social capital, development, and common property institutions

2.1. Social capital and CPIs

For the past 25 years economic sociologists have made increasing use of the concept of social capital in trying to explain political economic patterns across

Table 1: Definitions of terms: the commons and development

Autonomy: States and state officials exhibit autonomy when they do not allow powerful special interests to dictate the substance of important policy decisions.

Boundaries – spatial extent: The size of a CPI regulated CPR with clear boundaries that identify the spatial extent to which CPI rules apply.

Common understanding: A shared understanding of the population dynamics underlying fluctuations in the availability of the resource.

Conflict resolution mechanisms: Judicial arenas that adjudicate conflicts between CPR users.

Congruence: The CPIs rules for resource use set so as to sustain the resource.

Discount rate: The amount by which a sum of money in the future is devalued relative to the same sum today. High discount rates imply short-term concerns; low discount rates imply long-term concerns.

Distribution of interests: They can be similar in that all seek a long-term livelihood from the resource or dissimilar in that some seek short-term support with long-term plans to pursue other livelihoods.

Globalization: The geographical expansion of markets to include more regions of the globe.

Monitoring: Regular surveillance of the resource in order to assess whether or not it is being used sustainably.

Nested enterprises: CPIs that differ in their spatial extent, with one existing within another and both constituting components of a larger system of CPIs.

Prior organizational experience: Previous experience working together on local level projects.

Salience: The importance that a resource user attaches to CPR as the source of a livelihood.

State strength: Strong states have large numbers of citizen participants in politics; legitimacy among their citizens in the exercise of authority, and an ability to mobilize citizens to defend the common good.

Trust: An assumption that agreed upon norms of reciprocity prevail among resource users.

societies. ‘Social capital’ refers to the accumulation of information, trust, and obligations among the people who make up social networks. In other words ‘social capital refers to those stocks of social trust, norms and networks that people can draw upon to solve common problems’ (Sirianni and Friedland 2011). Conceptually, the presence or absence of social capital among people would link trends in development to changes in the incidence of CPIs in a place. Economic and political development would affect the amounts of social capital in an aggregate of people which in turn would affect the relative ease or difficulty with which people can form and maintain CPIs to manage common pool resources.

Following Woolcock (1998), I would expect social capital to occur in two general forms in the organizational complex of societies undergoing political and economic development. In communities people would exhibit ample amounts of social capital when they manifest high levels of cohesion and trust among themselves at the same time that they maintain links to centers of power and wealth outside of the community. In the larger societal arena a population would

exhibit high levels of social capital when state officials exhibit 'embedded autonomy' in their relations with individuals and enterprises in the society (Evans 1995). As outlined below, there are at least some theoretical reasons to expect that both community cohesion with linkages and bureaucratic practices of embedded autonomy would increase with political and economic development.

Historical legacies stemming from sources as varied as colonial inequalities (Frank 1969; Cardoso and Faletto 1973; Wallerstein 2004) and the way work is organized around the production of a staple good (Grant 1974; Hirschman 1977) provide varying degrees of community cohesion. Against this backdrop economic development in local communities can, if anything, undermine community cohesion. The initial impact of economic development in a place increases inequalities (Kuznets 1955) at the same time that it creates new links between peoples and resources. If resources in poor, 'underdeveloped areas' are 'hidden, scattered, or badly utilized', then development consists in part in increasing the connections between these resources (Hirschman 1958, 5). It "is essentially a record of how one thing leads to another and the linkages are that record, from a specific point of view. They focus on certain characteristics inherent in the productive activities already in process at a certain time. These ongoing activities because of their characteristics, push, or more modestly, invite some operators to take up new activities. Whenever that is the case, a linkage exists between the ongoing and the new activity" and development occurs (Hirschman 1977, 80). These linkages increase the social capital in a community and facilitate the flow of development assistance to nascent CPIs and other NGOs (Woolcock 1998).

The numbers of local NGOs in rural communities typically increase with economic development (Esman and Uphoff 1984; Balbis 2001). The increased organizational density among a people in turn increases the likelihood that the potential members of a common property organization will have had some prior experience with NGOs more generally and CPIs more particularly (Ostrom 1990, 139). The density of NGOs in turn increases the likelihood that the administrators of local CPIs will be able to form a larger scale CPI, so the local organizations will 'nest' inside a larger scale CPI as with irrigation systems in the Philippines (Coward 1991). The larger CPI not only helps to resolve issues with the CPR that cross the jurisdictions of the local CPIs; it can also serve as an umbrella organization, representing the combined interests of the local CPIs in the national political arena. Specialists, sometimes development sociologists, with extensive experience and knowledge about CPIs work at the interfaces between local CPIs and national institutions in attempts to make the CPIs more effective (Long 2001). In this manner the accumulation of specialists and CPI oriented national organizations during the course of economic development should over time increase the incidence of CPIs in a place.

Social capital also accumulates over time in a place, so the incidence of CPIs should increase as communities age. The passage of time lays the foundations for more social capital and the creation of CPIs in several different ways. Aggregates of settlers get to know one another, usually engage in some local governance,

and in this way acquire some organizational experience which in turn makes the formation of a CPI seem like a less daunting task. The prior organizational experience with neighboring resource users should also increase the level of trust between potential members of a CPI which would expedite its organization. Finally, a shared experience over time with the depletion of a common pool resource would probably contribute to a common understanding among users that they need to “prolong into the future the availability of certain physical resource processes by ... reducing ... (their) present consumption standards” (Firey 1960, 233). In this sense conservation is like virtue, in Plato’s words, ‘a long range exercise in self-interest’ (Firey 1960, 237). Long settled areas of India illustrate this overall pattern. Settlement in many areas occurred centuries before the British colonial incursions began. During this earlier period villages became practiced at many types of self-governance (Guha 2000, 36–39). An absence of CPIs in recently settled frontier regions provides more evidence for the hypothesized association between length of settlement and the incidence of CPIs. Frontiers usually attract a selected group of migrants who are willing to endure an initial period of privation in order to reap the benefits of growing a lucrative cash crop on inexpensive land. These migrants or their offspring frequently move again when accumulating environmental problems (soil exhaustion, pest infestations) and falling commodity prices (from oversupply) turn the agricultural booms into busts (Ruf 2001). Cultivators come and go without ever forming CPIs, much like the ‘roving bandits’ that have accompanied the globalization of fisheries (Berkes et al. 2006). In some instances the CPIs appear, but only after a considerable passage of time. In the southern plains of the United States farmers settled the region and began drawing down ground water (a CPR) to irrigate wheat crops in the first half of the 20th century. Many left the area after wheat prices began to fall during the 1930s and droughts brought crop damaging dust storms to the region. Only then did some of the remaining farmers then begin forming CPIs to regulate ground water withdrawals (Firey 1960).

At a larger societal scale the practice of embedded autonomy by government officials and NGO subcontractors would encourage the formation and continued operation of CPIs. The government representatives would be ‘embedded’ in that they have extensive ties to local resource users. For this reason they use their authority to adjust the larger legal framework of a CPI in ways that are sensitive to local resource realities. At the same time the state’s representatives exhibit ‘autonomy’ in their decision-making (Evans 1995). They do not act in ways that benefit special interests and in this way undermine the common interests of CPI members. In this sense these official practices build social capital in a society and promote both the creation and continued operation of CPIs.

Bureaucrats who practice embedded autonomy make states strong, so societies with high levels of social capital also tend to have strong states. States are strong when their citizens participate widely in politics, see their government as a legitimate source of political authority, and willingly undertake state mandated tasks, like paying taxes that strengthen the common good. In contrast weak states have few participants in political processes, little legitimacy, and minimal

capacity to promote the common good (Migdal 1988). Strong states promote the successful operation of CPIs in several different ways. Given their legitimacy and ability to mobilize both citizens and state officials, strong states can assign and enforce property rights, even in out of the way places. Because CPIs cannot operate successfully without asserting control over a clearly demarcated common pool resource, the state's and the CPIs' ability to assign property rights and defend these resources against interlopers is critical to the success of the CPIs. Enforcement capacity would include a low incidence of corruption among the state officials and CPI members who monitor and enforce property rights. With alternative sources of influence and revenue, strong states do not typically contest the appropriation rules that the CPIs have set for their members. Because strong states routinely collect taxes from their citizens, state officials have sources of funding for operations and salaries which in turn makes them more autonomous and able to resist pressures from powerful individuals who want to break a CPI's appropriation rules. In this context the overall affluence of the society matters. A more affluent group of taxpayers implies higher tax receipts from them which in turn should raise the salaries of civil servants, the expectations of citizens about the quality of state services, and the degree of trust that they place in state officials (Xin and Rudel 2004). Both of these effects should increase the capacity of the state to defend CPIs from corrupting influences introduced when elites try to take advantage of globalization spawned opportunities, as has occurred in the tropical timber trade in Indonesia (Dove 1993).

Focusing events, like war or natural disasters, create political upheavals that in some instances lay the groundwork for an increase in social capital and a surge of economic development (Olson 1982). The turmoil ends with the vindication of an old political regime or the creation of a new regime. In both instances strong states emerge. Because states profess an encompassing interest in improving the welfare of their citizens, strong states become a focal point for development efforts, which could include the promotion of CPIs. A collective, broad based desire to 'catch up' with the more affluent countries in a myriad of activities animates both the elites and the middle classes in societies with strong states. This sentiment serves as 'a binding agent' that mobilizes citizens, oftentimes in the context of revolutionary nationalism, to strive for institutional reforms that enable rapid economic expansion (Hirschman 1958; Woo-Cumings 1999). South Korea during the last three decades of the 20th century had a strong state with officials who enjoyed abundant amounts of social capital. Cross-national patterns in the Global South confirm the positive association between the practice of embedded autonomy by government representatives and rapid economic development (Evans and Rauch 1999).

2.2. Economic development and CPIs

Of course development entails a far-reaching transformation in societies that goes beyond politically relevant changes like the accumulation of social capital

and corresponding changes in governance. In addition to the political dimension, there is an economic dimension that features the spread of markets for goods and for labor. These more economic aspects of the transformation, notably the globalization of markets and increases in labor migration, make it more difficult to construct durable CPIs. In this sense development has countervailing influences on the incidence of CPIs that regulate common pool resources in a place. The economic trends that disrupt or discourage CPI formation are outlined below.

Although globalization means many different things to different people, probably the most common usage of the term refers to the spatial expansion of trade across regional and international boundaries (Robinson 2004). Understood this way, globalization is an integral part of economic development, especially as understood by neo-liberal economists (Krueger 1998). The spatial expansion of trade should raise the discount rates of producers because it would increase the array of economic opportunities available to them at any one point in time and reduce the salience of CPRs in their plans for earning livelihoods. People begin to conceive of livelihoods based not only on the commercial needs of their neighbors, but also based on the needs of consumers in distant markets. Under these circumstances CPR users may come to have quite different understandings of a CPR. Some may envisage the CPR as a springboard to a more lucrative future elsewhere while others see themselves as the most recent member of a long line of family members with a lifelong commitment to harvesting and preserving a CPR. The prospect of capitalizing on the new economic opportunities would make some potential members of a CPI impatient with the modest livelihoods promised by a depleted common pool resource that may take years to recover from its stressed condition (Ostrom 1990). Alternatively, globalization might create new economic opportunities from harvesting a natural resource, thereby attracting influential local and extra-local investors with short-term time horizons who want to exploit the CPR and will subvert existing CPIs to do so (Dove 1993). For these reasons the fraction of CPI members who decide to defect or sell out should be highest during periods marked by the globalization of markets for commodities.

Increased rates of labor migration would have similar effects on CPIs. The attractions of higher wages in distant labor markets become more tangible to CPI participants when they see or hear of acquaintances making these trips. The prospect of higher wages elsewhere would therefore raise the discount rates of participants in CPIs and reduce the salience of the CPR in their thinking about livelihoods. The rise in discount rates might prompt them to increase the rate at which they harvest the common pool resource which in turn might threaten the long-term viability of the resource and the associated CPI. Alternatively, people considering long distance labor migration like unattached young men or women might be reluctant to join a CPI because they will feel the opportunity cost of joining a local CPI and remaining in a region.

Figure 1 outlines these links between development trends, the accumulation or dissipation of social capital, and the incidence of CPIs in a place.

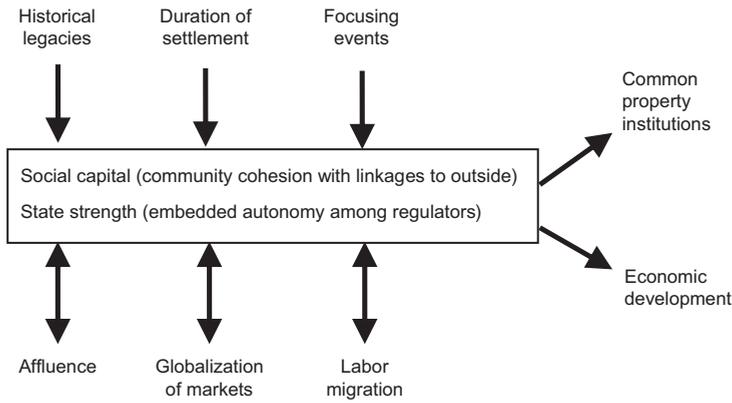


Figure 1: Social capital, economic development, and common property institutions.

3. The impact of development on common property institutions: an inventory of influences

The preceding argument makes a general argument about development, the accumulation of social capital, and incidence of common property institutions without discussing the more specific ways in which development advances or retards the fortunes of CPI users and the CPIs themselves. Tables 2 and 3 undertake this task. They draw upon two lists of CPI attributes developed by Ostrom, one about the characteristics of CPI users (Ostrom 1999) and the other, more well known list about the design characteristics of durable CPIs (Ostrom 1990). Table 2

Table 2: Development and the attributes of people who create CPIs

Individual attributes	Development					Duration of settlement
	Social capital	State strength	Affluence	Globalization	Migration	
Salience: users depend on resource for livelihood			-		-	
Common understanding of resource	+					+
Discount rate	+			-	-	+
Distribution of interests: similar or dissimilar	+	+		-	-	
Trust	+	+		-	-	+
Autonomy		+		-		
Prior organizational experience	+	+		-	-	+

Sources: Ostrom 1990, 1999.

cross-tabulates the likely effects of six major development trends on people whose characteristics make them likely CPI participants.

Table 3 cross tabulates the likely effects of the same six development trends on organizations that embody the eight design principles of durable CPIs. The six associated development trends, accumulating social capital, state strength, lengthening duration of residence, growing affluence, the globalization of markets, and accelerated labor migration, all should affect the incidence of CPIs either directly or indirectly, as indicated in Figure 1.

Viewed together, the theoretical expectations about the links between these development trends and the incidence of common property institutions fall into a distinct pattern. Referring first to CPI participants (Table 2), social capital and long length of residence contribute to a **common understanding** of the resource among users. Similarly, accumulated social capital, through a strong state, would encourage a similar **distribution of interests** among resource users because the political context would encourage impartial enforcement of the rules. Strong states, through their local presence and community cohesion, through its capacity for collective action, would contribute to local **autonomy** and therefore to **prior organizational experience** among potential participants

Table 3: Development and the design principles of CPIs

Individual attributes	Development					Duration of settlement
	Social capital	State strength	Affluence	Globalization	Migration	
Clearly defined boundaries	+	+	+	-	-	+
Congruence: rules crafted around local conditions	+			-		+
Participatory decision-making	+			-	-	+
Ability to monitor resource use	+	+	+			+
Graduated sanctions for rule breaking	+	+		-	-	
State supported conflict resolution mechanisms	+	+				+
Autonomy: national recognition of local rights to organize	+	+		-		+
Nested enterprises enable integration into larger systems	+	+				+

Sources: Ostrom 1990, 1999.

in a CPI. Globalization and accelerated rates of labor migration, by increasing the mobility of capital and labor, present challenges to CPI participants committed to the long-term sustainability of a CPR. As articulated by Clark (1973), growth in alternative economic opportunities raises the opportunity costs facing resource users which in turn makes the constraints on resource use and income that come with the CPI seem unduly burdensome. The alternative economic opportunities reduce the **salience** of the resource to the livelihoods of resource users. They also affect individual **discount rates** in ways that undermine participation in CPIs. With abundant other alternatives, resource users care less about the sustainability of a CPR far into the future which in turn reduces their commitment to a CPI.

Similarly, the globalization of markets and labor migration creates social pressures that shape organizations, preventing the creation of new CPIs and undermining or destroying existing CPIs (Table 3). Labor migration and globalization, by introducing new resource users and processors into a natural resource dependent community could encourage land invasions or incursions that would obscure the CPI drawn **boundaries** of a CPR. Affluence contributes to clearly defined boundaries because both the state and CPIs have the resources to pay for surveys and the legal assignment of property rights. Similarly, newly interested outsiders might object to CPI rules that create **congruence** between local conditions and the routines of CPR users. By extension newly interested outsiders might object to rules that came out of **participatory decision-making** by longtime, local users. With different interests, the outsiders might object to the **graduated sanctions** for repeated violations of CPI rules or they might leave after the first violation, rendering the graduated sanctions ineffective. In contrast social capital, in both the cohesive community and strong state variants, clearly seems to create conditions in which CPIs and CPI participants can prosper. Ability to **monitor** the use of resource would increase with the accumulation of social capital among resource users and a strong state's capacity to monitor resource use with advanced technologies (Camara 2010). Strong states should provide other services that are conducive to the successful operation of CPIs. These services would include an arena for **resolving conflicts** between users, and an institutional environment that encourages the formation of **nested CPIs** in which the users of smaller CPRs have their own CPIs embedded within larger CPRs and CPIs.

Given that there are no worldwide censuses of Common Property Institutions, it is difficult to bring sufficient evidence to bear on these hypotheses to assess them. The case study literature on CPIs is now so vast that a meta-analysis of the worldwide literature would be beyond the scope of this article. Previous meta-analyses of CPI formation during the past two decades do provide a limited basis for generalizing about these patterns. In particular there appears to be a relatively high incidence of effective CPIs in South and East Asia and a relatively low incidence of them in South America.

With the forest reforms of the late 1980s central states in South Asia, Sub-Saharan Africa, and East Asia returned at least partial control of forests to villagers. In so doing, governments encouraged villagers to form CPIs around their forests.

Happily, a substantial number of these villager controlled forests have begun to recover from their earlier degraded conditions (Rudel 2005, 131–132).

Case studies, in some instances extensive literature reviews, and regional meta-analyses, can be found that accord with the expectations of weak CPIs in a setting like the Amazon (Porro 2001) and strong CPIs in a setting like South Asia (Poffenberger and McGean 1996; Rudel 2005; Nagendra 2010), but without a census of organizations, these arguments are speculative. The largest meta-analyses of CPIs have used the IFRI (International Forestry Resources and Institutions) database, but these data were volunteered by the CPIs (Chhatre and Agrawal 2008), so it is impossible to draw any inferences from this population about the relative incidence of CPIs across nations. Sometimes large regional differences in the incidence of CPIs and the associated sustainability of smallholder agriculture exist within a single country. For example, the long settled, densely populated rice producing regions of central and south China have extensive irrigation works, organized into CPIs. The peripheral agricultural regions in northern China with much more mobile populations and volatile crop yields contain few examples of sustainable agriculture and few CPIs (Netting 1993).

4. Business cycles, disasters, and the changing contexts for common property institutions

To this point the argument about the macro-sociology of CPIs has focused on the long-term effects of development on CPI formation. Shorter term macro-sociological events like business cycles and natural disasters may also influence the formation of CPIs. Business cycles typically oscillate between boom and bust conditions although in many instances the fluctuations in conditions are more modest than indicated by the terms ‘boom’ and ‘bust’. Given the macroeconomic conditions associated with these episodes, booms should weaken CPIs while busts should promote the creation of CPIs. The logic behind these arguments is spelled out below.

This line of argument assumes that the potential participants in a CPI typically have, either themselves or through their families, a long history of earning a livelihood from a common pool resource. From a historical point of view the CPR has salience in the minds of these people. When economic conditions improve significantly at the onset of a boom, the opportunity costs of continuing to harvest from a CPR go up because alternative economic livelihoods, like working in the non-CPR sector of the economy, seem more feasible. These conditions elevate workers’ discount rates and encourage them to capitalize on other short-term economic opportunities. Potential CPI

participants may for these reasons want a higher return from a CPR under these conditions and would not accept the more limited harvest rates that typically accompany the creation of a CPI. As the alternative economic opportunities available to CPR users become more tangible, the salience of the CPR to CPI members should decline. More and more CPI members may develop other lines of work to capitalize on new economic opportunities. In so doing, their availability for monitoring the use of the CPR would decline, making it easier for others to exploit the CPR in ways that contravene the CPIs' rules (Agrawal 2001). These activities could involve corrupt transactions with officials who, seeing the augmented incomes in the private sector, want to raise their incomes as well.

An economic recession or bust, following upon a boom, should over time strengthen both existing CPIs and the likelihood that CPR users will form a CPI. The preceding boom with associated increases in the availability of credit and in rates of exploitation should over several seasons or years create a 'depletion crisis' that would underscore in the minds of many users the importance of creating a CPI to insure sustainable use of a common pool resource. The downturn in the surrounding economy would make the CPR more salient in the minds of users as alternative livelihoods disappear. The discount rates of CPR users would decline as the opportunity costs of exploiting the CPR decline with the diminished number of alternative livelihoods, so users would be more likely to accept the restrictions on resource use that come with participation in a CPI. These considerations suggest that the creation of CPIs would follow Polanyi's (1944) 'double movement'. In the first move globalization and the related boom raises human pressure on natural resources, creating a depletion crisis. In response, in a second move, stakeholders form CPIs in order to recoup some of the recent losses in natural resources.

Natural disasters could also initiate in a surge in CPI formation. In the immediate aftermath of a disaster victims often experience a sentiment of 'common fate' that then justifies collective responses that alters political agendas in sometimes decisive ways (Sell and Love 2009; Solnit 2009). In a context marked by an absence of CPIs a natural disaster could call into question the absence of sustainable controls over resource use, and, in so doing, it may create the political momentum necessary to establish a CPI among a critical mass of users. If natural disasters either precipitate or coincide with an economic downturn, like the dust storms in the southern plains during the 1930s, then the likelihood of forming CPIs like soil conservation districts should increase even more. In these troubled circumstances processes of creative destruction (Schumpeter 1942, 82–85) upset the sclerotic institutional order described by Olson (1982) and give resource users good reasons to form CPIs. These considerations suggest that the tempo of CPI creation should follow a countercyclical pattern, low during booms and high during busts, punctuated occasionally by moments of CPI creation after disastrous events.

5. Conclusion

Understanding the theoretical and empirical connections between development, the commons, and organizations to manage the commons may seem like an impossibly general task. Given this challenge, the theoretical connections drawn in the preceding pages between the commons, common property institutions, and development might best be construed as a heuristic, an analytic point of departure and a spur to further research. The relative absence of existing data that can be brought to bear upon these theoretical claims argues for a further expansion of research in common property institutions, a census of them across nations. Through this type of work development sociologists and other scholars with a comparative focus could, if they so choose, add an important contextual dimension to the already existing, impressive body of theoretical and empirical work around the commons problem. Done well, these analyses could become essential reading for students of sustainable development states and societies.

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