

The political ecology of *Prunus africana* in Cameroon

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*This paper provides an analysis of some current trends in political ecology and then illustrates the intermingling of politics and ecology using a case study of the exploitation and conservation of *Prunus africana* in Cameroon. It argues that political ecology is still a lively field, but that some recent attempts to chart a way forward for this perspective risk shifting it away from its liminal position in relation to natural and social science by being disinclined to engage with ecological processes. The case study draws attention to the strengths and shortcomings in existing attempts to weave political and economic analysis into environmental debates over the sustainable management of this tree species, which has been incorporated into phytomedical markets in Europe. The fortunes of the tree reflect its botany and ecology as well as the trajectories of the local economy, intercontinental markets for alternative health products, the policies and practices of the Cameroonian state and the politics of international aid.*

Key words: Cameroon, political ecology, *Prunus africana*, pygeum, conservation

And I looked and saw a whirling banner which ran so fast that it seemed as if it could never make a stand, and behind it came so long a train of people that I should never have believed death had undone so many. (Dante 1996, 14)

Introduction

In recent years, many of the ideas in human geography about the relationship between environment and development in the Third World have been organized under the whirling banner of 'political ecology'. This is the latest in a long series of prefixes that have been attached to the term ecology and, despite its popularity in the social sciences, the new hybrid seems to be much less well known amongst ecologists. Whilst this concept has been used since the late 1960s (Russett 1967), it is only in the last decade that it has both effloresced and, to a degree, coalesced around a set of particular propositions.

The label 'political ecology' has now reached a point where it seems to be applied to more and more empirical material in the social sciences, covering studies of urbanism, gender and the West as well as rural social movements in the non-West. Indeed, some analysts suggest that 'political ecology has in a sense almost dissolved itself' (Watts 2000).

This paper argues that, despite the loss of focus that inevitably accompanies an increase in popularity in any academic label, political ecology remains lively and useful. By using a case study of *Prunus africana* in Cameroon, the aim is to show how the addition of this perspective can augment the existing work of policy-oriented conservationists doing research in Africa (Laird and Lisinge 1998; Cunningham and Cunningham 2000). If political ecologists in human geography have any interest in engaging with ecologists, then they need to show that they have something distinctive, interesting and accessible to offer to debates about conservation. Two

different recent attempts to define a research agenda for political ecology (Swyngedouw *et al.* 2002; Forsyth 2003) are outlined here, though others could have been chosen (Adger *et al.* 2001; Peluso and Watts 2001; Berkhout *et al.* 2003). The two agendas described here present exciting, albeit contrasting, prospects for social scientists, but neither invite any collaborative engagement with ecologists, though for quite different reasons.

The first section of the paper quickly summarizes existing genealogies of political ecology (Bryant and Bailey 1996, 10–15; Peet and Watts 1996, 1–45; Stott and Sullivan 2000, 2–6; Forsyth 2003, 1–23). This is intended to provide an introduction for those who have not previously encountered this field. It then looks at current attempts to chart the way forward for political ecological research. The second section of the paper describes the conservation of *Prunus africana* in Cameroon and aims to make a case for the contribution that a political-ecology perspective can bring to debates on the African environment. The case study material is largely drawn from secondary sources. However, there have been several new developments since the most well known report on this topic (Cunningham and Cunningham 2000), which I learned about during fieldwork in Cameroon in February 2003.

A history and two possible futures for political ecology

There are five main senses in which the term ‘political ecology’ has been commonly used in the past; the first two are fairly trivial and will be dealt with first, the other three represent more substantive research traditions. The earliest use of the term political ecology took the idea of the interdependence of organisms from the science of ecology and applied it to purely political questions. In other words ‘ecology’ was used as a metaphor for understanding human politics. This use of the term can still be found (Swift 1993), but is rare. The second use of political ecology (or political ecologist) was as one of the many synonyms for the political wing of the environmental movement. This use of the term is more common and is still current.

The third use of political ecology emerges in the 1970s (Enzenberger 1974), when it is deployed as a means of criticizing the scientific discipline of ecology. Enzenberger’s argument was that not only was ecology inevitably political because it included the analysis of the human species and its use of

resources (an argument adopted by many ecologists), but that further, the discipline of ecology actively denied its own political character by using the ideology of science as a shield. In particular, he drew attention to the hidden class character of the debates in ecology about population and environment that were current at the time. His account reflects its context in its exuberant confidence in the power of Marxist theory to unmask this duplicity. When used in this way then, ‘political ecology’ was a derogatory term more or less synonymous with the way other Marxists used the label ‘neo-Malthusianism’ (Harvey 1974). It seems ironic, therefore, that when the term reappears two decades later, it was being used approvingly by Marxists (Swyngedouw 1997; Lipietz 2000). However, this is less quirky than it initially seems and there is actually continuity with the earlier Marxist analysis, since the current approach sets out to replace the ideology of ecology (which presented the accumulation of scientific knowledge as independent of its social context) with a focus on Marxist theorizations of the *real* nature–society relationship. This new political ecology emerged both from the renewed general interest among Marxist thinkers about nature (Smith 1984; Harvey 1993; Castree 1995; Benton 1996; O’Connor 1998; Keil 2000) and more specifically from a number of texts that had successfully deployed Marxist frameworks in the empirical analysis of inter-related social and environmental debates on the capitalist periphery (Wisner *et al.* 1982; Watts 1983). In this tradition, then, contemporary political ecology is a political-economic analysis of the relationship between society and nature under capitalism.

The fourth use of the term political ecology also dates from the early 1970s and emerged from economic anthropology. It was concerned with the relationships between the physical environment, production, resource ownership and the distribution of people. In this context, the agenda for political ecology was ‘to combine our inquiries into multiple local ecological contexts with a greater knowledge of social and political history, the study of intergroup relations in wider structural fields’ (Wolf 1972, 204–5). Though this tradition of political ecology came to be defined as a field combining the concerns of ecology and of political economy, it took little real interest in ecology beyond the innate materials and productivity of the environment. By the 1990s, this tradition of political ecology provided an intellectual home for those whose interests were predominantly political or economic, but who did not adhere

to Marxism, preferring instead the discourses of welfare and institutional economics or liberal political science (Greenberg and Park 1994). Indeed, some influential political ecologists explicitly have retreated from engaging with any analysis of contemporary research in ecology because they want to assert the primacy of the political as the driving force behind environmental problems in the Third World (Bryant and Bailey 1996, 6; Bryant 1997).

The fifth tradition is more closely associated with cultural ecology and is more explicitly concerned with questions of scale and biophysical processes and not purely political economy. It developed theoretically through empirical studies of specific environmental problems such as soil erosion and deforestation in the developing world (Blaikie 1985; Hecht 1985; Blaikie and Brookfield 1987). These environmental problems were conceived as the product of the social, biological and physical context in any one place. Where many attempts to analyse environmental problems rigorously policed the boundary between science and politics, political ecology sought explicitly to cross that frontier. It should, however, be added that the bulk of political ecologists are social scientists and only a few have succeeded in incorporating an understanding of biophysical processes into their analysis (Rocheleau and Ross 1995; Zimmerer 1996; Leach and Fairhead 1999; Sullivan 2000; Batterbury 2001).

Regardless of which tradition it comes from, political ecology attempts to insert political concepts into environmental debates in a quite different way to political science. Where political scientists are concerned with green political theory, the impact of green parties and lobby groups on the formal political process and the state's role in environmental management, political ecologists are concerned with a far broader notion of the political dimensions of the interaction between the state and other actors and the places where they live. It sees politics as the competition between humans over the division of resources, and looks at the means by which different actors deploy whatever power they have to achieve their ends. In addition, it seeks to set that contest between actors into an historical context of structural changes in the political economy. The aim is to understand environmental problems in their political-economic context.

Whereas some descriptions of the history of political ecology suggest that the third category described here was supplanted in the 1990s (Bryant and Bailey 1996, 13), it is suggested here that all

these categories continue to co-exist. The three research approaches have informed each other to a far greater extent than is suggested by the process of teasing out their differences; in fact, these traditions are almost completely interwoven in terms of their canonical texts. Yet, for all the common ground, there are still differences between them. The Marxist tradition runs the risk of becoming an abstract academic exercise of defining the relationship between nature and society, but other traditions risk perpetuating the idea that it is possible conceptually to separate a category of events (referred to as environmental problems) from the social debates that surround them. It is not correct to assert that

it is widely accepted that debates concerning 'political ecology' refer to the social and political conditions surrounding the causes, experiences and management of environmental problems. (Forsyth 2003, 2)

because, for the Marxist tradition, this claim makes no sense since social and political conditions do not 'surround' environmental problems; that distinction is collapsed and the social and environmental are melded into a unity. Put another way, there is no consensus over what counts as an environmental problem. For some political ecologists, access to safe drinking water for the urban poor is an environmental problem, but for others it is not, though its consequences might be. Debates about what constitutes an environmental problem are clearly informed by theorizations of the relationship between nature and society, whilst reciprocally debates over the relationship between nature and society become sterile if disconnected from any sense of relevance to environmental policy. So the traditions of political ecology are intertwined, but distinct. The tension between them is the force that keeps political ecology lively, as can be seen by examining two (out of many) different contemporary visions for the future of political ecological research.

In a paper about the sustainability of urban water supplies in Europe, Swyngedouw *et al.* (2002, 124–5) set out ten axioms of political ecology (Figure 1). The first five are ontological claims about the character of the relationship between nature and society. The second five are normative claims about the future research agenda for political ecology. This is very much in the Marxist tradition of political ecology, so it is strange that these principles do not include a claim about the driving force behind the process of change they describe, which can be

- 1 The thing we call the 'Environment' is a combined social and physical construction, which is historically produced. What is generally referred to as environmental change would be better labelled socio-environmental change.
- 2 There is nothing unnatural about produced environments (such as cities, plantations or irrigation schemes).
- 3 The character of socio-environmental change is not independent of the social context in which it occurs.
- 4 All processes of social change are predicated on changes to the bio-physical fabric.
- 5 Changes to the bio-physical fabric invariably have both positive and negative effects for different social groups. So, socio-environmental change is never politically neutral.
- 6 Political ecology should reveal the contradictory outcomes of socio-environmental change.
- 7 Political ecology should understand the social power relations that determine the course of socio-ecological change.
- 8 Political ecology should identify who benefits and who gains from sustaining particular socio-environmental configurations. Questions of sustainability are seen as fundamentally political questions: whose interests are served by sustaining the status quo?
- 9 Political ecology should identify the way in which the relations between social groups (classes, genders, ethnicities) are forged through the processes of socio-environmental change.
- 10 Political ecology should enhance the democratic content of existing environmental politics by identifying strategies for distributing social power more equitably and by identifying strategies for making the process of producing environments more inclusive.

Figure 1 Ten axioms of political ecology

Source: Derived from Swyngedouw *et al.* (2002)

assumed to be the accumulation of capital. For these authors, the point of studying ecological change is to understand social power relations, and to strategize about how best to change those relations in the name of equity. One of their core claims is that the very *idea* of separating nature and society serves the interests of particular groups. For example, patriarchy, heterosexism, greed and inequality are all portrayed as 'natural' and, therefore, inevitable. But, by foregrounding the notion that the 'idea of nature' is a mask which hides the real mechanisms that operate in social life, there is a risk that such an analysis appears to be little more than a crude process of undermining the politics of environmentalism. Rather, the focus of this version of political ecology is on the mutually constitutive relations between a materialist notion of nature as biophysical fabric and the ideological notion of nature as a cultural representation (Gandy 2002, 7). This approach escapes the straightjacket of much existing environmental politics which perpetuate a reactionary 'ideology of nature' (Smith 1984). However, it doesn't really take ecology very seriously and pays little attention to non-human organisms. It shies away from any serious engagement with understanding ecological processes.

Ideas about scientific knowledge production are at the centre of Tim Forsyth's discussion of the

future of political ecology and its contribution to the amelioration of environmental problems (2003, 20–2). This builds on earlier work, which has looked at the way in which the scientific language of ecology has been used to justify environmental policy (Stott and Sullivan 2000). The suggestion is that the object of political ecological study should be science (specifically environmental science) and science policy. Forsyth takes ecology far more seriously than most contemporary political ecologists, but he certainly doesn't see the facts given by environmental science as a secure basis for a debate about environmental problems. Rather, the central claim is that the evolution of environmental knowledge is part of the political debate; politics and ecology are 'co-produced' (Forsyth 2003, 266). His strategy for re-evaluating the laws of environmental science is to combine existing political ecology with so-called 'science and technology studies' (STS examine the production of scientific disciplines and knowledge in relation to their social and technological contexts). He distances himself from a radical constructivist position and instead repeatedly asserts a commitment to a 'real' nature, but still aims to make the focus of research an analysis of discourse and knowledge production. His aim is to analyse how ecological statements about the real world have been produced, and what political impact such statements have had.

The proposal is that political ecology should now look to new theoretical areas (critical realism, pragmatism and post-structuralist analysis of situated discourse). Such a programme is justified by claiming that the uncritical acceptance of the products of environmental science research can produce bad environmental policy, since it may oversimplify 'the underlying biophysical causes of environmental problems [and] . . . impose unnecessary and unfair restrictions on livelihoods of marginalized people' (Forsyth 2003, 11). Furthermore, when environmentalists rely on 'orthodox' science to defend their political project from the obfuscatory brownlash of industry, they run the risk of confusing ecology (an alleged accurate science) with ecologism (an ideological statement about how the world is meant to be). It seems counter-intuitive to suggest that a book that is about science is moving political ecology away from its engagement with science, but the tone of the engagement in this vision is unlikely to lead to collaboration.

Both of these approaches see the facts produced by ecology as socially pragmatic rather than units of information. Both try to avoid separating debates over environmentalism and politics. Both have a revelatory structure, though where one seeks to unmask the political functions of the idea of nature, the other seeks to unmask the hidden politics behind the scientific discourse of ecology. In these senses, both are different from much existing political ecology. But they are also different from each other – where one is a critique of capitalism, the other is a critique of positivist science. Indeed, at one point Forsyth overtly questions the essentialist link between capitalism and environmental degradation that has been the touchstone of much Marxist political ecology by asking 'how the opposition to capitalism may have influenced the production of environmental knowledge' (Forsyth 2003, 7). Where both approaches share a desire to make the politics of environmentalism more inclusive, they differ in their confidence about identifying the victims and villains in environmental debates. Where Swyngedouw *et al.* advocate direct involvement in political struggles around sustainability in the name of equity, Forsyth is more circumspect and acknowledges the significance of the post-structural critique of representation and the significance of context when defining social justice (Low and Gleeson 1998).

Neither project invites collaboration with those ecologists who are not self-critical about the ideology inherent in their research and its links to policy.

Swyngedouw *et al.* have relatively little apparent interest in understanding biophysical processes, and frequently reassert the centrality of the politics in political ecology. Forsyth, on the other hand, specifically addresses biophysical processes and argues that social scientists have something substantial to offer to environmental debates. However, he is not willing to dispense with a critique of positivism (to which much of the early part of his book is dedicated) in order to pursue this collaboration. He is consistently critical of the discipline ecology – that is the exclusive network of people who claim to have authoritative ecological knowledge. By grounding his analysis in post-structuralism and science studies, he adopts a framework that (despite his best efforts to demonstrate a commitment to a grounded nature and the merits of critical scientific research) is likely to be interpreted as antagonistic by most ecologists, particularly in the intellectual context of the so-called 'science wars'. So, whilst Forsyth does engage with the detail of contemporary scientific work on, for example, soil erosion, his purpose of doing so is to make the case that current ecological research suggests that accepted scientific truths should be questioned and that, therefore, there is a wider project of questioning the use of existing environmental laws in policy-making. In both of these two potential futures for political ecology, the relationship between natural and social science appears tense.

The question remains, how can those interested in politics convince those interested in ecology of the value of the social scientific contribution to debates over conservation, whilst at the same time continuing the critique of a discipline of ecology that claims to be a privileged form of knowledge production? Perhaps part of the answer lies in conceding that if political knowledge and ecological knowledge really are co-produced, then it is necessary for social scientists to suspend their disbelief and study biophysical processes in order to understand the production of politics. Such a move might, co-incidentally, go some way towards appeasing those who claim that social scientists 'require a grasp of the principles of natural science, without which their contribution is all critique and no substance about the interactions and outcomes within the natural world' (Blaikie 1995, 13). But the more effective strategy must be to demonstrate the value of political ecology, rather than to talk about it, which is what the second half of this paper aims to do.

Prunus africana: green gold on Mount Cameroon

For some years, Anthony Cunningham and colleagues at Kew Gardens in London, members of the Mount Cameroon integrated conservation and development project in Limbe/Buea and members of the Forestry Department at Bangor University, have been developing policy, projects and research for the conservation of *Prunus africana* in Cameroon. Not only has this work synthesized existing botanical and ecological research on *Prunus africana* (O'Brien and Youde 1999), it also shows a subtle appreciation of the complex relationships between people and plants (Cunningham and Cunningham 2000).

Prunus africana, a member of the *Rosaceae* family, is an evergreen tree species, with leathery leaves, deeply fissured bark and creamy white flowers. It is also known by a variety of other names including *Pygeum africanum*, African cherry and red stinkwood. It is a wild relative of plum trees and produces a cherry-like fruit, which is a favoured part of the diet of many bird and animal species. Globally, there are more than 200 species in the genus *Prunus*, but this is the only one found in Africa, and it is unique to Africa. It is not rare and is found across the continent at altitudes between 900 and 3000 metres. However, because it cannot grow much below 1000 metres, it tends to be found in island populations, so although it is widespread, it has a discontinuous distribution, which has specific implications in terms of maintaining intra-species genetic variation (Barker *et al.* 1994). It can grow up to 45 metres tall and the hard wood of the trunk is used for making the handles of tools (Marcelin *et al.* 2000), but it is the bark that has brought the tree to international attention.

Herbal preparations made from the bark of *Prunus africana* historically have been employed by Africans to treat chest pain, malaria, inflammation, fever and kidney disease, as well as for producing a cattle purgative (Leigh 2000). However, currently its most important commercial use is to relieve the symptoms of benign prostatic hypertrophy or the related condition of benign prostatic hyperstasia (BPH), both of which are swellings of the prostate that are common amongst older men (BPH affects around one-third of men over 50 in the UK). The prostate is a gland about the size of a walnut, which is found only in males, surrounding the urethra. If the central part of the prostate swells, it becomes increasingly difficult and painful for men to empty their bladder. According to some sources, *Prunus*

bark has been used internationally as a treatment for such symptoms since the eighteenth century, when European travellers brought it back from South Africa (Simons and Tchoundjeu 1998). However, widescale commercial production has only been taking place since the mid-1960s, when a patent for a preparation based on the bark was first lodged by a French entrepreneur (Debat 1966). It is sold as Tadenan (produced by Laboratoires Debat in France), Pygenil (Indena Spa in Italy), Proscar (Merck and Dohme in Germany) or as Pygeum in a range of health food outlets. Placebo-controlled double-blind studies have demonstrated some medical effectiveness, though the precise mechanism by which it reduces swelling in the prostate is still poorly understood (Chatelain *et al.* 1999). A review of 18 different small-scale, short, randomized studies concluded that Pygeum provided only moderate relief to some of the symptoms of BPH. Mean peak urinary flow rate was increased by 2 millilitres per second (Ishani *et al.* 2000). A more elaborate study is currently being undertaken in the US, but is unlikely to report before 2007. There is still considerable scepticism in orthodox medical circles about the benefits of Pygeum and it competes with standard pharmaceutical treatments (alpha-blockers and 5-alpha-reductase inhibitors), other herbal treatments and surgery.

The medicinal interest in the tree has generated a substantial international business. The trade in dried *Prunus* bark and bark extract is in the order of 3000–5000 tonnes a year (*Alternative Medicine Review* 2002) and the main sources are in Cameroon, Madagascar, Equatorial Guinea, Kenya, Uganda and Tanzania. In Cameroon, bark is bought for about 60 or 70 US cents a kilo, and a packet of 15 tablets finally retails in Europe at around US\$8 (Cunningham and Mbenkum 1993). Today, Pygeum is the favourite herbal remedy for BPH in France and is also widely used in Spain, Italy and Germany (Schippmann 2001). In the US, however, another herbal preparation, saw palmetto, is preferred, though demand for Pygeum is also on the rise. The global annual trade in *Prunus* bark is variously estimated to be worth between US\$150 and US\$220 million (Cunningham and Mbenkum 1993). Given the increasing interests in 'natural' remedies and also that men are likely to live longer, the demand for Pygeum can be expected to rise in the future.

Cameroon was one of the major sources of Pygeum supply from the early 1970s, when the French company Laboratoire Debat established a factory at Mutengene, on the lower slopes of Mount Cameroon.

Operating as Plantecam Medicam, the company prepared bark extracts in tablet form from bark harvested in the wild. By 1995, the company had a turnover of US\$4 million and 250 employees. They processed 200 tons of bark in 1980, but this had risen to 3100 tons a decade later (Cunningham and Mbenkum 1993). Plantecam's employees were mostly bark collectors who each brought 40 kilo bundles of bark to the factory for processing. *Prunus africana* has not, so far, been extensively cultivated and the bark trade in Cameroon is still derived entirely from wild plants. The trade in *Prunus* bark also generated tax revenue for the Cameroonian state, some of which officially was earmarked for forest regeneration work.

Prunus africana can survive the removal of some bark and there is the possibility, therefore, for harvesting bark without felling or killing the tree. According to Plantecam, their bark collectors were trained to gather the bark in the least damaging way. They were not permitted to fell the trees to collect the bark and they were expected to remove bark from up to only 50 per cent of the circumference of the tree and from opposite sides of the trunk in order to prevent girdling, which would kill that specimen (Marcelin *et al.* 2000). Nor were they permitted to return to the same tree for further harvesting for five years. The claim that the collection technique described was sustainable, if properly followed, was endorsed by the botanists and conservationists working at Limbe and Buea. This elaborate harvesting process was a product of the species' particular characteristics.

Bark was sourced from Mount Cameroon and other upland forest areas in the Southwest, West and Northwest Provinces. Over time, easy sources of *Prunus* in the West and Northwest Provinces were depleted and harvesting became increasingly focused on Mount Cameroon (Laird and Lisinge 1998). *Prunus* is an important part of Cameroon's upland forest ecosystems, particularly on Mount Cameroon, where it is one of main species of the upper canopy. Mount Cameroon is West Africa's highest mountain and one of its key montane forests. It is a 'hotspot' for biodiversity, with at least 49 endemic plant species, three endemic primate species and several endangered species such as the forest elephant, red-capped mangabey and chimpanzee.

Access to, and ownership of, *Prunus* specimens has always been contested. Whilst *de jure* control of forest resources lies with the Government, *de facto* control is often in the hands of more local institutions.

Plantecam always had to negotiate with both the institutions of the Government and local communities. In many cases (especially in the West and Northwest Provinces), Plantecam gained access for their collectors to the trees through a commercial arrangement with local traditional rulers who presented themselves as the leaders of local communities and, therefore, the owners of the trees. Because of the uncontested authority of these rulers amongst some ethnic groups (such as Bamiléké and Lam'nsó speakers), this was an effective strategy. It had parallels in longstanding arrangements in which chiefly families owned all the oil-producing palms, even on land which was farmed and controlled by other families. As such, it made sense in the new circumstances of financial value being placed on *Prunus* for the first time to claim that *Prunus* trees were owned by chiefs.

Such a local access strategy was less successful in large parts of the Southwest Province, where the polities are much smaller and where many ethnic groups are acephalous. For example, amongst the Bakweri people, who live on the Southeast side of Mount Cameroon, the basic landowning unit is the lineage (*litumba*), which is a small, close, kinship group whose members are all related to a common ancestor. Whilst the single senior member of the lineage controls the distribution of land, family members have usufruct rights over parcels during their lifetimes (Ardener 1996, 175). Various chiefly lines have competed for superiority over lineages ever since colonial institutions made it worth asserting paramountcy (Geschiere 1993; Ardener 1996, 47–9), but no one line has successfully asserted its dominance. As a result, no single figure would have had the authority to claim 'traditional' ownership of *Prunus* and village councils might well have rebuked any chief who tried to gain personal financial benefits from such arrangements.

In addition, this area was one of the first parts of Cameroon to be colonized and from the early twentieth century there were moves to Gazette the forests on the mountain as Reserves. Having experienced considerable land loss in the late nineteenth century (when German colonists appropriated Bakweri land for plantations) and further land loss throughout the twentieth century (as the result of immigration by other ethnic groups attracted to the economic opportunities provided by the plantations), the Bakweri were hostile to attempts to turn the mountain into a Government-controlled Reserve. So when reserves were established in 1939 and 1952,

control was vested in the Native Authority – the principal governance institution of indirect rule. The result was that the line between modern property rights and indigenous resource tenure has always been blurred and different Native Authorities, villages and villagers contest all claims of ownership. The historic experience of the Bakweri has meant that individuals are very alert to questions of ownership (Nyamnjoh 1999, 108) and the whole question of tenure is highly politicized.

Much of Plantecam's success in accessing supplies of bark depended on the positive relationships developed between those living where *Prunus* grew and their employees who acted as bark collectors, most of whom came from one village in the West Province. As supplies in the West and Northwest declined, these individual bark collectors had to roam further and further in search of new sources; they ceased to collect from within areas they knew or where they were known or where they respected cultural mores. This undermined the trust that had been developed in the areas where they were gathering, particularly in the context of growing popular antagonism between residents of the Northwest and Southwest, which was deliberately fostered by the Government in the 1990s (Nyamnjoh 1999). This added to the potential for disputes over regulating access to *Prunus* on Mount Cameroon.

Between 1972 and 1985, Plantecam had a monopoly of the harvesting licenses for Pygeum and as a result was able (to a degree) to control exploitation (Cunningham and Cunningham 2000). After 1985, when Plantecam's monopoly was revoked and 50 additional harvesting licenses were provided to Cameroonian entrepreneurs, the level of regulation of bark harvesting declined (Ndibi and Kay 1997). In 1993, export licenses for Pygeum were given to three Cameroonian companies (Laird and Lisinge 1998). New institutional structures and practices emerged as a result. Illegal harvesting of *Prunus* became widespread. Plantecam started to process more bark that was brought to them by individuals other than their employees. In particular, a new group of middlemen emerged, who paid individual collectors for bark and then sold to Plantecam at a higher price. Whilst Plantecam ensures that the bark gathered by its own collectors is harvested sustainably, it has no obligation to check on the provenance of the bark supplied to it by middlemen. The new exporters had little interest in the sustainable sourcing of Pygeum. Commentators claim that a group of 'bark poachers' emerged who went to villages at

night, so as to evade the Government's forest guards and bribed local people into giving them permission to harvest the bark (Achieng 1999). By 1995, *Prunus* harvesting was the major source of cash income for many young men in the area (Ewusi 1998). Conflicts developed within villages, between villages and between the conservationists (both local and international), the Government and Plantecam.

The result of withdrawing the monopoly has been extensive debarking and destruction of the trees in the wild to a level viewed by conservationists and the Cameroonian Government as unsustainable. Whilst harvesting a tree in the approved manner can yield US\$10–20 dollars per tree, felling and stripping it can instantly yield bark worth US\$200 (Futureharvest 2000). According to a representative of the Department of Forestry, Christian Asanga, '*Prunus* was a common tree in Cameroon, but now it is scarce, due to unsustainable harvesting' (Achieng 1999). The loss of the tree is also of concern to local people, who have lost access to an important source of a range of traditional medicines. Furthermore, in some places it is claimed that illegal harvesters have collected bark from within culturally significant 'sacred groves', which are used as the burial place of traditional rulers.

A variety of ecological processes have been changed as a result of this loss of regulation. First, mature *Prunus* trees produce the largest quantities of seeds, but they are also the specimens most favoured by bark collectors. This may have long-term implications for the reproduction of the species. Second, the shift in the forest population to harvesting trees with smaller trunk diameters may change canopy-gap dynamics as other species move in and change the species composition. As international demand for the bark escalates, some conservationists fear that non-sustainable harvesting may push the species to the brink of extinction. Even if it does not, its exploitation has consequences for the balance of species on Mount Cameroon, with its precious biodiversity. In addition, there is a possible separate species, *Prunus crassifolia*, also used for medicine, which is found only in Kivu, Zaire and which, if it is a separate species, is already endangered. *Prunus africana* was placed in appendix 2 of the *Convention on International Trade in Endangered Species* (CITES) in 1994. This means that whilst trade is permitted, CITES permits are needed to harvest or export it. It is considered a species that, if not endangered, requires close observation and controlled harvesting. But this has done little to stop

illegal exporters in Cameroon from overexploiting the tree because of the problems of implementation (Cunningham *et al.* 1997).

The main strategy proposed to prevent what conservationists see as negative ecological outcomes is domestication of the species (Dawson 1997). Cultivation of *Prunus africana* could take two forms, either through individual farmers planting seedlings amongst their other crops or through the establishment of dedicated plantations. Since the early 1990s, Plantecam were obliged in the terms of their license to establish five hectares of *Prunus* plantation a year. This they failed to do. However, even if this were achieved, it would not be sufficient to replace the wild harvested trees. It is estimated that in order to produce the existing levels of bark, between 640 and 820 hectares of plantations would be required (Akong 2000; Cunningham and Cunningham 2000). Encouragingly, though, small-scale farmers in Cameroon have begun cultivating *Prunus africana*. This is not the result of an organized development initiative or of the provision of incentives. Rather, farmers have planted the trees as part of an agroforestry system out of their own initiative, hoping to make use of them for a variety of purposes. However, though it is a relatively fast-growing species, the bark crop is unlikely to be ready for harvest for 18 years. This agroforestry is thought to be a more promising strategy for the cultivation of *Prunus* than establishing plantations in an area where suitable land is relatively scarce and always politically contested. In either context, one of the main constraints on domestication is a shortage of seeds, and the short period for which seeds can be kept viable, the majority of seeds will not germinate unless they are planted within a few days of being collected. Research in Kenya has set out to find alternative methods of producing seedlings, such as marcotting.

In the late 1990s, *Prunus* achieved a level of international notoriety (Sunderland and Nkefor 1997; Ackworth and Ewusi 1999; Sunderland and Tako 1999). Strident voices, particularly from the Nairobi-based International Centre for Research in Agroforestry, declared that 'just as the panda bear serves as a symbol for protecting endangered animals, *Prunus africana* is the icon for saving trees threatened by extinction' (Futureharvest 2000). The future of *Prunus* in Cameroon was even discussed in the British Parliament and the Department for International Development opted to make it a flagship issue. They threatened to withdraw their funding for aid projects in Southwest Cameroon unless action was taken by

the Government of Cameroon to reassert control over harvesting and to proceed in a more ecologically benign fashion.

In 1997, the Mount Cameroon Project (a conservation and development project funded by Cameroonian, UK and German governments) negotiated agreements between Plantecam and a number of villages on Mount Cameroon. In return for training in sustainable harvesting techniques, villagers were to receive a better price for bark from Plantecam (Laird and Lisinge 1998). In 1996, 1998 and 1999, the Mount Cameroon Project conducted inventories of the *Prunus* on Mount Cameroon (Ewusi 1998). They concluded that tough new quotas on harvesting were needed (Whewell 2001). In addition, they encouraged the village bark harvesters to form Unions in order to ensure training to improve bark harvesting techniques, to police poaching and also to make sure that collectors received appropriate prices for their products by cutting out the intermediaries (Akong 1999). In November 1999, the Government of Cameroon issued an *arrete* which asserted its desire to install a very strong system of control over *Prunus* harvesting and the Governor of the Southwest Province imposed a complete ban on harvesting *Prunus* (Mount Cameroon Project 1999). Plantecam's licensed harvest was reduced from 1500 tons to 300 (Adams 2000b). In 2000, Plantecam closed down their factory and left Cameroon, the assets were sold and the 300 staff laid off (Adams 2000a 2000b).

Plantecam claimed that the proposed quotas that followed the forest survey meant that production was no longer an economic proposition. Most of their redundant workers hold the conservation lobby responsible for the loss of jobs (Adams 2000b). Additional explanations suggest that the organized economic resistance by collectors reduced profit margins and opportunities for rent-seeking behaviour by middlemen and Plantecam. Production continues in France, from where different less-publicized sources of unprocessed bark, such as Madagascar, could be accessed (Dailey and Fernandes 2001). The unintended outcome of a conservationist success in Cameroon has been a conservation problem in Madagascar. The Government of Cameroon is not currently issuing harvesting permits, though local harvesters have ambitions to start up their own company based on sustainable practices and using the community forestry law (Fuh 2000). Ultimately, though, it will be hard for them to compete in global markets with suppliers that don't face such tight

environmental regulations (Whewell 2001). Perhaps the most secure economic route for a Cameroonian producer would be to pursue local (national and West African) markets for medicine derived from *Prunus africana*.

Conclusions

Why, then, is this example intriguing, and how could political ecologists add to this narrative? First, it shows the co-determination of social and environmental change. The bark harvesters initially trained by Plantecam came almost exclusively from one village in the West Province. Yet, they roamed widely across all the areas where *Prunus* grew to harvest it. They ceased to be tied to their own land and regarded the trees as a means of earning their own livelihood through selling their own labour power. This social process of proletarianization has particular implications for the relationship between the harvesters, the local communities and the trees in terms of questions of ownership and long-term ideas of stewardship. This social shift changes the relationship between people and plants. It is a change observed by one traditional ruler, the Fon of 'Nso, who claimed that people stopped thinking of the forest as a community asset and started to think about it as resource to be exploited for personal gain' (Cunningham and Cunningham 2000, 321). However, equally the ongoing incorporation of wild *Prunus* into a circuit of international capital accumulation is shaped by the ecology of the tree. Its ability to withstand a certain degree of bark removal, its rate of growth, its distribution, the character of its production of seeds, its place in the species mosaic are all factors that ultimately shaped the trajectory of the commercial business of producing Pygeum tablets. In particular, the very long period between planting and harvesting the bark has shaped the evolution of this emerging business by ensuring that wild sources have been preferred to plantations or small-scale production.

Second, the emerging possibilities of domesticating *Prunus* trees in Cameroon illustrate the falsity of the notion of pristine nature (the wild forest) entirely separate from the produced nature (the plantation or farm). The main strategy for conserving the 'forest' is to undermine the economic demand for 'wild' tree bark by generating an alternative source of supply. What is 'natural' about a forest when it depends on the growth of a plantation or agroforestry system elsewhere for its own continued survival? The plantation and the forest are interdependent not only in

economic terms, but also in ecological terms, as the forest supplies those who are trying to domesticate the species with the diversity of genetic material they need. Yet the language used by conservationists to justify interventions on Mount Cameroon still deploys images of pristine nature.

Third, the acceleration in the harvesting of *Prunus* bark may result in the deterioration of the Cameroonian environment, but how can that be set against the relief that this deforestation brought to those suffering from BPH in France, Spain and Italy? By constructing a storyline around the tree and the forest in Cameroon, the story of medical treatment in Europe is neglected. This is a clear example of the importance of a scaled political ecology model which overtly links the forces operating at different scales (from the world market for *Prunus* extract to individual forest tracts) within one narrative. It would be reasonable to say that the future of *Prunus* on Mount Cameroon is less likely to be determined by conservation projects than by the relative popularity of drugs as opposed to surgery, 'natural' remedies as opposed to 'artificial' ones and Pygeum as opposed to saw palmetto in the treatment of BPH in the West. One irony here is that the Pygeum tablets are marketed as gentler, safer and more natural than standard drug treatments, yet the alternative medicine industry is the underlying force behind what conservationists portray as a negative change in the ecology of the forests of Mount Cameroon. Some retailers of complementary medicine refuse to stock Pygeum tablets, because they cannot guarantee that the bark has been harvested sustainably. Another irony is the centrality of African knowledge in the marketing narrative of these medicines in Europe, and the centrality of African ignorance in the conservation narrative that emerged from Cameroon in the late 1990s. Cameroonian wisdom about *Prunus* was at the heart of initial product development, reworking a longstanding idea of African closeness to nature. Yet environmentalists vilified Cameroonian bark harvesters and entrepreneurs for their irresponsible attitude towards nature and a lack of interest in sustainability when compared to the model French company.

Fourth, and this is where existing accounts are most lacking, the narrative of the over-exploitation of Cameroonian *Prunus* is not independent of the specific historical conditions and social institutions that accompany them at a national and regional scale. Though the ethnobotanical approach is very open to anthropological contributions (Laird 1999),

existing work by conservationists on *Prunus africana* in Cameroon does not engage with the best political analyses of contemporary Cameroon at all (Jua 1991; Mbembe 1992; Ngwane 1997; Eyoh 1998; Nyamnjoh 1999). Why is it that the Plantecam monopolies on harvesting and export were changed in 1985 and 1993? Because this is precisely the moment when the growth of the economy in Cameroon starts to decline for the first time since independence in 1960. In the context of the Government's declining revenues and (some years later) its inability to pay its civil service wage bill, it is coerced into making a range of concessions to international lenders. These demands reflect the dominant beliefs of those lenders at the time, particularly in relation to the merits of free markets and the problems of protectionism. In general, these concessions were perceived to disadvantage Cameroonian entrepreneurs, whose markets had previously been protected through the support of their allies in the Cameroonian political elite. However, in the particular context of the *Prunus* bark trade, the reverse is true. A French-owned company operating in Cameroon held the monopoly, opening it up to competition meant opening the market to local national capital. It is not hard to imagine the glee with which the Cameroonian Government would open up this particular business to national capital, regardless of the objections of conservationists.

Why did bark exploitation accelerate so dramatically in 1994–5? Again, the national economic and political context took a dramatic lurch at this moment. The currency devaluation and wage cuts at that time must be part of the explanation (Konings 1996). Whilst corruption has been endemic in the Cameroonian state for many years, it has ebbed and flowed. The common consensus is that there was a dramatic deepening of corruption in 1994–5, not only in the sense that corrupt civil servants tried to extract more in volume, but more, and more junior, civil servants began to use their positions within the bureaucracy as an accumulation strategy (Page 2002). To understand the recent history of *Prunus* conservation, it is necessary to put it into the historical context of political economy. In this respect, the standard procedures for the incorporation of social science into environmental decisionmaking, namely log-frames and stakeholder analysis, tends to be inadequate, because it is insufficiently attentive to history and context beyond the local or project scale.

In addition, it is unfortunate and unstrategic for those who wish to defend *Prunus* that they are

nostalgic about that period when Plantecam operated with a monopoly. By so doing, they set themselves up in opposition to local political-economic elites, they demonize local entrepreneurs and appear to be defending an unaccountable, undemocratic foreign company, which later proved to have failed to live up to its environmental responsibilities anyway. If some kind of monopoly control over production is the best means of harvesting wild *Prunus* sustainably, then the obvious institution through which that monopoly should theoretically operate is the state. However, given that the first assumption of all analysts of the Cameroonian state is that it is neither competent nor accountable, then should the first goal of foreign intervention in the name of conservation be not to protect trees but to promote democracy?

Finally, the argument in the first part of this paper claimed that it was necessary for political ecologists who were social scientists to take the ecological knowledge of conservationists seriously. At the scale of the individual tree species, it is clear that the particular character of *Prunus africana* has, in part, steered the narrative of its exploitation and conservation. To tell this story, it is necessary to be able to judge the degree to which *Prunus* really is medically useful, which requires engagement with the literature from medicine. It is necessary to be able to judge whether it really is possible to harvest the tree sustainably by removing 50 per cent of the bark once every five years, which requires engagement with a literature from botany. It is necessary to be able to judge whether it really is hard to grow seedlings and domesticate the tree, which requires engagement with the literature from agriculture. The specific botanical attributes of this species are central to any political ecological narrative. Second, in this case study it is necessary to understand the relationship between *Prunus africana* and the other plant and animal species within the montane forest of Cameroon. Understanding the significance of this plant within a broader species mosaic is vital to making the case that this plant does matter and assessing the relative worth of regulating its exploitation. Third, understanding the ecological argument for the broader significance of Mount Cameroon as a 'hotspot' of biodiversity is also central to any scaled understanding of, say, normative arguments about the disbursement or withholding of international support to Cameroon development or conservation projects. Is it justified to hold Cameroonian social development projects hostage until the protection of

the *Prunus* on Mount Cameroon is guaranteed? A social scientific contribution to the debates on *Prunus* conservation may not need to worship uncritically at the altar of ecology, and has every right to bring attention to its self-serving claims, but it undoubtedly gains richness from engaging with it in a cooperative spirit.

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