



Resource Management in Asia-Pacific

Working Paper No. :43

**Shaking the Ground of Shifting Cultivation:
Or Why (Do) We Need Alternatives to Slash-and-Burn?**

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The correct citation for this publication is:

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Year of Publication: 2003

Title: Shaking the Ground of Shifting Cultivation: Or Why (Do) We Need Alternatives to Slash-and-Burn?

Series: Resource Management in Asia-Pacific Working Paper No. 43

Publisher: Resource Management in Asia-Pacific Program

Research School of Pacific and Asian Studies

The Australian National University

Place of Publication: Canberra

ISSN – 1444-187X

Resource Management in Asia-Pacific

Working Papers

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Shaking the Ground of Shifting Cultivation: Or Why (Do) We Need Alternatives to Slash-and-Burn?

Introduction

Dramatic fires and smoke haze, destruction of tropical forests, and concerns over biodiversity loss have focused world attention on slash-and-burn practices in tropical regions. Slash-and-burn has most commonly been associated with the practices of small farmers and shifting cultivators, and has been identified as a major cause of tropical deforestation. Agencies such as the World Bank, FAO and others, have directed action programs towards changing livelihood practices and introducing agroforestry, and other modes of permanent agriculture, as alternatives to slash-and-burn. In recent times, however, the simplistic equation of shifting cultivation as a cause of deforestation is being questioned as more complex understandings of forest destruction are acknowledged. At the same time, agencies are recognising that many groups, not just small farmers, employ slash-and-burn practices. The causes of harmful and widespread smoke haze and biodiversity loss may be more a result of clearing for plantation agriculture and other large-scale uses, than due to shifting cultivation practices. Hence, slash-and-burn may be a problem more directly related to global agriculture than to the unecological practices of smallholders.

In this paper I explore how and why the diverse group of practices (on which over a quarter of the world's population depend), commonly referred to as shifting cultivation (or swidden), have been disparaged and translated into a 'problem' called 'slash-and-burn'. My approach focuses on the related practices of naming, enframing and translation: specifically I consider the genealogy of the language of slash-and-burn and its contemporary framing within global ecological narratives such as biodiversity and climate change. Naming and enframing are acts of translation through which meanings arise. The contexts in which global problems are defined, known and understood, and the categorisations used in analysis, research and policy prescriptions, are key issues at the heart of contemporary environmental debates. My argument is based on the premise that self-presentation is a constitutive act (Haila 1999: 179) and I take seriously the power of discourse to engender material effects. Thus I am interested in questioning the effects of the characterisation of certain tropical agricultures as slash-and-burn, and to investigate how and in what ways the focus on slash-and-burn as a problem, and in some cases 'the problem', casts subjectivities, knowledges, and shapes policy formulation. What sorts of knowledges are, and can be, generated within this frame, what courses of action are naturalised, and what possibilities are constrained?

To focus the discussion I will reflect on how one agency – 'The 'Alternatives to Slash-and-Burn Programme' (ASB)¹ – represents and enframes 'slash-and-burn' and produces 'alternatives'. I am interested to trace the assumptions and practices that underlie research and policy-making and to investigate the ways in which slash-and-burn is dissociated from food production and livelihood practices and constructed as an environmental problem. How is research on slash-and-burn shaped by (and in turn shapes) the socio-political contexts of post-Rio global environmentalisms? This paper is not an evaluation of the 'Alternatives to Slash-and-Burn' research program nor does it adjudicate the usefulness of its work – this is beyond its scope. Rather, I aim to consider ASB as a case study that illuminates aspects of contemporary discourses about tropical peoples and places. By concentrating on the discursive construction of slash-and-burn, I aim to direct attention to the dynamics of knowledge production in the context of environmental concerns that are becoming increasingly prominent and influential. Instead of assuming slash-and-burn is a problem in need of solution, I wish to challenge the problem/solution binary in order to work towards a different

¹ ASB is hosted by ICRAF/CGIAR. Material for this paper on ASB has been drawn from textual sources, most notably the ASB website, <http://www.asb.cgiar.org>, and ASB papers and materials accessed through the site. Accessed May 2002.

contextualisation of shifting cultivation. Or to put it another way: rather than seeking an alternative to slash-and-burn, I want to consider the multiple meanings, connections, visibilities, invisibilities, that adhere to this practice, as well as working towards alternative framings of environmental concerns outside of the causative frame of ‘problems and solutions’.

What’s In a Name?

ASB unproblematically adopts the language of ‘slash-and-burn’, and the project title leaves no doubt that slash-and-burn is a problem that needs fixing. The entry page of the website (<http://www.asb.cgiar.org>) announces a direct correlation between poverty and tropical forest destruction, informing the viewer/reader that ASB’s innovations will reduce both. Specifically, it draws a causal link between poverty and deforestation, a narrative that assumes poverty alleviation and conservation go hand in hand. The page shows a number of unlabelled, generic images of Third World peoples and landscapes, the objects of ASB research.

With its potent combination of fire, forest destruction, impermanence, blackened landscapes and messy interplantings, shifting cultivation is replete with images anathema to the western mind. The power and effect of labelling shifting cultivation as slash-and-burn can be highlighted by imaginatively extending the logic of this nomenclature to other agricultural systems. Thus we could refer to sheep farming as something like ‘clear and trample’, or cotton production as ‘flatten and spray’. Repackaged as ‘slash-and-burn’, shifting cultivation is represented as a destructive practice. Such discourses hide the productive elements and negate the dynamic, adaptive and cultural qualities of these systems within particular environments. Such a discursive construction has important implications. The apparent neutrality of the language of description is in fact never value free, but always proceeds in relation to wider social and cultural contexts. Hence, the ways in which objects and practices are described delimits what can be known and directs modes of action. For example, the language of contemporary descriptions of shifting cultivation is replete with phrases such as ‘abandoned patch’, ‘left’, ‘breakdown under population pressure’, ‘devastating’, ‘cut down and left to die’, ‘loss of soil’, ‘improper use of slash-and-burn’, ‘long term results of devastation’, ‘the slash-and-burn threat’ and so on. Within the western descriptive apparatus shifting cultivation is most commonly portrayed as primitive, harmful, inefficient, messy, unproductive, and lacking in sophistication and adaptability. Such language is not new, but reiterates the colonial tropes of primitivisation and orientalism.

The language and categories used to describe phenomena also help to shape specific ‘solutions’ as well as wider issues of environmental governance. Labelling shifting cultivation as slash-and-burn expresses not the role of this form of production in people’s livelihoods, but rather reflects the desires and fears of the observers. It appears that the enthusiasm for finding alternatives to slash-and-burn is a long-standing Western project, and, in fact, we could think of the current demonisation as a second or third generation of coercion and cajolement to reform, discourage, and in some cases outlaw shifting cultivation practices.

In a globalised postcolonial world the term agriculture is applied as a universal designation and it is easy to forget that its roots are specifically linked to Western culture and to specific conceptualisations of the ‘action or practice of cultivating the soil; tillage, husbandry’ (Oxford English Dictionary (OED) Online 2002). ‘Agri-culture’ is cultural practice.² More than this, agriculture and civilisation are strongly enmeshed in the Western imaginary. The ordered fields of agriculture and the encultured space of the city have long been imagined to be in opposition to the disorder and wildness of the forest (Harrison 1992: 2). In ancient Europe, Harrison notes, the forests were pictured as an antagonist against which civilisation had to struggle and overcome. They were believed to be the home of wild uncivilised men representing the primordial forces of nature (the ‘shadow of civilisation’). The wall of the city and the garden fence thus mark the lines that for thousands of years defined the boundary of Western culture: beyond was the timeless backdrop of

² I have borrowed this hyphenated form from FitzSimmons and Goodman (1998) who use it to accentuate agriculture as a nature-society hybrid.

nature, the Other against which social systems, government, identity, religion and history were defined (Harrison 1992: 15).

The language used to describe tropical agricultural practices is deeply implicated in dualistic imagery and developmentalist narratives that assume a progression from nature to culture, from nomadic grazing to sedentary agriculture. Adhering to Locke's thesis that uncultivated land was empty waste, the fields of shifting cultivators were considered as land left wholly to nature³ and a sharp distinction was drawn between the cultivated field and 'wild' forest. It is not surprising, therefore, that when Europeans encountered tropical lands they did not recognise the *culture* of shifting cultivation but saw only disorderly, 'wasteland'. Not only did burning threaten the forest reserve that the colonists desired, but the messy appearance of the complex multilayered, multispecies 'fields' of shifting cultivation, affronted the image of the orderly rows and permanent improvements of 'proper' civilised tillage.

The mission of 'civilising' guided colonial practices of settlement, control, domestication and improvement, and efforts proceeded apace to curtail swiddening (as shifting cultivation was often referred to at the time).⁴ In South India in the 1840s shifting cultivation was described not 'merely as a waste of forest resources, but also as a persistent threat to the general well-being of the region and, ... its progressive march towards civilisation' (Pouchepadass 1996: 123-4). The forest dwellers were portrayed as wild, wretched and miserable men 'of whom no good could come' (Pouchepadass 1996: 129), practicing as they did a 'wasteful and barbarous', 'rude system of culture' (Cleghorn 1871 in Pouchepadass 1996: 131). Hence swidden fields were considered to be undeveloped, belonging to nature, unowned, random and available for possession. As well, the forest was imagined as wild nature, not a site or product of human culture. Hence, shifting cultivators were construed not as producers, but as destructive consumers of natural resources (Pouchepadass 1996: 125), a notion that, in many contexts, continues to the present.

Social and political motivations were also important factors behind colonial efforts to prevent shifting cultivation. Endeavours to ban or limit shifting cultivation, derived in large part from the desire to impose taxes and secure labour and raw materials for the colonial enterprise. Mobile populations were difficult to tax and they could not be pinned down to provide labour for colonial activities. The removal of people from the forests and their relocation in permanent settlements also made the forest appear to be purely a 'natural' place. As such, the forest was increasingly fashioned as an apparently unowned and uninhabited resource available for possession and use by the colonial state. Paradoxically, as the forest was being remade as 'nature' it was also being increasingly controlled by the state. The forest thus became an important site of state regulation and new forms of discipline were brought to bear on nature normalising the forest as a category of nature and state power (Peluso and Vandergeest 2001: 761), with important implications for many postcolonial resource contestations. The colonial era imposed a new language and definition of agriculture that was to have far-reaching effects. Both forest and field were redefined to support and justify colonial resource regimes.

Modernising agriculture

Post war development initiatives perpetuated colonial biases in a number of ways. During the colonial era tropical agriculture systems were generally referred to by local names such as *kurmi*, *chena*, *lading*, and so on (thereby acknowledging the diversity of practices as well as cultural

³ The colonial notion of 'land left wholly to nature' bears little resemblance to contemporary ideas of wilderness or nature preservation.

⁴ The British were well aware of the different systems of shifting cultivation practiced by peasants and forest dwellers, and the relationship between these systems. In some cases, the authorities allowed some continuance of shifting cultivation where people were wholly dependent upon it for subsistence (see Pouchepadass 1996).

difference). However, these terms were progressively gathered under the single broad classification of 'shifting cultivation'. The term 'slash-and-burn' emerged in the 1940s (OED Online 2002) and has gained popularity in recent decades. Rostow's 'stages of development' created a modern version of the colonial settlement-as-civilisation narrative. While the colonial articulation of shifting cultivation placed it outside culture and enfolded it within an evolutionary and civilising narrative, the modernisation discourse promoted a scientific view of agricultural progress as staged development. Shifting cultivation was to be rescued from the 'primitive' past and replaced by the ordered fields of modern industrial agricultural production. As well, newly independent states continued the colonial strategies of state control of environmental resources and the removal of forests from local control and ownership. Further, in the name of development, they sponsored their own colonisation schemes, fostered permanent settlement programs, instituted scientific management practices, and promoted large-scale capitalist plantation agriculture. 'Planned growth' was the post war mantra (Scott 1998) and the newly independent states adopted the task of shaping peoples and land in the image of the 'civilised' subject of modernity. 'Seeing like a state' as Scott (1998) points out, is to deploy simplified planning systems in order to make 'legible' the complex variety of local situations in the exercise of state power. Simplification enhances the command and control of the state and profoundly impacts on natures, identities and practices that fail to match with state vision. Postcolonial states thus created new subjects as they created new lands, landscapes and ecologies (Kuehls 1996: 123).

One of the features of environmental orientalism is the stereotyping and homogenising of non-western natures and peoples. Shifting cultivation, however, is 'not one system but hundreds or thousands of systems' (Brookfield and Padoch 1994: 10; Brown and Schrechenberg 1998). Even within one community of so-called 'slash-and-burn' agriculturalists Brookfield and Padoch (1994) identify 12 distinct forms of agriculture worked into 39 different combinations, and these combinations vary from year to year across the village (6). Just as the variability of tropical agricultural practice is lost under the reductionism of the term 'slash-and-burn' so too are both the relationships between different communities, agricultural systems, and cultural groupings across time and space.

The act of naming is an act of power, and the categorisation of the myriad of tropical agricultural systems as slash-and-burn cannot be dissociated from global political dynamics. As the ecological consequences of 'development' have become more apparent, modernisation rhetoric has been superseded by the discourses of sustainability and global ecological crisis. In the next section I consider how the global environmental concerns of the 1990s have articulated with understandings of shifting cultivation.

Encircling Narratives: Enframing Slash-and-Burn as a Global Problem

In the past decade or so 'environment' has emerged as 'a quintessentially global narrative' (Harper 2001: 101). However, the issue of what counts as a global environmental problem, and who gets to decide what matters, is as much a political as ecological question. As Taylor and Buttell (1992) make clear, many environmental problems are global in nature, yet only a few are discernible within post-Rio regimes of signification. Biodiversity, climate change, and deforestation today dominate ecological discussion on all levels and are powerful frames of visibility in both policy and scientific circles. The language of 'slash-and-burn' thus articulates with broader discursive frameworks that establish relationships between people and nature, shape the sort of knowledge that is possible and legitimate, and affect modes of action.

Discourses can be thought of as technologies of visibility in that they are acts of enframing that help construct the very objects of their concern. As Timothy Mitchell (1991) explains:

'objects of analysis do not occur as natural phenomena, but are partly constructed by the discourse that describes them. The more natural the object appears, the less obvious this discursive construction will be' (130).

Enframing is always an active process in which ideas about nature, people, environment and so on are continually brought into being through language. Within the global ecological discourses ‘certain events and identities are naturalised, certain actors are privileged, others marginalised’ (Brosius 1999: 38). Discursive frames fashion the settings within which forms of ‘institutional intervention are conjured into being’ (Escobar in Brosius 1999: 37). As Escobar argues, development discourses have ‘created an extremely efficient apparatus for producing knowledge about, and the exercise of power over’ subject peoples (in Brosius: 37).

The legitimising power of the global narratives can be seen on the ASB website. The layout, images and structure of the site graphically use these frameworks to contextualise slash-and-burn as an ecological problem. On the home page (<http://www.asb.cgiar/home.html>) the key narratives of climate change, biodiversity, and sustainability literally enframe the contents. The page highlights the global reach of ASB, both as a partnership of ‘helpers’ and through the spread of its work across three continents – specifically, the Amazon, Congo Basin and Southeast Asia. The site thus displays the interlocking narratives that must be read together as part of the larger discourse of ‘development’ to which ASB ascribes.

In drawing a causal link between poverty and deforestation, the site posits a reduction in poverty and the preservation of tropical forests as two sides of the one coin. ASB’s vision is to identify and articulate combinations of policy, institutional and technological options that can raise the productivity and income of rural households without increasing deforestation or undermining essential ‘environmental services’. ASB espouses the twin goals of poverty reduction and forest conservation by undertaking a globally coordinated research program aimed at intensifying production and promoting agroforestry. The ASB project is an offshoot of ICRAF (International Centre for Research in Agroforestry), which ties it into a wider program promoting permanent tropical agroforestry systems. Thus, the ‘alternative’ is in fact already determined: ASB research is directed towards measuring the benefits of permanent agroforestry for biodiversity conservation as compared to shifting cultivation systems.

Two influential narratives of global environmental urgency and crisis can be distinguished (Adger et al: 2001: 686). The dominant one, or traditional narrative, is one of global environmental managerialism. This narrative considers local people to be the major cause of environmental degradation, thereby positioning nature as in need of protection from their actions. The solution is seen to lie in forest preservation, heightened environmental regulations, and educating the locals to appreciate the value of biodiversity. These managerialist discourses draw authority from science and adopt a top-down approach (Adger et al 2001: 686-687, 699). The second narrative is the populist or counter narrative. This version is based on participatory, community-based conservation. In this case, indigenous people are positioned as holding the solution to global environmental ills. Local people are often depicted as romanticised heroes and/or as hapless victims of circumstance (Adger et al. 2001: 687).

Despite the different emphasis, these narratives are interconnected and help constitute one another (Adger et al. 2001: 687, 708). Both rely on the same images of smoking or blackened forests, stereotypes of locals as either victims or villains, and aim to convey the message that indigenous people are in need of external help, or support, to ‘save’ their environments. Both also rely on two interlocking arguments – that shifting cultivation is a major cause of deforestation, and that poverty causes environmental degradation. These arguments present slash-and-burn as unsustainable, and lend supposedly rational, scientific and moral support for eliminating the practice.

However, the evidence that links shifting cultivation and deforestation is ambiguous and contradictory. ASB’s own research reveals that only a small number of types of shifting cultivation clear primary forest and even fewer ‘entail a permanent conversion of forests to treeless land use’ (Fujisaka and Escobar 1997: 6). Further, research suggests that some shifting cultivation mimics natural forest cover, thus minimising the impact on biodiversity (Brown and Schrechenberg 1998: 5). In fact, some argue that the long centuries of shifting cultivation may have led to the present structure and composition of the rainforest itself suggesting that the forest is as much a cultural

artefact as natural resource (Brown and Schrechenberg 1998; Brookfield 2002; Hecht and Cockburn 1990). As Mitchell (1991) notes above, the presumed naturalness of an object – the forest, for instance – makes it difficult to discern the extent to which it is culturally constructed. That human as well as biological processes may have formed the forest highlights the problem of finding a natural benchmark against which to measure human impacts. These insights suggest that revisioning the forest as a simultaneously political, social and natural site may provide a more effective basis for research and policy.

The poverty-deforestation equation has also been challenged from a number of angles, and even the World Bank admits there is scant evidence to establish a causal link.

Whether, in what ways, and why poor people might act in ways that are damaging to the environment remain important, but generally unanswered, questions (World Bank 1997: 94).

While a relationship can be established that poor people are more severely affected by environmental damage, and the poor can be identified as agents of environmental change, it is important not to mistake the agents of deforestation with the causes (Roper and Roberts 1999: www.rcfa-cfan.org/english/issues.12-4.html). Who is doing slash-and-burn may be less important than why it is being done (Roth 2001). Shifting cultivators, as poor farmers, are singled out as primary agents of deforestation. ASB, for example, tunes its field of visibility onto small holders, even though it acknowledges the role of a range of powerful other actors in the slash-and-burn question. This reinforces the link between poverty and environmental degradation only by disregarding the other agents of forest destruction. It also positions shifting cultivation as a question of nature, not of agriculture.

The search for cause-effect relationships and single factor explanations may result in simplistic policy formation that diverts attention from diverse factors other than poverty, such as corruption, the massive expansion in export agriculture, tree crops, institutional arrangements, plantation agriculture, logging, global food production and western resource interests (Contreras-Hermosilla 1997: 283; World Bank 1997: 98). Likewise, Geist and Lambin (2002) conclude their review of empirical case studies by stating:

Rather than providing support for dominant theories of global deforestation (neoclassical, impoverishment, political ecology), analysis of these studies shows that tropical forest decline is determined by different combinations of various proximate causes and underlying driving forces in varying geographical and historical contexts (149).

Quite a different vision of slash-and-burn could emerge if all these factors and agents are considered as constitutive of the practice.⁵

The construction of poverty as a major cause of deforestation is based on north/south differentiation and a belief that a singular category, ‘slash-and-burn’, is definable and has meaning. Implicit in the global ecological discourses are three powerful Western frames of reference: the opposition of tradition to modernity, stasis, and the balance of nature. In both the managerialist and populist version, these frames present a monolithic discourse of poverty (Adger et al. 2001: 708) and encourage an essentialised depiction of both indigenous people and tropical forests, thus reinforcing the modern/traditional opposition and the notion of their fundamental incompatibility. The orientalised of shifting cultivation as either ‘primitive’ and in need of development (the old

⁵ A similar argument is also found in relation to the population-deforestation association. Roper and Roberts (1999) suggests that the association of population growth and forest loss is not universal. For Madagascar, Lucy Jarosz (1993) found a poor correlation between population growth and deforestation, noting that the major periods of forest loss were times of slow or negative population growth. These tales caution against approaches that seek to find causes within the system.

idea of an inevitable development sequence (Brown and Schrechenberg 1998: 5)), or as authentic indigenous and in need of protection relies on the notion of tradition as essentially static and counter to modernity. Stasis is presented as either a constraint – farmers are imagined as trapped by simple technology and unable to adapt fast enough – or they are valued as a sort of natural treasure whereby indigenous people and forests are folded together as custodians and storehouses of global biodiversity. In both cases local systems are paradoxically seen as vulnerable to outside influences, yet also in need of outside intervention either as help or protection. Both narratives facilitate the entry of the West as a ‘stakeholder’ into local natures by adopting universal principles of sustainability and environmental rights (Adger et al. 2001: 681).

Shifting cultivation is thus imagined as only feasible in isolated circumstances unaffected by externalities.⁶ In this way the conceptual framework of equilibrium ecology is brought to bear on the shifting cultivation practices of diverse societies, thereby maintaining or even intensifying the colonial and modernist opposition between forest and field, nature and culture. To maintain the balance of the earth’s ecosystems, the global narratives contend, traditional people need to be returned to equilibrium with their environments. The myth of the climax forest and belief in the ‘reality’ of a natural benchmark against which anthropogenic change can be measured is crucial to both the traditional and populist narratives of deforestation, and to the work of ASB. The category of ‘natural’ sets the benchmark against which all other activities are ordered and judged. The failure to consider the arbitrary and constructed nature of benchmarking may encourage the misreading of forest history and culture with often serious consequences (Doornbos et al 2000: 5).

The discursive formations of global environmentalism imply certain policy outcomes, simplify and homogenise situations, and obscure ‘the complex interactions between people and their environments’ (Fairhead and Leach in Adger et al 2001: 707). As an enframing practice the narratives of environmental globalism contain and control multifarious aspects of local cultures and natures within a master language controlled by the West. Local areas are translated into ‘mere spots on the universal grid’ (Lohmann 1993: 160), opening them to western intervention by experts advocating ‘alternatives’ or ‘development’. The language of science and experts thus translates local understandings, knowledges, perspectives and desires into apparently more true, more valuable ‘theoretical models that are automatically applicable to non-western situations’ (Lohmann 1993: 163). Importantly, the narratives shift issues, such as forest destruction, shifting cultivation, slash-and-burn and so on, out of the political realm, representing them instead as questions of technical management (Brosius 1999: 38). For example, the authority of western science permeates the ASB website and justifies the solutions proffered. ASB identifies the lack of ‘solid scientific information’ and a lack of capacity on the part of the target groups in tropical countries to ‘participate in the development of workable interventions’ as major barriers to change. Shifting cultivation becomes a scientific ‘problem’ and ABS, and other globalised actors, position themselves as central to both understanding and action. Change thus becomes dependent on experts and dissociated from local customs: social and cultural factors become ‘add-ons’ to main research program.

Such a simplified picture of change misses informal contacts between different actors (Adger et al. 2001: 688). Also, by isolating slash-and-burn as a distinct category the long-standing interactions between shifting cultivators, sedentary agriculture and external communities are overlooked, and important interdependencies may remain invisible (see, for example Li 2001). The universal vision of the poor slash-and-burn farmer also overlooks social differentiation by gender, age, and so on within village communities, as well as the layers of power relations played out at the local level. Local possibilities are mediated by the ways in which people perceive and relate to the forest, and the histories of colonialism and state-based neocolonialism that shape contemporary environments (Adger et al. 2001: 688; Grove 1995).

⁶ An example of this kind of thinking is Myers’ (1994) distinction between shifting and shifted cultivators.

By positioning the South as the site of global environmental problems it becomes the object of management strategies whereby issues of local control are subsumed in favour of the objectives of more powerful groups. Local people, however, are often more concerned about control over their resources not more (externally imposed) management (Hildyard 1993: 23). The question of how environments should be managed may be secondary to the question of who gets to manage them and whose interests are served (Hildyard 1993: 24). The legibility of local resistance, adaptation, and the dynamism of local responses to changing conditions are obscured from the global perspective (Timura 2001). Hence local concerns, knowledges and perspectives are often rendered invisible in research and policy programs for dealing with 'global problems'.

In pointing to the dissonance between global narratives and local cases I do not intend to endorse the idea of a reality or truth external to discourse. Rather I am interested in considering the relationship of power to knowledge production and the ways in which this is articulated from different positionalities and epistemologies. As well, processes of globalism and localism are not separate but interrelate in specific places and times. As Peuhkuri and Jokinen (1999) note,

'concepts relating to the global environment are deployed in particular socio-political and cultural contexts, which means that they are objects of a continuous localisation' (141).

They point out that local concerns are never just confined to a specific territory, but are nodes where external influences, national and global discourses are translated and reformulated around local debates and vice versa. In this process, how a locality is defined and bounded will have a range of effects on policies and actions. And, of course, global narratives are mediated by national and regional processes (Peuhkuri and Jokinen 1999: 145). What is considered urgent or a matter of global rather than local or national significance is contingent on dispersed factors such as the circulation of images, media representations, values and so on. All play significant roles in the life of an issue as a global problem.

The dynamics of rural land use are complex, and generalisation highly problematic. A 'more detailed and sophisticated understanding' (World Bank 1997: 97) is needed, one that incorporates a relational, not dualistic, perceptive of the complex relationships between communities that support shifting cultivation and the variety of types of practices. Clearly not all agriculture – traditional or modern – is sustainable, but framing the debate in dualistic terms is, in many ways, unproductive and constraining. Schmink and Padoch, for example, argue that the focus on traditional practices may divert attention from more pressing issues. Instead they argue that the important question is 'which conditions cause people to conserve their resources, and which conditions favour destruction, or overexploitation of local resources' (in Brookfield and Padoch 1994: 9). Indeed, rethinking the opposition between forest and field, tradition and modern, and so on, may be more productive than the act of revaluing tradition and indigenous people.

Rather than accept the notion of a universalised environment, it may be useful to refigure nature as a 'politically charged site of knowledge production' (Harper 2001: 101), one open to variability, contingency and situated analysis. Powerful though they may be, the narratives of global environmentalism are actually the particular understandings of specific Western groups projected universally (Gibson-Graham 2001: 6). An appreciation of the potential multiplicity of stories, allows for a rich understanding of different natures, forests, agricultures and subjectivities to emerge. Thus diversities between and within agri-cultures become recognisable, multiply and flourish, generating new understandings, knowledges, and new policy possibilities. This could enable a new language of agrodiversity (Brookfield 2002), managed natural forests, non-Western productive practices, indigenous knowledges, and so on – all understood as dynamic everyday practices – to emerge.

Beyond the Binaries: Shifting the Frame of Shifting Cultivation

Shifting cultivation has remained a site for Western contestations over notions of past and present, primitive and civilised, tradition and modernity and the march towards progress and development. As a junction between settled and natural lands shifting cultivation emerges as a space of transgression. There's something 'shifty' about shifting cultivation in the western imagination. The

subversive qualities of the term ‘shifting’ (shifty) pervade attitudes and feed concerns about disorder – whether colonial, modern or ecological – justifying the need to bring mobile entities into regimes of control, domestication and state or global legibility.

But ‘shifting’ is also about adaptability, adjustment, getting things in position (as well as out of position). It denotes versatility, and being able to shift around to get the best position (OED Online). By shifting our vision, shifting cultivation emerges as a dynamic system involving complex management and active resource use, and an ‘intricate mixture of different land uses’ (Brown and Schrechenberg 1998: 3; Conklin 1963).⁷ By choosing to view shifting cultivation from the position of adaptability and flow, it is possible to recognise an agriculture that is capable of changing positions or directions, rather than assume an unchanging form. This is not to romanticise shifting cultivation but to release it into view outside of the striated, sedimented space of the disciplinary order of the global ecological narratives, the modern state, science and the ecology of balance. In order to more fully articulate an adualistic conceptualisation of shifting cultivation I will turn to science studies for some possible directions.

The work of Donna Haraway (1992) and Bruno Latour (1993) provide a pathway for escaping the binary oppositions between nature and culture, forest and field, local and global, and North and South that underlie conventional understandings of shifting cultivation, as well as addressing the dynamics of power that translate it into ‘slash-and-burn’. These theorists propose the mutual constitution of nature, science, technology, and society. Haraway argues that nature is ‘made’, worked-up in distinct ways, by ‘collective actors in particular times and places’. It is a co-construction ‘among many actors, not all of them human, not all of them organic, not all of them technological’ (1992: 297).

From an adualistic perspective shifting cultivation can be re-imagined and released from the bounding and binding of tradition, stasis, balance and so on, to emerge as a multiplicity of performances ‘made’ and worked up by heterogeneous (human and nonhuman) actors in particular times and places. Shifting cultivation can be considered to mix organic and inorganic elements in novel ways – patches are highly modified with large inputs of human labour and care for relatively short periods of time, and then handed over to be actively reworked by nature. The importance of regeneration to shifting cultivation systems and the complex management of the fallow can find their place alongside the slash-and-burn phase. The hybrid spaces of shifting cultivation change configuration on a continuous cycle, so that at any one point of time a particular area of land will be characterized by a different combination of the natural and social. The nature of this hybridity changes over space and time, creating a dynamic landscape of constantly shifting character. Such a reappraisal of shifting cultivation refuses the fixed relations between nature and culture, field and forest, which infuse Western notions of domestication and agriculture. It shakes apart a unitary notion of agriculture, making it possible to think in terms of a multiplicity of ‘agri-cultures’. Thus all agri-cultures, Western and non-Western, temperate and tropical, can be understood as society-nature hybrids or as different assemblages of practical, social, theoretical, corporeal and technical elements.

Alternative geographies of ‘agri-culture’

Within geography attempts are underway to utilise these perspectives to redefine agrarian questions both in response to global restructuring and poststructural theoretical turns (see, for example, Goodman and Watts 1997; FitzSimmons and Goodman 1998; Kayatekin 1998; Mathewson 2000; Murdoch et al 2000; Whatmore and Thorne 1997). These alternative geographies of food and agriculture draw upon the notion of actor-networks in order to understand the complex imbrications of bodies, producers, seeds, consumers, corporations, researchers, institutions, and all the various entities that constitute contemporary agri-cultural production and consumption. For example, agro-food networks are being utilised to link the demands of wealthy customers for fresh

⁷ Actually, this involves a remembering of the complexity and skill involved in shifting cultivation, which Conklin’s intricate descriptions, written in the 1950s and 60s, brought to life.

and ‘natural’ foods to changing ecologies and agricultural practices in far-flung regions (Murdoch et al 2000; Bell and Valentine 1997). The concerns that drive the desire for natural, organic and authentic foods thus link the bodies of some consumers to those of shifting cultivators who have retained/maintained the ecological conditions necessary to satisfy such markets. From a different perspective, Tan (2000) explores the set of linkages mobilised by peasants in becoming coffee pioneers in Vietnam. He traces the networks by which local dynamics of upland agriculture are embedded in global production and the ways in which global and national interests are translated and mediated in local contexts. Tan’s work underlines how ‘the connection between new productive space and the global market is mediated by a contested process between two different modes of orderings at the frontier’ (Tan: 62).

Actor-networks shift the focus of analysis from the identification of impacts to questions of connectivity (Suryanata 2002: 72). They are networks of diverse elements that include, but are not exclusive of, social relations, thereby refusing the distinction between nature and culture. Thus in actor-networks, nonhuman (natural and technological) elements such as forest, field, tractor, digging stick, pigs and biotechnology find their place alongside humans as social actors shaping specific agri-cultural practices. In stressing the nonhuman elements that help build networks, actor-network theory acknowledges the role that history and particular forests and fields, crops and technologies may play in any given situation. The forest emerges from its representation as universal pure nature, passive backdrop to human action, and object of destruction or saving, to take a place as an active element in a relational network. This decentres environmentalist claims to pristine nature, as well as scientific recourse to a natural benchmark.

Nature and culture, local and global, modern and traditional, field and forest and so on, are therefore constituted in a ‘seamless web’, not reducible to isolated, individual elements. The boundaries between things are blurred; it is the particular and situated partnerships between human and nonhuman actors that matter. The notion of a ‘seamless fabric of ... “nature-culture”’ (Latour 1993: 7) is, however, not a haphazard, amorphous, generalised arrangement, and it is not all-inclusive. Rather various natures-cultures are specific, historic, and embody different articulations. As non-random configurations these assemblages are coded according to particular hegemonies; for example, the capitalist market influences points of connectivity (Callon 1998). But they resist totality, insist on partial vision, and confound management perspectives that rely on universalist solutions.

Relational understandings may also be useful in breaking down ‘the analytical separation of either science or local, lay or indigenous knowledge’ and concentrate attention ‘on complex processes of epistemic negotiation in different settings’ (Alto and Scoones 1999: 495). Actor-networks focus attention on ‘science in action’ and include the practices of scientists, their laboratories, extension agents and local people (Alto and Scoones 1999) as elements in (the everyday) practices of knowledge making. This highlights the performative qualities of science and agriculture (Richards 1989) and reconfigures science/indigenous, local/global encounters as possible nodes for the generation of new understandings and actions. Non-equilibrium ecology can aid in this process of translation across differences. It calls into question the idea of rigid boundaries, invariant relationships, tendencies to stability, and highlights the historical contingencies of benchmarks. Importantly, humans are released from their roles as either conservers or destroyers of balance, as either in or out of nature (Zimmerer 2000: 357), thereby destabilising the assumption of a straightforward relationship between people and environment on which the poverty-environmental degradation nexus is established.

As well, actor-network theory understands science to be socially constructed, allowing for a wider contextualisation of research programs, such as ASB, within patterns of socio-cultural relations. As Latour notes: ‘We have taken science for realist painting, imagining that it made an exact copy of the world. The sciences do something else entirely – paintings too, for that matter. Through successive stages they link us to an aligned, transformed, constructed world’ (Latour 1999: 79). Ideas about nature thus ‘emerge artifactually as the heterogeneously constructed result of contingent social practices’ (Demeritt 2001: 311). This focuses attention on the multiplicity of

practices through which natures and cultures are continuously and mutually (re)constituted. In considering the scientific work of ASB we can recognise ‘the constitutive role of science in disclosing’ the ‘reality’ of slash-and-burn as an object of inquiry (Demeritt 2001: 312). This is not to adjudicate on whether ASB results are true or false, but rather to call ‘attention to the consequences of scientific practices for ways of being in the world’ (312). The intelligibility of slash-and-burn as a problem relies on the belief in the possibility of global management, of determinacy, predication and rational control (312).

Actor-network theory highlights the constant effort of construction and the amount of work that is required to hold various alliances, associations, and relations together (Murdoch et al. 2000: 113). They can also be thought of as ‘chains of translation’ ... ‘through which actors modify, displace, and translate their various and contradictory interests’ (Latour 1999: 311). Thus we can recognise the work required to maintain ‘slash-and-burn’ as a relevant category and object of policy formulation in the face of diverse, fragmented and divergent experiences. We can also understand ASB to be articulated in various networks connecting diverse entities in order to carry out research and policy development on ‘slash-and-burn’. The particular network of actors mobilized by ASB contains research scientists and their laboratories and institutions, national policy makers, global funding bodies, local peoples, communications technologies, selected sites, environments, and technologies of agricultural production, local cultural institutions, and so on. But many of the actors in this network are also players in other associations. Thus, the ASB network overlaps, is influenced and influences, constitutes and is constituted by, local networks involving indigenous knowledges, specific cultural practices, powerful individuals, local institutions, and national officials. Another network, an agro-food network that links small farmers into wider markets, new technologies, Western food preferences, national policy, international institutions, and so, overlaps with both these other networks. Environmentalists, university researchers, and all manner of apparently distant and unrelated actors, can thus be articulated into a more complex picture which situates shifting cultivation in contemporary geopolitical contexts. Each network contests the meaning of nature at any one particular site. And of course, shadowing all these networks, is the explicitly hybrid world of biotechnology which is rearranging all manner of relationships from the molecular level up. In fact the struggle as to what counts as nature in the post-Rio era is being played out in the lands of shifting cultivators.

The usefulness of actor-network approaches for reapprehending shifting cultivation is that it articulates shifting cultivation within wider frames of reference and association. No longer isolated as a causative factor, or as passive background, shifting cultivation can be reconceptualised as a contested site of conservation, production, livelihood and nature, incorporating different regimes of meaning and signification, and connected through overlapping networks of actors variously articulated in local, national and global contexts. The narratives of global environmental change, the knowledge and policy production within global development and research agencies, local and trade linkages, and the reach of agro-food networks crisscross the sites of shifting cultivation generating a complex interaction and a multiplicity of forests and shifting agri-cultures.

Conclusion: Re-situating Shifting Cultivation

Naming and enframing matter: they shape how people and land are imagined and translate knowledge into action. They cast some things into the shadow of invisibility while drawing attention to others. These practices affect lives, livelihoods, knowledges, identities, research and policy. As long as poor people and shifting cultivators remain in the spotlight of the Western gaze, the many other entities, actors, institutions and relations involved in deforestation and environmental degradation remain hidden from scrutiny. A reappraisal of shifting cultivation is now taking place and new policy directions involving local knowledges and local community management are being pursued. Recognising diversity and reconceiving shifting cultivation as sustainable, rational and appropriate are important steps in countering the disparagement of tropical agricultures. However, without a wider revisioning of dualistic frames, these moves will remain limited.

Research and solutions framed within the global ecological narratives that characterise shifting cultivation as slash-and-burn, assume that eliminating the practice will resolve issues concerning tropical agriculture and forests. ASB's call to replace slash-and-burn with agroforestry may be appropriate in some cases. But each case will need to be made depending on local contexts and contingencies, and will need to be considered within wider cultural and historical contexts. The generalised abandonment of shifting cultivation in favour of permanent managed forest systems may have far reaching ecological, social and cultural consequences. It will remake tropical lands in the image of global ecological vision and the interests it serves.

A politics of location, situatedness and partiality could replace the global narratives of demonisation and romanticisation, and introduce a more complex environmentalism of simultaneously constituted 'cultures-natures' (Latour 1993). Situatedness does not refer to parochialism or localism 'but it does mean specificity and consequential, if variously mobile, embodiment' (Haraway 1997: 199). The local is entangled at multiple scales within and between wider social and natural processes. The notion of situated knowledges demands that knowledge making is never innocent or universal. Situated knowledges are the 'views from somewhere' (Haraway 1991:196). They are always located, historic, political and partial: the world is always articulated from a particular point of view. Haraway's insistence that there are no innocent positions from which to observe, speak of (or for), or relate to nature, compels us to take seriously the historical, social and technological circumstances that infuse our constructions of nature and (post)colonial land/scapes.

Rethinking global environmental narratives such as slash-and-burn from the perspective of situatedness means generating multiple and fluid lines of possibility and the displacement of the invisible godlike narrator with embodied, situated and implicated actors. It requires discarding notions of romantic timelessness, pristine nature, the desire for recovery of something lost or repressed, and progressive advance. Instead we could focus on the work of commensurability, be receptive as well as active (Lohmann 1993:167), move back and forth, envisioning the ways in which shifting cultivation is innovative, active, responsive and contemporary.

Actor-networks and agro-food networks seek to disarticulate the global as a singular entity. As Anna Tsing notes there are no originals only processes of translation through which Western and other stories are rewritten in faithless appropriation in which new meanings are forged (Tsing 1997: 253). The multiplicity of Souths thereby rewrite the North and challenge the generalised earth and universalised environment of the narratives of global change, biodiversity and sustainability. This acknowledges the significance of globalisation, national schemes, transnational corporations and so on, as well as varying local conditions, but as elements in performative networks not isolated or totalising entities. From this perspective we could adopt the language of contingency, indeterminacy, simultaneity and multiple subjectivities (Rocheleau 1999: 23) to work up new stories to glimpse interactions and developments not part of the 'West and rest story' of global environmentalism (Tsing 1997:254). We could work towards an ungrounded solidarity rather than strategies of incorporation (Lohmann 1993: 167). We could find within nonequilibrium ecology and actor-networks new, active visions of nature that defy the privilege of the Western actor. After all, how we put things together matters and different constructions are consequential, and have important effects on the building of lives and worlds.

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