Social Dimensions of Rural Resource Sustainability

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A. Introduction

I have written this paper while living in Peru. During the course of thinking about it, and preparing for it, I have watched a closely fought national election whose vote divided the country. On the one hand we had a vote, concentrated largely in metropolitan Lima and the Peruvian coast – where the bulk of Peru's large cities and its export agriculture are found. The other vote was concentrated in Peru's two other mega-ecological regions: the Andean highlands, an area of intermediate cities, small scale (peasant and indigenous) farming and a rapidly growing (but still enclave like) mining economy; and the jungle to the East, a lowland area of tropical agriculture, hydrocarbon and timber extraction, colonization from the highlands and indigenous populations whose territories suffer increasing pressures of invasion, and de facto expropriation. In the second round of the elections (in May 2006), the highland and jungle vote was for a candidate who called for radical change, spoke against the system, and called for far greater controls on, and taxation of a highly profitable, largely foreign owned, mining sector. The coastal and above all Lima vote, on the other hand, supported a candidate calling for more continuity, for the promotion of agricultural exports (in both coast and highlands), and for more (but also more responsible) mining investment.

What does a national election in Peru have to do with my theme, the "social dimensions of rural resource sustainability"? I want to suggest two ways in which it is relevant and helps frame the discussion here. First, natural resources occupied a prominent place in these electoral arguments, in the form of debates on the roles that mining and hydrocarbons ought to play in national development. Arguments were passionate about how much taxes and royalties mining should pay, about the extent to which foreign direct investment (FDI) in mining ought to be subject to government regulation and control (if not nationalized) and

about the imperative of making mining a force for progressive forms of rural development (as opposed to a vehicle for the extraction of value inhering in natural resources). In many regards this was a debate about how far the extraction of a particular form of natural capital should be allowed to damage other forms of natural capital (land and water) and how far (and through which mechanisms) it should be transformed into different forms of rural capital (human, financial, physical …). It was a debate about the relative substitutability of different forms of capital, and about how this substitution should be defined, managed and by whom.

This leads to the second point. The highland vote was an angry vote, reflecting a deeply felt sense that highland, rural and provincial populations have had little say in framing debates on, policies for or concepts of development in Peru. It was a vote against a metropolitan, white, coastal and elite domination of these debates and a demand for increased involvement of the highlands in determining what natural resources should be used for and where the wealth that they generate should be re-invested.

These elections therefore drew attention to several building blocks for this paper. First, the roles that rural resources ought to play in society can be a deeply contentious issue. Second, it matters greatly whose sets of ideas come to dominate national debates and policies on how these resources should be used. Third, some groups in society dominate and define these debates and ideas far more than do others. Fourth, in these debates – and even if the term sustainability is not used explicitly – different groups have quite different ideas of what constitutes a sustainable management of rural resources. For some groups the large scale extraction of subsoil resources can be considered sustainable resource use, as long as some of the income derived is paid as tax revenue and then invested back into the formation of

other resources; while for others, if such extraction implies permanent change to and loss of landscape, water and financial resources (through capital flows from Peru to the global North), then there is no imaginable way that such extraction can be thought of as sustainable resource management.

With these contemporary observations in mind (and we will return to them in later in the paper), let me change tempo and lay out how this paper will proceed. The purpose of the following section of the paper is to explore, criticize and expand on frameworks for thinking about sustainability and rural resources. The section is divided into three sub-sections. The first lays out two related frameworks for thinking about rural resource sustainability, one operating at an aggregate (regional and national) level, the other at the level of the household. The discussion here explores the contributions that "capital" based approaches to sustainable development and livelihoods might make to an understanding of the social factors that underlie rural resource sustainability. In particular, it suggests that these frameworks leave pending a series of questions that should also be central in any reflection of the social dimensions of sustainability. *Inter alia,* they fail to consider: how it is that certain *things* come to be seen as *resources,* or *capital assets*, in some contexts and not in others; how actors (at distinct scales) determine the goals to which different asset portfolios should be put; how actors (again at different scales) come to decide the terms of exchange between different assets – how they decide that the loss of a given amount of asset X can be justified by a gain in another amount of asset Y; and how resources come to be unevenly distributed..

Building on these reflections, the second sub-section adds two core geographical concepts into this discussion of assets, asset mixes and asset portfolios. These are the concepts of

space and of scale. The discussion in that section first suggests that that these concepts are also central to how "rural" sustainability might be thought of. Indeed they lead us to question any attempts to think only of rural sustainability without also considering urban-rural interactions within wider territories, or the relationships between a given territory and actors and processes operating at other scales of analysis. The introduction of concepts of scale and scale relations also opens up a reflection on the wider economic and socio-political networks running across localities both close to and at great distances from the resource in question and that influence the control, management and relative sustainability of particular resources and particular livelihoods.

These two sub-sections raise the specter of a series of social processes and social relationships that appear to merit more attention in any reflection on the social dimensions of rural resource sustainability. The third and final sub-section therefore focuses on one particular type of actor - social movements – that in many cases brings these more contentious social dimensions into the open. In particular, this discussion explores both how livelihoods and capital asset frameworks can help observers understand why such movements emerge, as well as the ways in which the nature and actions of these social movements speak back to and help elaborate livelihood frameworks. The discussion also suggests that such movements raise questions not only about different ways of conceiving of resource sustainability, but also about ways of understanding the relationships between land and territory.

In the following section these ideas are explored empirically for the case of areas affected by rapid increases in external investment in natural resource extraction. The examples – drawing on our recent and on-going research[i] - explore the social dimensions that surround

conflicts over resource use that are triggered by such forms of development. At their core they make clear the way in which any notion of sustainable rural resource management is itself a social construct, that different actors have different understandings of the role of land in such strategies for sustainability (cf. Bromley in this collection), and that the process through which certain notions of sustainability and land become dominant are themselves social, characterized as much by conflict as by collaboration and dialogue. While the examples come from Latin America, once they are considered in the context of the broader spatial and scale relationships within which the places discussed are embedded, they quickly become cases that are at once Latin American, global and multiregional.[ii] Building on these case based discussions, the conclusions bring the discussion back to a larger reflection on what we might mean by (or at the very least include within any reflection on) the "social dimensions of rural resource sustainability."

B. Conceptual frameworks and social movements: building blocks for thinking of the social dimensions of sustainability

B1. Capitals and sustainability

"Making development sustainable"

During the 1990s, one of the more interesting and influential turns in the ways in which development studies discussed resources was to experiment with the use of a language of different forms of "capital." One of the early statements in this vein was that of Ismail Serageldin and Andrew Steer (1994) – at that time, respectively, the World Bank's Vice-President for Environmentally Sustainable Development and the Director of the Bank's

Environment Department. The statement grew, in part, out of an effort on Serageldin's part to suggest alternative ways of assessing the "wealth of nations" (Serageldin 1996), an effort first influenced by Herman Daly's work on natural capital, and subsequently by Putnam's promotion of the concept of social capital. Daly had helped introduce notions of natural capital into the Vice-Presidency – with a view to pushing the Bank to think more critically about the value of the environment and about the costs of environmental damage caused by its operations. Meanwhile Putnam (1993) had just argued – on the basis of work in Italy – that an undervalued resource in development was the social capital that exists as norms and networks of reciprocity in society. This social capital, he suggested, was directly implicated in the production of economic capital (and more generally of good government). Regardless of later debates (Tendler 1997) that questioned Putnam's arguments about causality, the idea found fertile ground in the Bank, and in particular in the Vice Presidency that had already experimented with the concept of natural capital and was itself the home for the Bank's social development work (Bebbington et al. 2004).

Serageldin took these ideas and suggested that a more complete assessment of the wealth of nations should include – and indeed account separately for – national stocks not only of financial and fixed capital, but also of human, natural and social capital. The argument was that GNP/GDP and income per capita measures alone were inadequate measures of wealth. Wealth had to be assessed across a range of asset/capital domains. It was of course but a short step to relate this discussion to a reflection on sustainability. In their 1994 publication, Serageldin and Steer (1994) argued that sustainability could best be thought of in terms of the mixes and trade offs among produced capital, natural capital, human capital and social capital. They suggested that levels of sustainability could be conceptualized in terms of the rules governing the substitution among these different stocks of capital. A "weak" concept

of sustainability, they argued, would consider development as sustainable as long as the overall capital stock increased, regardless of the substitutions occurring among different types of capital. This would therefore qualify as sustainable a form of development that drew down natural capital on a massive scale, as long as this produced enough human, produced and social capital to offset this cost. At the other extreme, an "absurdly strong" notion of sustainability would not allow draw down in any of these forms of capital – to be able to speak of sustainable *development* the overall stock would have to grow without loss in any single form of capital. In between the two extremes, Serageldin and Steer located two more pragmatic notions of sustainable resource use: "sensible" sustainability (in which total capital stock remains intact, and development processes avoid depletion of any particular capital stock beyond critical levels, which, since these critical levels are unknown, should be defined conservatively and monitored carefully) and ``strong" sustainability (which would imply maintaining each component of capital intact, meaning that if natural capital is destroyed in one place, it should be replaced by cultivated natural capital in other places as, for instance, in carbon sequestration and trading arrangements) (Serageldin and Steer 1994, 31-32).

Of course, such ideas are both value laden (the adjectives that they authors used made clear their own preferences) and more heuristic than analytical – the latter, because any effort to generate a common metric against which each of these capital assets could be valued would inevitably become subject to analytical scrutiny and political contention (a point to which we return below). Nonetheless, the framework remains useful and intriguing (and in this sense it is a good heuristic) because it helps make explicit some of the general senses in which societies (and socio-politically distinct sub-groups within societies) form views on acceptable types of trade-off among, and acceptable critical/threshold levels of, each of these

different capitals. What remains pending is how these decisions are made in society, but before we move to that point we first address a particularly fruitful elaboration of this schema.

Making livelihoods sustainable: capital assets and livelihood frameworks

While Serageldin and Steer (1994) appeared to be talking about regional and national levels when they were considering the relative substitutability of different types of capital, other authors and organizations have taken the basic elements of this same schema and applied them at the level of households – with a view to elaborating frameworks for understanding livelihood dynamics and decisions. This interest in livelihoods has, of course, a history that predates these analytical experiments in the 1990s. In the 1970-80s, research informed by dependency and world systems theory often drew links between processes of underdevelopment and the dependent nature of poor people's livelihoods. This work emphasized the extent to which the broader development model constrained and undermined people's livelihoods and the resources at their disposal.[iii] More recent approaches, while not eschewing the ways in which broad processes of capitalist development limit livelihood options, have taken a somewhat different approach. They have argued that a careful analysis of how people compose livelihood strategies can suggest ways in which openings in the overall development model might be reworked and exploited by poor people and organizations that work alongside them (Chambers 1987; Chambers and Conway 1992). These approaches combine a concern for poor people's agency, an interest in the resource bases of their livelihoods, and an acknowledgement of the ways in which institutions and structures affect livelihood options.

Some such approaches focus particularly on the ways in which people gain access to and control over a diversity of resources, combining them in different ways in order to pursue their aspirations.[iv], [v] Such frameworks focus on 'what the poor have, rather than what they do not have' (Moser 1998, 1) and understand livelihood strategies as the ways in which people gain access to these assets, combine them and transform them into livelihood outcomes (see Figure 1). In particular the following types of asset tend to be emphasized (Bebbington 1999):

- Human capital - the assets that one has as a consequence of one's body: knowledge, health, skills, time etc.;
- Social capital - the assets that one has as a consequence of one's relationships with others and one's membership in organisations, and which also facilitate access to other resources;
- Produced capital – both physical assets (infrastructure, technology, livestock, seeds etc.) and financial assets (money, working capital and assets easily converted into money);
- Natural capital - the quality and quantity of the natural resources to which one has access;
- Cultural capital - the resources and symbols that one has as a result of the social structures within which one is embedded.

(Figure 1 about here)

In addition to having a broad view of the assets upon which people draw, some of these frameworks also have a wide view of what people pursue in their livelihoods - or, in another

language, what they produce when they transform these assets. These frameworks thus work with a multidimensional view of poverty (Moser 1998) and aspiration (Appadurai 2004). The framework portrayed in Figure 1 conveys the notion that through their practices and strategies of resource management, people seek not only to generate material income (or income in kind), but also meaning and socio-political capabilities. There is thus an inherent relationship between livelihood and culture, and between livelihood and political capacity: livelihoods are in and of themselves meaningful, and a change or loss of livelihood possibilities necessarily implies cultural change. Likewise, a reworking of assets necessarily means a change in a person's ability to participate politically and in the concerns they will pursue in that political participation.

As they combine their assets in pursuit of their objectives, it is supposed that people tend to pursue those livelihood strategies that: are the most consistent with the portfolio of assets that they control at that point in time; reflect both long term aspirations and immediate needs; and seem the most viable given the opportunities and constraints of the circumstances within which they live. In such conceptions of livelihoods, it is important to introduce a time dimension in the sense that people's livelihood practices at the present may differ from their strategies for the future. Thus, where people invest the majority of their time and effort now may not reflect their aspirations for the future. Indeed, livelihood strategies may work at two levels simultaneously, with people accessing and using the resources they need to meet immediate family needs, while also trying to build up those assets which, when accumulated over time, will allow them or their children to pursue a different sort of livelihood. An example is where rural families not only pursue agriculture to meet immediate needs, but are also investing in those assets that allow their children to gain education so that they can shift

out of agriculture (and even out of the countryside). In the language of Serageldin and Steer this is a process of substitution among different forms of household capital over time.

In emphasizing the importance of *access* to resources, such frameworks also emphasize the ways in which broader social structures, and market, state and civil society institutions affect this access and people's abilities to transform, reproduce and accumulate their resources (Figure 1). The influence of the state on livelihoods can be profound, and is exercised in many ways through: laws that influence who has access to resources; public policies and programs that provide resources and influence market conditions; state sanctioned violence that renders assets insecure and depresses local economies; levels of repression or democratization that influence the relative inclination of more powerful social groups to steal the assets of the poor; and so on. The influences of racisms, patriarchy, and dominant notions of authority are equally significant. The politics of economic policy making – that privileges particular macroeconomic strategies, sectors of the economy and regions over others – also has a critical influence on what people can do with their assets and on their long term livelihood aspirations. While a policy framework that does little to offset the stagnation of peasant agriculture might elicit forms of collective rural radicalism as a response, at an individual level, it is at least as likely to translate into family strategies that aim to lay the bases for children to leave – to leave agriculture, to leave the countryside and to leave economically depressed regions.

Missing social dimensions

Notwithstanding their potential utility, the Serageldin and Steer, and the livelihoods frameworks share several points on which they are relatively silent yet which are central to any appreciation of the social dimensions to the sustainability that each profess an interest in.

First, while each framework emphasizes that sustainability is a function of various asset types (and not only land and natural resources) and that different strategies for sustainability involve distinct mixes and trade-offs among these assets, the processes through which decisions about trade offs are made remain unexamined. At an individual or household level, these processes will depend greatly on how different assets are valued both by the individual and by the political economic environment within which that individual is putting a livelihood strategy together. At a collective level (region, country etc.), the process involves interaction among distinct actors, each with their respective valuation of these assets and linked by social relationships that confer far more power to some of these actors than to others. Thus the trade-offs made may reflect imposition of particular valuations as much as they reflect choice.

Second, while each framework presumes the existence of different types of capital, they fail to explore how certain things, or attributes, come to be viewed as resources (or forms of capital) in the first place. For instance, what are the processes through which the sub-soil ceases to be something that merely "is there" under the ground, and begins to be viewed as a source of mineral or hydrocarbon resources – i.e. as capital assets with a particular value? What are the processes through which certain cultural practices or forms of social organization come be valued or, indeed, cease to be valued? Or again, how is it that a certain body of knowledge begins to be viewed as a resource or an asset, rather than simply part of culture, tradition or even backwardness? Each of these processes changes any

subsequent decisions about acceptable or necessary trade-offs among capital assets, and so becomes formative of subsequent resource management practices. And, for the purposes of this paper, each of these processes is inherently social and in many senses discursive. The value of a given (let's say) fifty square kilometers of headwater land, vegetated with cloud forest, located in community territory, and with subsoil deposits of copper, depends greatly on (for instance) how far prior debate, media activity and curriculum development in that society have come to frame the relative weights of the societies' commitments to biodiversity, endangered species, landscapes, minerals and indigenous culture. Put another way, that same piece of land can have quite distinct functions and meanings, depending on what it is valued for and who is looking at it.

Similar observations apply to the third gap in these frameworks. While each presumes a larger goal to which actions are oriented, they do not address the processes through which this goal is defined. Thus, for instance, in livelihood frameworks, how do individuals determine the meanings that they want their lives to fulfill, and the relative balance among these meanings, personal empowerment and material security? And in Serageldin and Steer's framework, how is the collective "development" project whose relative sustainability is to be enhanced, defined, and by whom? This definition is key – for it will influence what are deemed to be acceptable trade-offs among different resources, the "level" of sustainability that a societies' collective efforts will opt for, and the "critical levels" below which society will not allow particular assets to be drawn down.

Fourth, and finally for our purposes here, these frameworks pay scant attention to the social distribution of these different capitals. Although some livelihoods frameworks do make explicit the sense in which particular structures and institutions govern access to, and the

security and productivity of assets, the socially differentiated distribution of these assets – and thus of the livelihood options of different individuals – is hardly prominent in livelihood analysis. One effect of this is to understate the ways in which different livelihoods (and thus the management of different asset bases controlled by different actors) are structurally related to each other. Ownership regimes – and rules governing what needs to be done in order to demonstrate and secure control, access and ownership - will, for instance, determine which actors can and cannot draw on particular resources in their livelihoods. They can also go a long way in determining which livelihoods will revolve around asset management as a laborer, which around asset management as an employer, which around asset management as a purchaser, and which around asset management as a trader.

Much of this can seem at once obvious and fuzzy. Yet I want to suggest – for the purposes of a paper on the social dimensions of rural resource sustainability – that it is critically important. For these social processes define, for any given actor and collectivity: the resources that they have at their disposal to manage and sustain; the goals towards which they will orient these strategies of management and sustainability; and the social relationships through which some actors in society will have far more power to determine all this than do others. As the vote in Peru suggests, these are relevant, contentious and burning issues for those in society who feel they have less resources to manage, who disagree with currently hegemonic ideas about to what (and whose) ends resources should be managed, and who believe that they have had little say in defining either these goals or these distributions. As we shall suggest in a following section, certain social processes – in particular those involving the emergence of social movements - have helped bring greater visibility to these social dimensions of sustainability.

B 2. Space and scale in rural resource sustainability

"Rural" is both a social and a spatial concept. Socially, it invokes a notion of low population densities, economic activities in which natural resources play a role (through agriculture, tourism, heritage management and so on) and a range of cultural attributes and practices. Spatially it invokes a notion of places that are located beyond concentrated human settlements of a given size,[vi] and are characterized by significant natural or cultivated land cover (as opposed to built forms).

"Rural" is also a concept that can often be packaged with a certain conception of scale. "Local" would seem to be the scale most instinctively associated with rural – an association that is so often manifest in the somewhat strange notion of "local people." Rural development projects, participatory natural resource management initiatives, or rural research projects repeatedly talk about consulting with "local people," as if some people in other parts of the world are not local. This use of "local" is itself often imbued with social meanings, seeming to imply people who have more grounded knowledge, more right to have a say in how resources in particular places should be used, more noble, more legitimate, more authentic.

Yet these spatial and scalar associations so often linked to the word rural are highly questionable. Indeed, livelihoods research has done a lot in recent years to demonstrate the extent to which many "rural" livelihoods are no longer primarily agrarian, but instead involve a range of non-farm activities many of which have clear urban components – because of migration, because of strategies to gain access to schooling or other services, or because of families making a steady transfer over time of their investments from rural to

urban space (Reardon et al. 2001). In a similar vein, an increasingly strong current of thought in rural development debates argues – in essence – that it is no longer helpful to think of *rural* development. Instead, the focus should be on understanding the processes through which development occurs in wider territories that encompass both rural and urban spaces (Schejtman and Berdegué 2004). This orientation is already a pillar of the Inter-American Development Bank's rural development strategy and policy, as well as being prominent within the thinking of agencies such as the International Fund for Agricultural Development.

These approaches emphasize the extent to which rural economies are linked by a range of commodity chains to urban, national and more distant economies. They also insist, increasingly, that for a process of territorial development to occur these economic linkages between "rural" spaces and dynamic markets need to be deepened and that institutions need to be built such that this deepening is facilitated, and poorer rural residents are able to participate in the economic transformations that market deepening would engender.

Thus, whether the focus is on rural livelihoods, or the economic development options of rural territories, the tendency is to de-emphasize the very idea of rural and to instead think of linkages, networks and chains in which economic processes cut across space, link actors in different locations, and draw resources into these economic dynamics. The relevant space for thinking about rural resource use thus ceases to be rural, and becomes regional and multilayered; and the scale for thinking about "the rural" ceases to be local, and becomes multi-scalar – or, perhaps, multi-local.

Several implications seem to flow from this for our interest in rural resource sustainability. One is that it may simply be unhelpful to think of "rural resources". Rather, resources are embedded in networks that run across a range of locations and involve a range of actors. Indeed, to return to a point in the previous section, these networks go a long way in determining the processes through which a "thing" in rural areas becomes a "resource". Indeed, in many instances it may be the case that something is never a rural resource – rather it transitions from being a "rural thing" to a "regional/national multi-local resource". This is most clearly the case for minerals and hydrocarbons, but also for certain timbers, plants and landscapes.

Second, the calculations that influence the ways in which these resources are managed are certainly not bounded by a rural space. Markets, prices and policies in distinct locations each have a great influence of course – not only on how a given resource sold on those markets is managed, but also how other resources are managed, mixed and traded off as a function of the management of this marketable resource. But it is not only distant markets that affect these resource management practices in a given "rural" space. The use and control of "rural" water is (and will increasingly be) affected by urban and industrial demands for water – demands still transmitted and made effective by bureaucracies and laws as much as markets. Likewise valuations made elsewhere of biodiversity, cultural diversity, landscapes, and other "things" likewise creates linkages that then impinge directly on the use of rural things, bringing them into wider networks that turn these things into resources. Some of these networks might operate through markets (as in the case of tourism for instance), others through hierarchies and bureaucracies (as in the case of international conservation organizations).

Third, and directly related, the "relevant" actors in rural resource management become anything but rural. In cases that we will discuss in the empirical section, a small sample of the actors relevant in influencing rural resource use would include: traders and investment firms operating on the Toronto, New York, London and Philadelphia stock markets; environmental activists of a range of political hues operating in the Bay Area and Washington DC, members of Congress in Peru and Ecuador, human rights and development activists in London, Boston, Quito, Lima and Colorado, companies legally based in London, Denver and Vancouver, the World Bank group – as well, of course, as a range of national ministries.

Again this may seem obvious, but whatever the case, the important point is that the relevant spaces and scales at which rural resource sustainability is determined go far beyond the rural, and are multiple – with, by the same token, multiple actors involved. While this can bring opportunity, it also brings a far broader range of valuations to bear on given resources (in addition to the valuations made by those people who live more closely to them), and as a result increases the likelihood of conflicts over how rural resources should be managed, by whom and to what ends.

Such networks and the ways in which they affect the use of rural resources have only recently become an object of serious research. Furthermore, what research has been done has been far more on activist networks and networks linked to the multilateral development agencies (formative works here are Keck and Sikkink 1998, and Fox and Brown 1998). Far less progress has been made in understanding those parts of these networks that operate through businesses, stock markets, venture capital markets and the like. Even less has been done to understand the ways in which distinct types of network co-exist and interact with

each other – and again, what has been done has focused more on interactions between activist/social movement networks and the development banks than on their interactions with international market actors.

One important and interesting exception in this regard is the work of anthropologist Anna Tsing (2004). Tsing explores the ways in which timber and minerals in Indonesia become resources within international economic circuits, and the networks, ideas and images that are mobilized in these processes. At the same time she traces the relationships between environmental activists working at different locations along these same networks – activists in provincial localities in Indonesia, in Jakarta, and in the Americas. Again, reflecting the relative difficulty of research access, the activist networks are more deeply analyzed than those linking market actors, but still her ability to get inside each allows her to trace how the workings of these different networks interact with each other and ultimately influence the ways in which resources across distinct locations of the Indonesian archipelago are managed, extracted, protected, fought over, traded off, sustained.

Tsing uses the term "Friction" to refer to these interactions, and does so in a double sense. The first sense is that activist networks present a certain friction to market processes, slowing or modifying their fluidity of operation. The second sense in which she uses the term is to refer to friction within environmental activist networks – tensions within these networks both among actors working at the same spatial scale as well as, and especially, among actors operating at different scales (or different points along the network). These frictions can emerge for a number of reasons including tensions over: who exercises more influencing in setting agendas for local action and agendas for international campaigns; who determines the use of resources; the simultaneous existence of relationships of solidarity and

of audit; the co-existence within networks of conservationist agendas and environmental justice agendas; and so on. Whatever the specific explanation in any given case, however, the existence of these tensions reflects the more general fact that along these chains of solidarity and activism there exists a series of actors – located at quite different physical and social distances from particular natural resources – who have an influence (and aim to expand that influence) on the ways in which land and natural resources are used, and the ways in which this use is debated. Rural resource sustainability becomes again – in activist networks as much as economic ones – subject to actors operating at a range scales and across wide spaces, some very far from the resource and land in question.

B3. Social movements and sustainability: making visible the social dimensions

In discussing international activist networks and the ways in which they interact with economic networks and together affect what happens to rural resources, Tsing (2004) draws attention to the place of social activism and mobilization as part of the social dimensions of rural resource sustainability. What these movements do is (in part) to argue the case for a particular notion of sustainability – in general a relatively strong notion, to use Serageldin and Steer's (1994) terms. As such they also constitute one of the actors struggling to define the concepts of sustainability that will ultimately inform policy and political decisions about resource use. These international (multi-scalar) actors, however, often interface with more localized forms of social mobilization that also aim to influence the ways in which capitals are substituted one for another, as well as the social distribution of the costs and benefits associated with these processes of capital substitution. In many cases these more localized mobilizations might usefully be understood in terms of the asset-based livelihoods

frameworks discussed earlier, though as we will see their actions also reveal, and in some way compensate for, the gaps in these frameworks.

Livelihoods, rural resource dispossession and social mobilization

As noted earlier, livelihoods are a function of assets and structures, and a source of subsistence, income, identity and meaning (Bebbington 1999; Moser 1998; Scoones 1998). Some social movements seek above all to expand or maintain people's asset bases. These movements may engage in: direct resource management activities; in activities that provide new, or complement existing resources; and in activities that involve the transformation of resources (marketing, processing etc.). I have discussed these organizations elsewhere (Bebbington 1996, 1997) – in this section I focus on those social movements that instead emerge to contest patterns of resource control and access and, in some sense, to resist economic processes that lead to asset dispossession (cf. Harvey 2003; Hickey and Bracking 2005: 853). The emergence of such movements might be understood as an attempt to defend livelihood, assets and territory (Escobar, 1995) by challenging the structures, discourses and institutions that drive and permit their exploitation and dispossession (or, in other terms, as an effort to sustain one particular way of controlling and managing resources rather than another).[vii]

Over the last decade in Latin America movements with these characteristics have increased in importance in response to the increased investment in rural resource extraction driven by growing demand for minerals (especially from East and South Asia), price increases for minerals and hydrocarbons, and by technological changes that have turned many once uninteresting deposits into technically exploitable and commercially viable propositions. As

a result of these different changes, the economic and technological frontier for extractive industry has been pushed deep into already occupied areas. This brings new threats to the material and cultural resources bases of livelihood, eliciting new types of movement – ones that contest issues of dispossession.

The complaints of movements in the face of these forms of dispossession can be understood in terms of the frameworks explored earlier. That is, they emerge to contest the terms of exchange when one form of capital is substituted for another, and/or to contest the levels below which certain resources (water, land, wildlife …) are drawn down as a result of extractive industrial activity. For their part, companies and governments reply either that movements have no need to worry (that draw down has not passed critical levels) or that draw down of natural capital is being more than compensated for through gains in financial capital (in the form of business investment) and in human and physical capital (as a result of investments by company social responsibility programs or by government programs funded by taxes generated by extractive industries). Stand offs between companies and movements thus reflect struggles over who should define acceptable levels of trade offs, and in this sense they politicize one of the social dimensions on which Serageldin and Steer are silent. At the same time, movements contest the social distribution of the resource gains and losses created by extraction – again making clear a social dimension not made explicit in these frameworks.

While movements might share a broad concern about dispossession, there can still be considerable diversity among and within movements as to the *specific* types of dispossession they are contesting. Likewise, different actors within movements may offer distinct critiques of the issues that they are addressing, and different proposals for alternative policies (cf.

Perreault 2006). These alternatives can range from complete rejection of resource extraction and the concepts of resource governance and sustainability that they bring with them, through to demands for greater participation in decision-making regarding resource management and more equitable distribution of the benefits derived from resource exploitation. Some groups within movements might be open to deal with resource extraction companies, others not at all (and vice versa). Some may prefer strategies of negotiation, others of confrontation and direct action.

We might hypothesize that the positions and strategies that dominate within movements will have distinct implications for the types of negotiation and articulation that ultimately occur between movements and resource extraction industries, and thus for the types of rural resource management that ensue from these articulations. At one extreme one can imagine the existence of movements with unified and forceful positions reflecting their sense that they are being dispossessed both of a way of life and of exchange value, and who are therefore unwilling to negotiate. At another extreme one can imagine the existence of movements whose concern is to negotiate compensation for dispossession and/or guarantees against dispossession of asset *quality* and who would withdraw contestation once the extractive industry had put in place plans for environmental remediation and social compensation.

It is important not to romanticize about such movements, because they fail as often as they succeed. This propensity to failure reflects an inherent fragility in movements, one that has to be understood in terms of their internal dynamics and of the contexts within which they operate. Movements are constituted by distinct currents, groupings of actors, local leaderships and organizations. As a result, holding a movement process together around a

shared agenda for sustainability is an immensely difficult feat and always a fragile achievement, not least because internal sources of weakness can be compounded by external factors. In particular, while many livelihoods might be threatened by extractive industry development, others will stand to gain as the capital investment and substitution effects of the industry also create new livelihood opportunities. This can easily lead to situations in which the social mobilization that emerges to contest extractive industry development exists alongside quite distinct forms of mobilization that seek to defend and support the industry (and that may well receive direct support and encouragement from the industry itself). The effect that this mix of social actors ultimately has on resource management depends greatly on their relative power, and the relative importance of the extractive industry within both the national and regional economy. Where the industry is that much more important, one would expect state and other social forces to be more determined to question, delegitimize and repress movements and more generally expose their internal fragilities. Likewise the greater the resources at the disposal of other economic actors, the more able they will be to deepen the inherent fractures in movements. At a more general level of abstraction, in this triad of relationships among movement, business and state, it may well be that the outcome of conflicts over what sort of resource sustainability and livelihood mixes are to be pursued hinge around how far state agencies ultimately identify with one set of claims over another.

C. Extractive industries, actor networks and conflicts over sustainability

In this section I wish to explore a particular case that throws light on some of the issues raised in previous sections, and that helps ground some of these more abstract reflections on what might be taken to constitute social dimensions of sustainability. The case is that of a particular form of extractive industries development – large scale mining – with a

geographical focus on Peru. Peru has a long history of mineral extraction. However, since the mid 1990s, reflecting a series of changes in mining and tax codes – changes linked to the more general implementation of a neoliberal model of economic management in Peru – the mining industry has expanded rapidly (Bridge 2004). By the year 2000 three departments of the country had between 30 and 50 percent of their terrain under mining claims, and a further seven had between 20 and 30 per cent (Bury 2005).

Accompanying this growth in investment in extractive industries has been an equally remarkable surge in social mobilization and conflict. Thus in 2005 a report to the Peruvian Defensoría del Pueblo (Ombudsman's Office) recorded thirty-three separate conflicts related to mining (Ormachea 2005). In many respects these conflicts can be understood as confrontations between different models of sustainability. In a very simple sense, mining companies and Ministries of Energy and Mines manage a concept of resource sustainability that allows for substantial substitution among forms of capital, as well as significant changes in the asset mixes on which rural livelihoods are built (changes that would essentially force many families to have to lead new types of livelihood). They also – somewhat against the suggestions of Serageldin and Steer – manage optimistic notions of how far particular capitals can be drawn down before passing critical levels. Those contesting this mineral development – both local movements and wider activist networks – work with stronger concepts of sustainability, allow of less substitution among capitals and are far more conservative and risk averse in the types of capital draw down that they would deem acceptable.

These conflicts over models of sustainability have involved a wide range of actors operating at different scales. In much the same way as Tsing (2004) describes, we encounter on the

one hand networks that bring together miners, investors, stockmarkets and ministries of mining and finance. Actors in these networks by and large seek to promote mining and the models of sustainability that this implies. They also argue that decisions on whether mining should proceed should be made at a national (rather than local) level, on the grounds that mining is a national priority. Of course, substitution among and draw down of capitals is easier to accept at this level because those making decisions do not experience the effects of the substitutions in their own livelihoods.

On the other hand are a range of activist and social movement organizations operating at various scales and questioning the current forms being assumed by mineral extraction projects. Actors in these networks may push for anything from more responsible mining to no mining at all – these different options being associated with their respective understandings of sustainability. These networks bring together international actors – e.g. Oxfam, Friends of the Earth International, US Bay Area environmental groups, human and indigenous rights groups and others – as well as local and national NGOs and social organizations. National level indigenous organizations are also prominent in these networks in both countries, and tend to argue that land and subsoil ought to be understood as territory rather than resources. As such, they have increasingly argued, that these spaces ought to be managed so as to sustain indigenous territory rather than with a view to extracting natural capital and building up other forms of capital. For their part these networks tend to argue that decisions on the forms of sustainability to be pursued should be made either at international levels (where the emphasis is on protecting global commons) or local levels (where people are directly affected by the capital substitution and draw down fostered by mining).

Variants of these networks have interacted and clashed on a number of extractive industry development projects in Peru over the last decade. In some cases the clashes have led to some slight modification of the resource management and capital formation effects of mining – examples here would include more careful environmental management practices or expanded social responsibility programmes investing in both human capital formation and local business development. In other instances, the clashes have had far more significant effects on rural resource management. In August 2006 in Peru – following the electoral process discussed at the beginning of the paper, and a rising tide of social conflict – a group of mining companies, encouraged by the new government, agreed to contribute an additional US$ 782 million[viii] over five years to government social programmes - a significant change in the terms of substitution among forms of capital occurring at a national level.

Experiences such as these suggest several important points about the ways in which these different actor networks, stretching across distinct locations and scales, influence resource management. First, these networks help turn things into resources, and also help give distinct values to these resources; second, these networks each influence the ways in which discussions of resource management are framed – indeed, there exists something of a tussle among them to determine the terms of debate as to what constitutes sustainability and how resources ought best be managed in Peru; and third, even if certain networks and actors consistently tend to have more power than others, there is always an element of contingency in how these power relationships will work out and in the resource management effects that flow from this.

The following comparative study of two regions in the North of Peru each affected by mining explores in somewhat more detail how these networks operate, and some of the

factors that seem to determine the ultimate resource management effects of their interactions. The first case comes from the department of Cajamarca. The mine studied – which we refer to as MYSA - is jointly owned by Newmont Mining Corporation (a US based multinational with head offices in Denver, Colorado) with a 51.35% share in the ownership, the Peruvian Compañía de Minas Buenaventura with 43.65%, and the International Finance Corporation (IFC) with 5%. MYSA is a particularly significant mine, not only because it is the largest gold mine in Latin America,[ix] but also because it was the first large scale foreign direct investment in Peru following the 1980s, a decade of lost to hyperinflation and civil war. While exploration was underway during the 1980s, the first significant investment was made only in 1992 and the first gold presented to the public in 1993.

(Figure 2 about here)

The second case – or, more exactly, pair of cases – come from the department of Piura, that sits between Cajamarca and the Pacific Coast of Peru (Figure 2). The first experience comes from the town of Tambogrande, and the second from the provinces of Huancabamba and Ayabaca. In each instance, the case is of an (as-yet) non-mine. That is to say, these are cases in which mineral exploration has not yet been able to progress into mineral extraction, in part because of the ways in which these exploration activities have catalyzed processes of social mobilization that emerged to resist the conversion of land to mining.

The comparison between these cases helps us to reflect on the conditions under which social movements have more and less effect on natural resource extraction industries and the types of land use and landscape they produce. Indeed, the comparison is one of extremes – between one case in which a social movement has been little more than a spectator to the

creation of Latin America's largest gold mine, and another a case (Tambogrande) in which mobilization has had the effect that – for the time being – an agrarian landscape is still an agrarian landscape, and land is still used primarily for agriculture and human settlement. What might this comparison have to tell us about the social dimensions of rural resource sustainability?

C.1. Cajamarca, rural resource transformation and the rise of weak sustainability

The acquisition of land is central to the success of an open-cast mine for the obvious reason that such operations require that the mine own surface as well as sub-surface rights. Land, however, has long been a point of political contention in the Andes and, indeed, MYSA's land acquisition program triggered the first rumblings of discontent with the mine. Interestingly, however, the rumblings were less due to asset loss per se, but rather the conditions under which land was being acquired. Complaints began to emerge about prices paid, undue pressure exercised on families to sell their land, and people selling land to the mine that did not belong to them. The first stop for these complainants was the parish church in the area most affected by the early activities of the mine. The priest served to link the complaints up with the Diocesan human rights office as well as other human rights organizations in Peru – organizations which in turn presented the complaints to MYSA as well as Newmont in Denver.

While the local Church played the initial role in linking communities up to proto-social movement organizations, this soon came to an end when the priest was sent to Rome. At this point, however, another actor began to assume this articulating role. This actor was the nascent federation of *rondas campesinas*, peasant vigilante groups whose primary purpose

had been to guard against cattle rustling and later assure community security more generally during the times of rural violence in Peru (Starn 1999). A number of people active within the federation were affected by the expansion and land purchasing activities of the mine, and the federation became a vehicle for contesting these adverse impacts. The federation (FEROCAFENOP) began to organize protests in Cajamarca itself and further developed its links to international environmental groups (in particular in the Bay Area of the US), which also helped it engage in advocacy in the US. In the process, their complaints became more visible nationally and internationally, although federation activists of this period remember it as one when international support and involvement was far greater than support from urban Cajamarca where these rural grievances passed as largely invisible and irrelevant. Significantly, though, notwithstanding the grievances that peasants and the Federation had with the mine, the protest during this period was not so much oriented towards getting rid of MYSA as to demanding a different relationship between mine and communities: a relationship characterized by fair compensation, more civil treatment, and greater participation in the benefits that the mine was generating. In other words, they were looking for a relationship in which the natural capital of the mine (i.e. gold), and of the community (i.e. land) would be converted into greater amounts of other forms of capital over which community members would have control and on the basis of which they could build adapted and improved livelihoods.

Meanwhile, concerns about the mine were beginning to grow in the city of Cajamarca – not so much because of any sympathy with the plight of rural communities but rather because of the accumulating evidence that the mine was beginning to have adverse effects on the rural sources of urban water. A mercury spill in 2000 further consolidated these concerns while also gaining greater international attention because of a highly successful video (supported

financially and distributed by several international activist organizations) that documented the spill. Urban environmentalist groups found themselves somewhat strengthened by these events.

Around the same time as these publicly visible rural resource management failures of the mine, MYSA finally succeeded in channeling some its social responsibility program finance to FEROCAFENOP,[x] the federation that had for so long been the main organized face of rural contention against the actions of the mine. This immediately undermined the legitimacy and power of the federation, and as a direct consequence, the anchor of the social movement shifted from organizations based in rural community groups to ones based in urban and professional groups. In the process, movement discourses also began to change. While the rural movement of the 90s had been openly confrontational, it had been neither an environmentalist movement nor an anti-mining movement. Instead it had been a movement that was more concerned to demand fair treatment and adequate compensation for the forms of dispossession that had occurred in rural communities, and a fuller inclusion of rural people in the mine's activities. In this sense it might be argued that it sought a far clearer and more synergistic articulation of the mining economy and rural livelihoods and a "sensible" (Serageldin and Steer 1994) sustainability – rather than the dispossession and weak sustainability model of mining that dominated in the 1990s. With the shift to an urban-led movement, movement discourses on sustainability changed, with some groups calling for a "strong sustainability" environmentalism demanding far greater protection of natural capital, while others merely called for greater national and state participation in the control of the mine and its profits. In this far weaker view of sustainability, the mine would continue drawing down natural capital, but increased state control of the mine would mean that the

income from this draw down would be invested in society wide human and social capital formation rather than company controlled financial capital formation (i.e. profit).

Environmental concerns remained at the forefront of debate in Cajamarca during the early 2000s, as arguments emerged about whether mercury had seeped into the urban water supply or not, and over whether the overall quantity of this supply was being threatened. At the centre of this latter discussion was an argument about MYSA's desire to expand operations into an area known as Cerro Quilish. Initial peasant protests against this expansion in the late 1990s had ultimately led to a municipal ordinance that declared Quilish a protected area on the grounds that it was the source of the cities' water supply – a definition of a critical level below which a particular part of the region's natural capital should not be drawn down. The ordinance was, however, contested by MYSA, and after drawn out legal proceedings, a Constitutional Tribunal concluded that the mine's rights to explore in Quilish preceded the powers of the municipality to declare it a protected area. In July 2004, on the basis of this judgment and an environmental impact assessment, the central government gave MYSA the right to re-commence exploration on Quilish. Immediately, protests erupted and quickly escalated to the point that the city of Cajamarca and the mine were effectively paralyzed until the central government once more shifted its stance. Confronted with a situation in which its "social license to operate" seemed increasingly in the balance, MYSA withdrew its request for permission to explore in Quilish.[xi]

As the process of social mobilization has unfolded in Cajamarca, it has incorporated a growing number of actors. These actors, while united by a general sense that MYSA has dispossessed them of something, differ in the specific nature of their concerns. These range from: worries over threats to rural water; concerns for the supply of urban water; desires to

see the mine subject to national ownership; annoyance at the relative loss of middle and upper-middle class status and authority; and annoyance at the seeming impenetrability of the mine and its unwillingness to listen. These positions ranged from anti-mining, to pro-mining, to commitments to distinct ways of governing mining. Associated with each of these positions were quite distinct views on what constituted adequately sustainable rural resource use. In this sense, while the movement channels grievance it has not channeled any coherent, alternative proposal for a particular form of regional or livelihood sustainability, not least because the actors who go to make up the movement have quite different positions on if, and how, mining should proceed in the region.

The existence of these internal differences has not meant that the movement has had no effect on the relationship between mining, livelihoods and rural resources in Cajamarca. Indeed, the mine has changed some of its practices as a result of these mobilizations and protests. Furthermore, it appears to have been more responsive since the movement "urbanized" – viewing such urbanized protest as ultimately more threatening than purely peasant protest. Thus, between 1999 and 2004 MYSA's investments in environmental remediation almost trebled while those in social responsibility increased almost ninefold (Morel 2005).[xii] These programs have been shown to increase the financial and human capital asset bases of household livelihoods, while weakening their social capital (Bury 2004). Protest has also forced some rethinking of expansion plans, as evidenced in the mine's withdrawal from Quilish. It has not, though, broken its tendency to combine social responsibility programs with strategies of intimidation against activists and others who appear to stand in its way, nor has it stopped the overall expansion of the mine. This expansion, land- and water-hungry, continues to transform livelihood options in the areas directly affected, primarily through the effects on natural capital assets.[xiii] Furthermore, it

has served as a sort of nucleus around which a range of other mining project have developed, producing a mining district and in some senses, a concessioned department as the stains of red and green on Figure 3 attest.

(Figure 3 about here)

C.2. Piura: movements and the search for strong sustainability

Though often thought of as an agricultural economy, extractive industry has featured prominently in Piura's modern economic history in the form of both hydrocarbons and fisheries. This prior experience has been less than encouraging, in the eyes of some who argue that Piura's is a history in which natural resource extraction has been controlled by external actors, and that the bulk of both resources and profits has been taken out of the region to be consumed and invested elsewhere. In comparison with these experiences, such commentators view (post land reform) agriculture as producing forms of development that involve a larger portion of the population, that allow resource use decisions to be made much closer to that population, and that generate income and products that are more likely to re-invested and consumed within Piura itself.

Some therefore see agricultural land use as more inclusive than the forms of land use produced by extractive industry. However, the performance of the agricultural economy does not suggest that (at least under current conditions) such land use alone can serve as the basis of Piura's development. Thus, between 1970 and 2004, Piura's agricultural sector grew at 1.18% p.a, while departmental GDP grew by 1.51%,[xiv] and while agriculture employs some thirty-seven percent of the economically active population it accounts for only eleven

per cent or so of GDP. Agricultural exports do not exceed $100 million a year. One set of factors constraining agriculture growth in Piura relates to water management. Not only could water be managed far more productively at a farm level; at a regional level it could be managed far more strategically. Currently only 140,000 hectares are irrigated, while 200,000 ha. could be irrigated with current resources. But more importantly, if investment were to go ahead in three long planned irrigation projects, a further 150,000 hectares could be irrigated. This would allow agricultural exports to grow to anything between $600 and 1,500 million p.a., estimates Correa.

Water is therefore central to any expansion, productivity growth and enhanced export orientation of Piura's agricultural sector. But water is also scarce, and an expansion of the irrigated frontier requires public investment. Furthermore, there are multiple demands for (and potential threats to) this water. One of these is badly managed urban growth and waste management; another is the fact that some 33 percent of Piura's land surface is currently concessioned for potential extractive industry use - primarily for hydrocarbon, phosphate and copper extraction (Figure 4). This makes the strategic, planned management of water resources an essential part of Piura's future development. This would seem to have two implications. First, that land use zoning and planning should guide development, serving as the basis for strategic planning of synergies between different sectors of the department's economy; and second, that it makes no strategic sense for extractive industry projects to be decided upon on a project by project basis. Such an approach (which is that which currently exists in Peru) allows no scope for strategic planning of resource (especially land and water) use and development.

(Figure about 4 here)

The need to make land use planning functional and legally binding is an urgent issue because Piura is one of two or three new frontiers for mining expansion in Peru - apparent from the current map of concessions in the department (Figure 4). As rates of growth in other parts of Peru slow down, the mining sector needs to open new frontiers in order to sustain these rates of growth. The pressure to use land for mineral extraction in a region with no significant history of mining[xv] has brought those actors fostering such land use conversion into direct conflict with other actors who argue that land should be used to produce agricultural landscapes (on the grounds that they are socially and economically more inclusive) and water (on the grounds that water is needed in order to dynamize the use of these agricultural landscapes).

In this confrontation between these two agendas for land use, the first conflict – one that has had Latin America wide resonance – occurred in the town of Tambogrande, where a Canadian junior company, Manhattan Minerals Corporation, sought to bring a gold mine to approval in the late 1990s and early 2000s. Manhattan's exploration operations led to a period of sustained conflict between local populations and the company between the years 1998 and 2003, until the company finally withdrew (Portugal 2005). The conflict was made especially acute because it pitched mining directly against human settlement and export agriculture. The mine would have required resettlement of much of the town, and potential damage to a zone of successful, export oriented, high value irrigated agriculture that had been made possible, *inter alia,* by earlier World Bank investments in water management. The case thus lent itself to clear dichotomies: a private investment undermining an earlier successful public investment; a mineral development landscape undermining an export

oriented landscape that appeared both more economically valuable and more inclusive in employment terms; and a mine site displacing people from their houses.

The conflict escalated quickly and became violent. The main leader of the opposition to the mine was murdered, and further escalation seemed only to have been avoided through the implementation of a local referendum to determine the future of mining in the area. This referendum, organized by the local government and supported by national and international nongovernmental organizations (and in some sense indirectly by the National Peruvian Electoral Office, ONPE),[xvi] enjoyed a turnout of some 27,015 people, roughly seventy three percent of eligible voters. The result was that 93.85% voted against mining activity in Tambogrande and 1.98% in favor (the balance being abstentions, spoiled ballots etc.).[xvii] This model – of the public referendum on mining – has since been proposed and used by social movements and activists in Argentina and Guatemala as part of their efforts to halt mining projects.

The fact that contemporary land use in Tambogrande is still dominated by agriculture and the prior urban settlement grid, and not by an expanding mining sector, can only be explained by the emergence of a social movement that culminated in this public consultation. But how did this movement emerge and achieve what it did? At the core of the success of this movement was the fact that it grew from, and succeeded in building bridges across, a number of distinct social groups in the region. In particular, it built bridges across rural and urban groups (as both populations had much to lose), and also among small and quite large export oriented farmers (again, as each perceived it had much to lose). In the process it also brought local government into the movement, an involvement that was critical as it was this government that had the powers to convene the referendum. Just as importantly, though, this movement built links with actors in Lima and beyond. As the process unfolded, activists in

Tambogrande gained the support of a group of Lima based advisors (organizations and individuals) who operated as a technical committee to Tambogrande's social movement. The committee provided information, helped with the studies that argued that Tambogrande would be more economically productive as an agrarian landscape than as a mining one, helped with legal issues and, crucially helped with the referendum. They also played important roles in making links to international actors in North America and Europe, not only for advice but also for financial support – and in particular to fund the referendum. Absent any one of these groups, and Tambogrande's current landscape would likely be an emerging mineral landscape.

This experience in Tambogrande has forever marked conflicts over mining in Piura (as well as in Peru more generally). This is reflected in our second example from Piura. Just as the referendum in Tambogrande was being conducted, so exploration was beginning to expand in another part of Piura – in a project known as Rio Blanco, located in the highland provinces of Ayabaca and Huancabamba. To the extent that the conflict in Tambogrande was not only over Manhattan's project but also over the general expansion of mining in Piura, the rise of exploration in Rio Blanco would have suggested to activists that while they may have won the battle in Tambogrande, the larger war was still waging – just as it would have suggested to the mining sector and government that even if it had lost a battle, the war was still there to be won. Second, to those in Rio Blanco doubtful of mining's benefits, the Tambogrande experience provided an antecedent that helped instill what Diez calls "skepticism in Huancabamba and open opposition in Ayabaca" to mining (Diez 2006). Third, and related, the group of organizations and individuals who gave technical support to activists in Tambogrande has now morphed into a group supporting local authorities and activists critical of the way in which the Rio Blanco Project is evolving.

In a very real way, then, the conflicts surrounding the Rio Blanco Project constitute a replay of the Tambogrande case – the next battle in the same war. Thus, while part of this conflict constitutes real, specific concerns about the potential effects of a mining project in its area of influence, another part of the conflict constitutes an argument over whether or not there will be and should be mining in Piura, the conditions under which decisions about such mineral development should be made, and who should participate in those decisions. In this larger conflict, the mining sector (both the industry and the Ministry of Energy and Mines) lines up on one side in favor of mineral expansion in the North of Peru. On the other side, lines up an activist sector combining much the same cast of actors as were present in Tambogrande's mobilizations: mayors, community leaders, NGOs, parts of the Roman Catholic church, and other rural and urban organizations coupled with international organizations providing moral, political, financial and some technical support. Furthermore, this broad movement is demanding that the future of mining in Huancabamba and Ayabaca be determined through a referendum modeled largely on the Tambogrande experience.

This conflict is on-going as I write, though by the time this book leaves the printing press we will probably know whether the use of land in the Rio Blanco area has been determined by those who were in 2006 insisting that it be used primarily for mineral extraction or by those who insisted that its primary purpose be the sustenance of water sources and agrarian cultural landscapes.

C.3. Cajamarca, Piura and the social dimensions of rural resource sustainability

I rather suspect that when I was invited to write this paper, the editors were not expecting a paper whose empirical material dealt mostly with mining. While this tack is partly an

artifact of my current research interests, conflicts around extractive industries also bring to the surface a series of issues relevant to a reflection on the social dimensions of rural resource sustainability and the future roles of land in society.

One theme – perhaps not so novel – is that to analyze what happens to a given resource it is important to understand it in relation to the other resources on which both regional economies and livelihoods are built. Actors make decisions on how to use a resource in terms of their other resources, and how the use of that resource may affect the other resources at their disposal. Actors – whether farmers, mining company managers, Ministers of Energy and Mining or NGOs – always view resources in terms of their substitutability for other resources. As they do so, though, they operate with (sometimes spoken, sometimes unspoken) notions of how much substitution is acceptable. In that sense they operate with notions of the sustainability of resource (asset) portfolios, not the sustainability of individual resources.

A second theme is that resources can be politically contentious. This is particularly so for resources which have acquired special significance for one or another actor. One clear domain in which their control is a contentious issue is that of livelihoods, and when the resource bases of livelihoods are threatened it is likely (though not automatic) that some form of social and political response will ensue – responses that can often involve social mobilization and the emergence of social movements. This triggers a broader process of conflict whose final outcomes have great affect on subsequent resource use.

A third theme is that for significant parts of world, the use of resources located in rural areas is influenced not only by local social movements and the actors who are the proximate

source of the discontent that triggers these movements. It is also affected by networks among people and organizations that are anything but rural, and that bring in actors literally from all around the globe. These cases demonstrate this for mining. But if our interest was in regions affected by protected areas things would look very similar (Chapin 2004; Bray and Khare 2001). Likewise if we were interested in regions caught up in supermarket commodity chains (Reardon and Berdegue 2002), textile chains, or other forms of export agriculture, we would find networks of consumer activists, supermarket purchasers, environmentalists, investors, NGOs and more, all active and all having something to say about how land should be used, and by implication how livelihoods should be structured, in particular places.

It is no longer sufficient to remark on such phenomena and merely note that they reflect the ways in which localities are now transnationalized and globalized. This is not simply because local processes and local histories still matter a great deal in determining patterns of resource management (as Piura and Cajamarca each show). It is also because we need to say much more about *how and in what ways* this transnationalization affects resources and livelihoods. Of the many themes that need to be deepened in this regard, one is that these different networks do not merely help convert rural *things* into rural *resources* with national and international meaning. They are also domains in which the very meanings that give purpose to these resources are defined and argued over. For the purposes of this paper I have suggested that these networks are domains in which different ideas about sustainability and about the role of land are debated and contested. I have also suggested that ultimately, the ideas of sustainability and of land that become dominant help fix – in a political and policy sense – a *common sense* about acceptable trade offs between different forms of capital in any process of development. This common sense then makes some forms of rural resource use

and governance more possible, and others less possible. Likewise they are spheres in which ideas of livelihood are debated and ultimately fixed. Though not discussed above, among actors within mining development networks in the Andes there is a recurrent effort to fix the idea that mining is the only livelihood option for areas over 3500 m.a.s.l., and that any other livelihood option is unviable and ultimately commits rural populations to a continued existence that is primitive and ultimately miserable. For lower altitude (typically forested) zones, actors in these same networks aim to make the case that farming does more environmental damage than does mining. For their part, activist networks aim to make other ideas about mining and resource use common sense. The cases above suggest that in Cajamarca they have not succeeded in this regard, whereas in Piura they have (so far), largely because of the greater similarity of vision among activists involved in these networks.

These are therefore *struggles over ideas* in which participants have as their goal the fixing of a certain notion of sustainability and of land use over and above another one. At this point, mining networks have more or less defined dominant common sense ideas about appropriate trade-offs, livelihoods and rural resource management in Cajamarca; while activist networks have done this for Tambogrande. To go back to the second section, it has been through these networks that the terms of exchange among capitals and the "meanings" of livelihood, land and development have been defined for these two spaces. These struggles over ideas and meaning are not merely of abstract academic interest – a topic to help post-structuralists and ethnographers wile away their idle hours. Their outcomes have enormous impacts in the landscape and in the use of rural resources.

This notion of struggle also places another theme at the centre of any reflection over the social dimensions of rural resource sustainability. This is that any reflection on social dimensions must also be a reflection on power and conflict, and that the outcome of power relations goes a long way in determining how resources are used. Understanding the workings of this power is hardly straightforward, and requires getting inside these different organizations and networks. In the examples above, getting inside the networks that touch ground in Cajamarca and Piura helped explain why activist networks have had so much more power to influence debates and resource use than they have in Cajamarca. Furthermore, it suggested that power differences within networks are as important as the differences between mining and activist networks in determining whose ideas about sustainability and whose resource management practices ultimately influence what happens to rural resources.

These cases also help us think about land. Within each of Cajamarca and Piura it is evident that land is much more than simply "land," and that different actors and networks give land a range of distinct meanings. Thus, it is not simply the case that the meaning of land has changed over time (Bromley, this collection); it is also that these different meanings co-exist, and can come into conflict with each other, at a point in time. The same piece of land can be expendable or sacred, depending on who is viewing it; something to protect or something to dig up in order to access what lies below. In the cases discussed here some actors view land as something to be mined in order to produce mineral wealth – as a productive asset *tout court*. Others view land as something to be farmed, also as a productive asset, but as one that allows more culturally resonant and socially inclusive forms of production. Others argue that land (or at least certain areas of land) ought be viewed (and valued) primarily in terms of the ecosystem services it provides (in these cases, primarily water provision). And yet others, though fewer and more implicitly perhaps, see land not just as land, but also as

territory, a space that *of necessity* brings with it certain cultural and governance implications. Thus part of what is going on in the struggles between (and within) the networks discussed here is a struggle to fix the meaning of land – of what land is, what it is for and which sets of values and functions should ultimately determine its use. Which meanings become dominant will have important material effects, putting into motion particular bodies of legislation, and thus particular sets of possible ways in which this land can be governed, owned and used.

D. Conclusions

Perhaps the most important *social* dimension of sustainability, is that sustainability is itself *socially defined*. Such a statement can sound either banal, or hopelessly constructivist, depending on one's standpoint. Yet the statement has important implications for our discussion here, for it focuses attention on the processes through which this social definition of sustainability is arrived at. Many of these processes happen far away from the point at which rural resources are used. They happen in boardrooms, in policy making processes (on and off-camera), in the classroom and in the press. They happen both in the public sphere and in distinct, more private spheres – spheres in which views are formed about precisely what it is that is to be sustained, about the nature of the trade offs to be made among different forms of capital and about the distribution of the costs and benefits associated with these trade-offs.

Different societies and social groups form different views about what is to be sustained, and what is to be traded off. Thus it is that Costa Rica, as a country, has decided not to allow mineral development but instead to use rural resources as part of a tourist and bio-science led

road to rural development, while Peru (as a government at least) has decided to base a large part of its macroeconomic strategy on the extraction of minerals and hydrocarbons, even when this occurs in areas of hydrological sensitivity, high biodiversity, or even of non-contact indigenous groups. One message of this paper is that it is vital to understand how and why different societies form these different views on what to sustain.

The Peru/Costa Rica comparison occurs within countries also. We have noted the cases of Tambogrande and Rio Blanco, experiences in which populations in particular territories appear to have formed one view on what they feel development should sustain, while national institutions (in the spheres of state, market *and* society) tend towards other, quite distinct views. Part of the argument between these different actors – local populations on the one hand, national elites on the other, is about the *scale* at which sustainability criteria should be decided. Should territorially based rural resource use be determined by the populations living in those territories or should it be a function of what other social processes have come to define as national priorities for sustainable development.

These, of course, are simultaneously arguments over *who* should form the views on sustainability that ultimately guide policy and national development processes. Again, as we have seen, these are contentious and difficult discussions. Within a nation there are real issues – rarely voiced – over who is more of a citizen and who less; who has more say, and who less. These discussions are not only shot through with the classic argument over the relative roles of technocratic and popular knowledge – indeed that is the easier discussion, because it is one whose name can be spoken. The harder themes are those that are not spoken – about which ethnic groups, social classes, genders and racial groups will ultimately

have more or less say in these discussions; and about the extent to which, and reasons why, international actors of varying hues have a voice in national discussions on sustainability.

While observations such as these typically open up a reflection on participation, discussions of participation rarely do justice to the issues at stake. The examples discussed in the paper suggest that if there were to be real conversations on what to sustain in Andean societies (at least), then far larger questions would have to be opened up at the same time. These questions would address, *inter alia*: the macroeconomic models and overall models of sustainability that Andean societies want to move towards; the relationships between state, race, ethnicity and space; the relationships between resources, land and territory; and the relationships between citizenship and livelihood, and the rights that different social groups are able to exercise in determining their livelihoods.

This makes land a terribly political issue, and of course it is. Indeed, it was suggested by one commentator on this paper that the cases discussed were really about political struggles and had nothing to do with sustainability. But surely this is to have an excessively technical view of what constitutes sustainable development? The meaning of sustainable development, the strategies for achieving it, and the places of land in this process are themes of *deep disagreement* in society (back to the Peruvian election). The only reason that these deep disagreements do not spill over into visible conflicts more often (and so make us aware, every day, that sustainability and land are inherently political) is because certain actors are far more powerful than others, and so are able to fix taken for granted meanings, contain public debate, and contain the deeper frustrations of those with less power to determine dominant ideas about land and development. The examples discussed here – and the broader reflection on social movements – suggest the conditions under which, at certain moments,

these asymmetries of power might begin to change, at least somewhat, and under which taken for granted ideas might begin to be challenged, and public debate made more vigorous. International linkages and solidarities are an important element of such conditions, as is the presence of local activists able to weave powerful alliances against the odds.

Will debates on land in 2015 be more open, more vigorous, more participatory, and more indicative of the multiple, subaltern visions of land that co-exist with the hegemonic ones that dominate so much policy debate? While some of us can only hope so, others would probably prefer not, hoping that such competing visions can be simply "compensated" out of existence.[xviii] If subaltern visions do become more vocal and powerful, then they will bring challenges to land use planning, to theories of land, and to land information systems. They will challenge planning to open its doors yet more widely to still disenfranchised publics – and there are many more of these across the world than an optimistic reading of planning processes in North America might have us believe. They will also challenge theories of land to deal with the multiple, at times non-commensurate meanings and values that land can have for different actors – these theories ought also destabilize ideas about compensation, for they would suggest that compensation does not mediate between what different groups are willing to pay, but rather between what they believe. And they will challenge land information systems to register not just the geography of formally recognized rights in land, but also the geographies of the many overlapping functions of land and the many still unrecognized rights in land. Indeed it is not just that sustainability is socially defined; it is also the case that land policy studies are also socially defined. Studies too often reflect back to the balance of power in society what it is that that these powers need and want to know. If that balance of power were to change, then the study of land would also change.

Endnotes

[i] Conducted with Jeffrey Bury, Denise Humphreys Bebbington, Jeannet Lingan, Juan Pablo Muñoz, and Martin Scurrah,.

[ii] Indeed, both cases have an important East Asian component – in one instance as a source of investment and in both as a source of demand.

[iii] The concept of functional dualism (de Janvry 1981), for instance, embodied the notion of structural relations among modernizing and popular sectors of the economy in which the modern economy *needed* the popular economy as a source of cheap labor, foodstuffs, goods and services. Similar ideas characterized work on urban survival strategies, and took on particular force in critiques of self-help housing and of de Soto's interpretation of the informal economy (Bromley 1994; Bromley & Gerry 1979; de Soto 1989).

[iv] See for instance: Bebbington (1997, 1999); Carney (1998); Moser (1998); Scoones (1998); Zoomers (1999).

[v] There is a certain bias towards rural applications of these asset based approaches to livelihoods. This is perhaps not surprising. Not only does it reflect the intellectual roots of such approaches (in farming systems research etc.), but it may also reflect the work that such approaches are made to do – in particular, they have been used to draw attention to the increasing importance of non-farm dimensions of rural life and economy, and to the (relatively) diminishing significance of natural resources in rural livelihoods (Escobál 2001; Reardon, Berdegué & Escobar 2001; Zoomers 1999). Indirectly, they have also been caught up in those discussions of agricultural extension and technology transfer that have implied - or directly argued – that for poorer rural households, public resources would be better spent on education (directly or via vouchers) than on agricultural extension (López 1995).

[vi] Whose census definition varies among countries.

[vii] For the specific case of the Peruvian Andes, Gavin Smith has explored in dense ethnographic and historical detail the many ways in which resistance and livelihood are linked (Smith 1989). For a slightly more general discussion of this link see Bebbington 2004.

[viii] "Additional" that is to the taxes and royalties they were already paying. That said most of the largest companies already very favorable arrangements in which their taxes were low and they paid no royalties. Indeed this situation (which in effect reduced the extent to which natural capital was being turned into anything other than financial capital controlled as company profit) had much to do with the discontent that underlay some of the electoral discussion on mining, and much of the social protest against the sector.

[ix] Even though, initially, the company insisted that the mine would be small.

[x] We remain unable to explain how this occurred. It is a case so full of mutual recriminations that it is difficult to know what actually happened. What is clear is (i) that the mine had already invested (through its hiring practices) in finding ways into social movement organizations and (ii) that at least some of the leaders of the federation were always more of a mind to ensure adequate community compensation for the mine rather than the closure of the mine. These two postures certainly helped make this financial flow possible.

[xi] It does, though argue that in the future it may once again exercise this right.

[xii] However, MYSA profits also grew significantly over the same period.

[xiii] Meanwhile, and perhaps more importantly, the money spent by MYSA in local contracting and purchasing increased almost sevenfold over the same period – a direct response to urban criticisms that the mine operated too much as an enclave. This response increases greatly the urban stake in the continued activities of the mine.

[xiv] This and the following data are supplied by Humberto Correa, Professor of Economics at the Universidad Nacional de Piura and advisor to the regional government.

[xv] But with prior histories of other extractive industries that have left little behind in terms of development.

[xvi] ONPE did not formally assist in the implementation of the referendum, but did supply electoral registers.

[xvii] In early 2000, a survey commissioned by Manhattan concluded that 84% of the population were against mining activity (AMIDEP 2000, cited in Portugal 2005).

[xviii] This is the optimistic view. The other option for those resisting a democratization of debates on land would be simply to repress dissent.