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'Regional political ecology' in theory and practice: a case study from northern Portugal

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ABSTRACT

This paper is divided into two parts. In the first, a theoretical approach to the problem of land degradation, known as 'regional political ecology' (Blaikie and Brookfield, 1987) is outlined, and its implications for work within the broad field of rural development geography discussed. The approach is used as a basis for analysis of the current agricultural crisis in the Serra do Alvão, a mountain range in the interior of northern Portugal, which is one of the poorest and least developed areas of the EEC. In the second part of the paper, four main problems with the approach of 'regional political ecology' are considered, both at a theoretical level, and in the context of the specific case study of the Serra do Alvão. Although the approach is seen as an important contribution to the study of both physical land degradation and declining agricultural productivity, in the light of the problems identified, it is argued that refinements must be made to enhance its usefulness as a theoretical framework for future work.

KEY WORDS: Regional political ecology, Environmental degradation, Agricultural crisis, Northern Portugal, Marginalization, Mixed farming

'REGIONAL POLITICAL ECOLOGY': A NEW THEORETICAL APPROACH?

The phrase 'regional political ecology' was first proposed by Blaikie and Brookfield (1987) in their book *Land degradation and society*, and has since been elaborated by Blaikie (1988a). It is used to denote what is called 'the theoretical basis of an approach to land degradation' (Blaikie and Brookfield, 1987, p. 17). Traditionally land degradation has been seen purely as a management issue, involving 'natural' processes, that may be accelerated as a result of population pressure, or bad management practice. Blame for erosion is placed on the shoulders of the land user, who is generally portrayed as ignorant of the effects s/he has on the environment. In contrast to these explanations, Blaikie and Brookfield aim to shift attention away from inherent natural conditions and social characteristics, arguing instead that a 'chain of explanation' should be constructed, in which relationships between farmers and the physical environment are considered in their 'historical, political and economic context' (Blaikie and Brookfield, 1987, p. 239). The approach has already been used in a

variety of studies (Anderson and Millington, 1987; Preston, 1987; Bassett, 1988).

Three main aspects of 'regional political ecology' are outlined in *Land degradation and society*. First, there is a call for an integration of human and physical approaches to land degradation, combining the concerns of ecology with those of a 'broadly defined political economy' (p. 17). The aim is to highlight the interactive relationships between people and their environment, described as a 'constantly shifting dialectic between society and land-based resources' (p. 17). Secondly, Blaikie and Brookfield argue for regionally-based accounts of land degradation, which start with the decisions of farmers themselves, and take into account variations in environmental resilience. This locality-based approach is to be supplemented by work on a variety of scales, so as to show for example 'the contribution of different ... hierarchies of socio-economic organizations' (p. 17). Thirdly, a concern with political economy implies an analysis of how structures external to rural society, may impinge on it in a way that leads to land degradation. Thus attention is focused on the role of international capitalism and the state, and the way these

'directly and indirectly have repercussions on the land, and those who use it' (Blaikie, 1988a, p. 141).

As laid out by Blaikie and Brookfield, 'regional political ecology' represents a broad-based approach, encompassing a variety of scales, methodologies and conclusions regarding the causes of land degradation. At the same time, their approach has implications extending beyond the explanation of the particular phenomenon of environmental decline. They are concerned with environmental degradation in its broadest sense, which includes the loss of soil quality and fertility, as well as the physical removal of soil. Their aim is also to develop a theoretical framework which will explain why land managers sometimes act in ways that are detrimental both to the environment, and to their own livelihoods. 'Regional political ecology' is thus a theory about land *management*, not just land degradation. As such, it is potentially useful in explaining the persistence of a range of ostensibly irrational and unproductive land management practices, which might for example result in a temporary decline in productivity, as well as in semi-permanent, or permanent environmental degradation.

Blaikie (1988a) calls specifically for plurality in both approaches and conclusions, and challenges existing uncausal and simplistic explanations of land degradation. Nonetheless, both *Land degradation and society*, and Blaikie's earlier work, *The political economy of soil erosion* (1985), identify specific processes which lead to environmental crises. Attention is focused on the ways land managers, and in particular smaller producers, may cause degradation, which in turn affects their own livelihoods, as a result of their 'marginalization'. This is defined as a process in which small producers 'lose the ability to control their own lives', and results either from their 'incorporation into the world economic system' (Blaikie, 1985, p. 125), or alternatively due to state intervention in the rural economy.

Two distinct forms of 'marginalization' are identified. First, as the small farm sector is incorporated into the capitalist mode of production, surplus value is extracted from small producers. This in turn may force them to extract an unsustainable surplus from the land itself, and abandon traditional conservation practices which prevent environmental degradation. Meanwhile, Blaikie (1985, p. 125) draws on the work of 'Wisner, O'Keefe and Westgate variously and together', who talk of 'eco-demographic marginality'. In this case, small producers are displaced to less fertile or ecologically more vulnerable locations. This may be as a result of land expropriations by the state,

or intervention in land by large agribusiness concerns. Once again, small producers are placed in a position where they may be forced to over-exploit a restricted land resource base in order to survive. In *Land degradation and society*, there is a more extended discussion of margins and marginality, concepts of which 'regional political ecology' makes considerable use. 'Marginality' is broken down into its economic, ecological and political-economic components, and change in any one of these is held to have implications for each of the others.

The northern Portuguese mountains are not amongst the most environmentally threatened areas of the world, as high rainfall and intensive cultivation give rise to a relatively lush vegetation, which helps to protect the soil from erosion. Nonetheless, northern Portugal is suffering from a crisis of productivity (Girão, 1980; Pinto *et al.*, 1984), reflected in declining yields, and a possible long term decline in fertility. At the same time, both forms of marginalization identified by Blaikie (1985) can be seen to be present in the region. The interrelationships between land management in the mountains of southern Europe, and incorporation in the wider European economy are speculated on by Blaikie himself. He suggested that 'recession in Europe will affect the flow of *gastarbeiter* from Europe's eroded mountain periphery, remittances to the regional hill economies, investment in agriculture, and decision-making in land use' (Blaikie, 1985, p. 137). Meanwhile, in neighbouring Galicia, O'Flanagan (1978) talks of the increasing ecological and economic 'marginality' of small farmers as a result of land expropriations. Such expropriations have taken place in Portugal too, and have altered the resource base available to rural people.

AGRICULTURAL CRISIS IN THE SERRA DO ALVÃO

In order to examine the value of the 'regional political ecology' approach in explaining a broadly defined agricultural crisis, a detailed study of the relationships between the farming system and the wider political economy was carried out in the Serra do Alvão, an isolated mountain range in northern Portugal. The Alvão lies on the administrative, as well as the ecological border, between the dry interior province of Trás-os-Montes, and the more humid coastal province of the Minho, and forms part of a chain of mountains that separate these two provinces. Its economy is based on agriculture, in which over 60 per cent of the active population were employed at

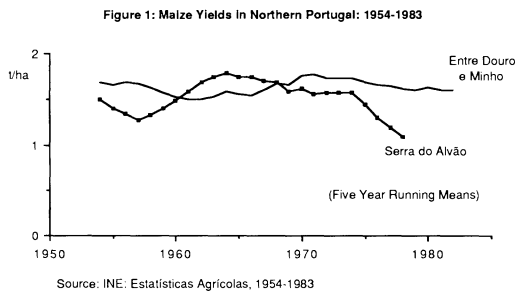


FIGURE 1. Maize yields in Northern Portugal: 1954-1983

the time of the last population census (INE, 1981). Farming is carried out predominantly in small family units, which produce a range of crops, both for sale and for the household's own consumption. The principal grain crops are maize, which is grown in association with beans, and rye. Cattle are kept to provide tractive power, with calves being sold through an extensive network of periodic local markets. Traditionally, goats and sheep were also bred, grazing on extensive areas of common land. According to the most recent agricultural census, carried out in 1979, nearly three quarters of the Alvão's farms were under two hectares in size. The majority of these were administered by full-time farmers, although nearly 40 per cent of all farmers in 1979 spent more than half their time working in outside employment.

Field work was carried out in the region over a period of twelve months, in three visits between June 1987 and October 1988. Information was collected on current and past farming and social structures through structured interviews of over 200 households in four villages selected for detailed study. Just under half of those interviewed were farmers. Additional information concerning the post-War development of agriculture in the area was collected through in-depth interviews, as well as the consultation of various local documentary sources. For the purposes of this paper, the Serra do Alvão was defined as the two *concelhos* or counties of Mondim de Basto, and Ribeira de Pena, and these cover the bulk of the mountain range. All data presented for the Alvão therefore refers to this administrative area, and not to the entire range.

Traditional explanations of crisis

Figure 1 indicates the extent of the agricultural 'crisis' in northern Portugal. Productivity of the main field crop, maize, has been steadily declining in the Minho region since the early 1960s. In the Alvão, where the

crop occupied 47 per cent of the total cultivated area in the 1968 agricultural census, this decline has recently been even sharper, falling from 1.5 t/ha from 1950-54, to only 1.1 t/ha from 1974-79, the last 5 years for which data are available. Although considerable doubt can be cast on the accuracy of agricultural statistics in Portugal, and yields of maize are lowered through intercropping with beans, these figures nonetheless show average yields less than a third of the European average of 5.5 tons/hectare (FAO, 1984).

In direct parallel to the traditional explanations of environmental degradation noted by Blaikie and Brookfield, it is common to explain this crisis of productivity in the north of Portugal in terms of the hostile character of the physical environment, overpopulation, and the consequent small size of farms, or the conservatism and lack of training of farmers. Pearson and Monke (1987, p. 18) for example refer to 'fragile agro-climatic environments' in the north, and in recent government reports on the Alvão, emphasis is similarly placed on the area's restricted physical resource base (Sottomayor and Barbot, 1987). In southern Europe as a whole, Hadjimichaelis (1987) argues that the persistence of small, fragmented landholdings is one of the most pressing problems of agriculture. Such a fragmented landholding structure is generally seen as resulting from population pressure, and the operation of inheritance laws (cf. Clout, 1972; Ilbery, 1981). Land inheritance in the Alvão is based on the principle of equal division of property between heirs, and this can lead to complicated subdivisions. Other frequent explanations of the perceived 'backwardness' of northern Portuguese agriculture include farmer illiteracy, their lack of agricultural training, and government inactivity, as well as the physical isolation of large parts of the region (World Bank, 1978).

However, these traditional explanations of crisis can be challenged. Mounting anthropological evidence has shown that complicated strategies are employed by farmers to ensure the transmission of undivided inheritances (Feijó *et al.*, 1981; Brandão, 1985), whilst fragmentation of property can in any case be seen as having beneficial, as well as detrimental, effects (King and Burton, 1982; Bentley, 1986). Unwin (1985) has meanwhile cast considerable doubt on the notion that farmers are simply ignorant, or unwilling to innovate. Physical isolation too is arguably becoming less relevant, as both main roads, and field access roads, are improved using EEC funds. Instead, as in the case of environmental degradation,

an alternative framework can be constructed that goes some way to explaining the deeper causes of agricultural stagnation in the Alvão, without recourse to these traditional viewpoints. In particular, a brief account of the agricultural history of the Alvão serves to demonstrate that smaller producers in the area have been marginalized both spatially and politically over the past thirty years.

Alternative explanations: expropriation of common land

The concept of 'spatial marginalization' highlights the fact that small farmers do not operate on a given or unchanging land resource base. In practice, in much of northern and central Portugal, the area available to farmers has been considerably reduced by government expropriations of common land, or *baldio* from the 1930s onwards. Prior to the 1930s, common land represented an important resource for a range of activities. In particular, there was a close integration of cultivated and uncultivated land, with the latter providing an essential supply of nutrients to crops. Scrub mountain vegetation, consisting mainly of plants such as gorses (*Ulex spp.*), broom (*Cytisus stiatius*, *scoparius* and *multiflorus*), and winged broom (*chamaespartium tridentatum*), was collected and used as bedding for livestock. These leguminous plants have a high nitrogen content, which was transferred to agricultural land as manure. Meanwhile, in 1940, some 16 620 goats and 9483 sheep grazed an estimated 23 000 hectares of common land in the region (INE, 1940; World Bank, 1978), often in communal herds (Lourenço, 1981). Cattle also grazed the mountains, especially during the dry summer months, when there was a shortage of pasture. Communal woodland provided a vital source of firewood, and the sale of charcoal constituted an important income-earning opportunity for poorer women (Bennema, 1978). Those with little or no land were also able to cultivate small areas of common land on a temporary basis to meet their subsistence needs.

These uses of the mountain were brought to an abrupt end by a state afforestation programme, which began to affect the Alvão mainly from the 1940s onwards. Common lands in the counties of Mondim de Basto and Ribeira de Pena were placed under the central control of the Forestry Services by legislation passed respectively in 1933 and 1938. Between 1940 and 1964, the only period for which figures are available, over 15 000 hectares were planted in the Alvão, mainly with the species maritime pine (*Pinus pinastre*), and by the 1970s, state forests covered just under half the entire area (see Table 1). By 1964, revenue from

TABLE I. Afforestation in the Serra do Alvão, 1940–65

Year	Forested (ha)	Total (ha)	% Total area forested
Pre-1940	3555	3555	9.1
1940–44	2156	5711	14.7
1945–49	1203	6914	17.7
1950–54	2720	9634	24.7
1955–59	5469	15 103	38.8
1960–64	3850	18 953	48.6
(1965 onwards: Figures not available)			

Source: Instituto Nacional de Estatística: *Estatísticas Agrícolas*, 1940–65

the extraction of pine resin alone had reached 1.5 million *escudos* per annum (over US\$50 000), although little of this was received by the local population. There was also high demand for the pine wood, which was exported in significant quantities.

Afforestation was implemented ostensibly to combat soil erosion on unprotected mountain slopes, and to reduce other environmental hazards. Thus in an official report of the Forestry Service, Mendonça (1961, p. 24) argued that afforestation helped to create humus and soil, which would protect slopes from rain and wind, whilst the retention of water in the forests would reduce floods and allow aquifers to be replenished. A government survey of common lands in the 1930s went further, suggesting in a section on the Alvão that afforestation would even improve the local climate (JCI, 1939). However, no studies were published by the Forestry Services to demonstrate that slopes in the Alvão were particularly susceptible to erosion, or the pine forests improved the situation. In practice, large tracts of pine forest, often of high density, and inadequately managed, proved a major fire hazard (Devy-Vareta, 1980).

Meanwhile, the implications for local people, both in economic and ecological terms, were dramatic, leading Devy-Vareta (1980, p. 358) to talk of an 'artificial forest' in both social and ecological terms. Licences were introduced for farmers wishing to graze animals on the mountains, and access for goats was refused. Large fines were introduced for infringement of the new regulations, and many farmers complained of being forced to sell their flocks by the Forestry Service at below their market value. The collection of firewood and scrub for cattle bedding was also strictly controlled by licence, and

armed forest guards were deployed to ensure compliance. Although in some villages, areas of common land were reserved for 'traditional uses and customs' of the village, these areas were generally small, and usually inadequate to meet local needs (Nobre, 1981).

The overall result of afforestation was an increase in the 'marginality' of small producers in the Alvão. In Blaikie's terms, their political marginalization led to increasing economic and ecological marginality. Thus between 1940 and 1955, the number of goats in the Alvão fell by nearly 70 per cent, increasing the economic marginality of farmers who depended on the sale of kids for a major source of income. Meanwhile, the declining availability and quality of manure may have contributed to a deterioration of the quality of cultivated land, and increased ecological marginality. Stanislawski (1959, p. 47) for example notes the dependence of soils in the region on 'cultivation, improvement and manuring', even describing them as 'agropedic'. The replacement of organic manure with chemical fertilizers has a detrimental effect on soil texture, whilst the organic content of the soil decreases. Meanwhile, although by 1979, 95 per cent of farmers in the region were using chemical fertilizers (INE, 1979), the nutrients provided by these are less easily held in the soil complex, with implications for productivity. The social marginality of the poorest was also increased, as they were forced for the first time to look for firewood in privately-owned woodland instead of on the commons. This reinforced the dependence of poorer families on the rich landlords who owned this resource, and controlled access to it.

Integration into European labour markets

The shock caused to the farming system of the Alvão by afforestation of the commons was compounded in the 1960s by a second major external impact, the integration of the area into the north European labour market. Emigration from the rural north of Portugal was not a new phenomenon, but during the 1960s, the rural exodus reached unprecedented levels, as the main destination of migrants switched from Brazil to northern Europe (see Table II). Data from parish registers presented in Table III show the total level of out-migration in four parishes of the Alvão. In some villages, over half the population left during the 1960s, although in Ribeira de Pena there has since been a small return movement. Emigration has attracted considerable attention from both Portuguese academics (Serrão, 1974; Trindade, 1975), and outside observers (Poinard, 1983; Lewis and Williams, 1986; Brettell, 1986), but relatively little work has been carried out in

TABLE II. *Legal emigration from the Serra do Alvão, 1955–75*

Year	America	Europe	Total
1955	82	3	85
1956	68	2	70
1957	86	6	92
1958	96	14	110
1959	42	24	66
1960	47	27	74
1961	61	7	68
1962	41	8	49
1963	33	26	59
1964	11	148	159
1965	*	*	233
1966	26	287	316
1967	39	260	300
1968	23	219	242
1969	26	214	241
1970	29	185	214
1971	28	86	114
1972	22	98	120
1973	13	152	165
1974	19	74	94
1975	17	18	35

Source: *Boletim do Secretariado do Estado de Emigração, 1955–75*

Note: *Data not available

TABLE III. *Total outmigration from selected parishes in the Serra do Alvão, 1941–81*

	Atei	Bilhó	Cerva	Salvador
1941–50	13	4	22	17
1951–60	26	29	21	20
1961–70	29	22	45	49
1971–81	16	31	–4	–10

Note: Units: % initial population departing during decade

Source: Parish registers of births and deaths; Population censuses, 1940–81

Portugal on the effects of this flow specifically on agricultural production. This is despite the fact that agricultural workers, sharecroppers and small farmers were amongst the first to leave, and made up the majority of all migrants.

The effect on agricultural production of population change in general has been the subject of some debate. In the European context, an exodus from rural areas has often been seen as essential to agricultural modernization (Knox, 1984). In contrast though,

Boserup (1981, p. 97–8) saw a decline in population, for whatever reason, as an obstacle to development, arguing that in Africa, as 'population declined, . . . the agricultural system adapted by a shift back to more extensive systems'. Unwin (1988) suggests that the full implications of this are not followed up by Boserup, but that the result may well be environmental degradation. Blaikie and Brookfield (1987) argue that the extraction of labour from a rural area can have both beneficial and detrimental effects. Whilst innovations may be induced that increase productivity and replace the absent labour force, more extreme 'marginalization' may lead to land degradation, as conservation-orientated management practices are restrained or abandoned. The direction of change may depend in part on the existing population/land resource ratio. It will also depend though on local political factors, especially the access of poorer people to land resources.

In the Portuguese case, the effects of emigration appear to vary according to the social class of farmers. Throughout the north of the country, many medium and large farms responded to the loss of labour power through innovation and mechanization. Landowners who formerly rented out their land to smaller tenant farmers, reacted to the fall in demand for rented land by taking over direct management, and establishing capitalist enterprises (Baptista, 1981). In the Alvão, large farms have been converted mainly to mechanized beef, but also to dairy production, whilst some others have specialized in the production of quality wines. Other landlords though, after making small reductions in rents, chose to take land out of cultivation altogether, rather than allow their social position to be weakened. Many of these had alternative incomes from outside farming, usually a liberal profession.

In contrast, in the small farm sector, the extreme solutions of mechanization or total land abandonment are both rare. Where loss of family, rather than hired, labour was the problem, adjustments were more temporary, and sometimes contradictory, as the farm household has attempted to cope with new conditions. For individual small farmers, there was no simple choice between employment in agriculture and emigration, since work in France and Germany, the two main destinations of Portuguese emigrants, was neither guaranteed nor permanent. It was often necessary for men to emigrate alone, due to the lack of housing and jobs for women in the countries to which migration occurred (Wall, 1984). Meanwhile, the majority of those who left, especially in the 1960s,

did so illegally. With this atmosphere of uncertainty and risk surrounding emigration, there was a considerable incentive to hold on to landholdings, as a form of security. At the same time, temporary emigration constituted for many households one part of a strategy that included retention of the land holding. As a result of these factors, very little land was released onto the land market, whilst emigrants remained dependent, at least in part, on the land.

Nonetheless, within the small farm sector, various changes took place in the organization of the farm labour process to compensate for the loss of labour power, and these changes had important consequences for both land management and land quality. The use of broom and gorse for cattle bedding had not been wiped out by afforestation, but as labour become more scarce, farmers began to use vegetation that was less time-consuming to collect. Two alternative bedding materials that were available were maize residues, and the litter under the newly-planted pine forests. However, both contain less than a third of the nitrogen of broom, and 20–30 per cent less than gorse (Rebello e Silva, 1980). Emigration also resulted in an increasing feminization of farm tasks (Rodrigo, 1986), although according to Wall (1984), the changes in women's work have not been so far reaching as to include increased responsibility for the management of the farm holding. In the Alvão, the flax crop, formerly managed almost entirely by women, has practically been abandoned, as women have become involved in a wider range of farm tasks, and industrially-produced textiles have become more readily available. Ironically, some farmers interviewed in 1987–8 commented that this had led to an improvement in land quality, since flax made a high demand in nutrients from the soil.

The use of casual labour by all farms has meanwhile increased, as older farmers, and women, employ the few young men who have not emigrated to carry out more arduous tasks such as ploughing, as well as those traditionally reserved for men, such as the pruning of vines. Although land belonging to small farmers has rarely been abandoned, or suffered serious erosion, cultivation has often become less intense, as increasing emphasis has been placed on more unreliable, and usually less productive casual labour, as a replacement for family labour. Also, many of those who have emigrated, rather than selling their land, and releasing it to farmers wishing to expand, have instead left their farm under the control of relatives. These frequently have little direct use for the land, and cannot command sufficient labour power to

cultivate it. As a result, there has been widespread conversion of land from arable use to the production of hay, or rye destined for cattle fodder. This extensification of production has helped to compensate for the loss of mountain grazing land, but has led to an overall lowering of productivity.

'REGIONAL POLITICAL ECOLOGY': THEORETICAL AND PRACTICAL ISSUES

Recent changes in the farming system of the Serra do Alvão confirm the importance given by 'regional political ecology' to the role of wider economic and political systems in influencing land management. The call from Blaikie and Brookfield (1987) to emphasize the ways in which rural producers may become marginalized within these systems, appears to have resonance in the light of the recent agricultural history of the region. However, in this section, four main theoretical and practical problems with the adoption of the approach of 'regional political ecology' are outlined. These are concerned with:

- (i) the level of past isolation of the Alvão and other rural areas;
- (ii) the ways in which the Alvão, and its population have been incorporated into the world economic system;
- (iii) the appropriateness of the term 'marginalization' to describe this process, and
- (iv) the way in which a chain of explanation is constructed.

On a theoretical level, the extent to which the processes of 'marginalization' identified by Blaikie and Brookfield represent useful theoretical generalizations, the internal consistency of the approach, and the extent to which the terminology used is appropriate will also be examined.

Isolation and traditional land management systems

Highlighting the importance of factors external to the farming system, as part of a 'chain of explanation' for land degradation and declining productivity, is a valuable contribution of the 'regional political ecology' approach. In the Alvão, although there is little visible land degradation, the ways in which traditional systems maintain long-term soil fertility have been disrupted by external influence of labour migration and afforestation. However, despite various detrimental effects on the quality of land management, it would be wrong to assume in contrast, either that traditional farming systems necessarily represent the best form of land management, or that it would be desirable to isolate traditional economies from all outside inter-

ference in the interests of the environment. In fact, in both the Portuguese case and in the developing world as a whole, integration of rural areas into the wider economy has a long history, and a number of possibly beneficial effects, at least in the economic sphere.

In northern Portugal, anthropologists (Dias, 1961), rural sociologists (Descamps, 1935) and geographers (Ribeiro, 1945) alike have traditionally portrayed rural communities as being isolated, egalitarian and self-sufficient, existing on a delicate balance between people and the physical environment. Jorge Dias, the father of modern Portuguese anthropology, for example, argued that in much of the rural north of the country, there was an almost perfect 'synthesis of man and nature' (Dias, 1961, p. 85), and referring to the Alvão in particular, he suggested that by the late 1940s, this balance was being destroyed by afforestation (Dias, 1949). It is not clear, however, if the Alvão, or other parts of rural northern Portugal have ever been completely isolated from the outside world. Rather, it could be argued that links between the agricultural economy and other sectors and regions have always been crucial to the survival of agriculture.

Although temporary mass migration to northern Europe has become important only since the Second World War, emigration itself is not a new phenomenon in northern Portugal. Considerable emigration took place to Brazil in the late nineteenth century, and the importance of remittances from this source in supplementing rural incomes is recognised even by Dias (1961). Prior to the main periods of emigration, Goldey (1981) suggests that there was widespread labour mobility between different parts of the Minho mountains, as agricultural workers looked for seasonal employment in mining, and the harvests of the Douro valley and beyond. The German traveller Link also noted the existence of gangs of workers, 'travelling about in considerable numbers' (Link, 1801, p. 333) in the late eighteenth century. Extensive marketing networks have also linked the mountains with the outside world for a long time. Cattle trading in the nineteenth century, for example, involved the live shipment of local breeds of cattle to supply markets as far afield as the United Kingdom (Pereira, 1971).

Whilst 'regional political ecology' rightly criticizes the way in which surplus value is extracted from rural areas, too little attention is perhaps paid to the ways in which these same areas depend on financial flows from outside, despite evidence of such dependence over a considerable period of time. As Blaikie and

Brookfield (1987, p. 244) themselves admit, 'most of the world's peasantry would not wish to withdraw from the market', not least because individually, they derive material benefit from such linkages. Moreover, although these benefits are primarily economic, the long history of external links, and their coexistence with the 'traditional' economy, suggest that they are not necessarily detrimental to the environment.

Incorporation into the world economy: a necessary evil?

Returning to the specific question of the loss of labour power raised by Blaikie and Brookfield, there seems little doubt that emigration at the rate experienced in the Alvão could have a significant effect on any system of production. Two alternative responses for farmers are mechanization and extensification, and on small farms where mechanization is not an option, the almost inevitable result, at least in the short term, is a decline in productivity. This may particularly affect the poorest section of the population, making them more vulnerable to economic and ecological fluctuations. However, an equally prominent effect in northern Portugal has been a rise in the wages of agricultural workers, which increased by more than 60% in real terms in the decade up to 1974 (Monke, 1987, p. 65). At the same time, for the individual migrant, emigration represents a strategy possibly of high risk, but also of potentially high rewards, especially if it is possible to return to the village of origin. If the overall effect of emigration is to raise rural incomes, the term 'marginalization' hardly seems appropriate in this example even if agricultural production suffers.

There is conflicting evidence from the literature on northern Portugal concerning the effect of emigration and return on local economies. Poinard (1983, p. 397) comments that 'l'émigration a condamné le développement des régions de départ', whilst Lewis and Williams (1986) argue that in Central Portugal, the investments of return migrants have been diverted to urban, rather than rural areas. In contrast though, Brettell (1986) argues that in rural northern Portugal, emigration has led to considerable 'social levelling', since those at the bottom of the social scale have returned with some considerable savings. Her suggestion, that 'no family is "poor" any more' (p. 28), is supported by Reis and Nave (1986) and Pina-Cabral (1986), who both argue that an increase in land ownership due to emigration represents a major benefit for the rural poor.

Evidence from the Alvão suggests that arguments for 'social levelling' may have been exaggerated. For

example, over 80 per cent of those emigrants interviewed in 1987/8 who had bought land, were already landowners prior to their departure. Moreover, many rural emigrants do not earn enough to return to their home area, instead becoming incorporated as a part of the working class of the area to which they migrate. By comparing the number born from 1923–38, with 1988 residents in the age cohort 50–65, and allowing for those who did not migrate, and a mortality rate of 20 per cent, it can be estimated that only 10–40 per cent of migrants have returned to the four villages studied in the Alvão. Nonetheless, for those who do return, emigration has undoubtedly placed money in the hands of those who previously had little or none.

In terms of ecological marginality and land productivity, integration of the Alvão into European labour markets also does not appear to have had the exact effect predicted by Blaikie and Brookfield. In the absence of records, it is impossible to measure accurately how land quality has changed. Nonetheless, according to local farmers, essential conservation tasks, such as the maintenance of irrigation channels, and the rebuilding of terraces, are still carried out much as before. More importantly, the few areas that are currently suffering from visible soil erosion, are not those of the 'marginalized' smaller farmers at all, but are on larger farms, where traditional small fields used for a variety of crops, have been cleared and replaced by modern vineyards. It is also the large estates that have been particularly affected by the loss of nutrient transfers from scrub vegetation in the form of manure. Since access to the commons was restored in 1975, many small farmers have reverted to the use of scrub vegetation, which they cut themselves. Larger farmers however, unable to contract labourers to collect this vegetation, have been forced to switch to the use of maize residues, and wood chippings purchased from local sawmills. This underlines a wider point, that poorer farmers may put in more work and stave off environmental marginalization, even if this involves their own self-exploitation, and increasing economic marginality. In contrast, the politically and economically powerful may seek market solutions, which do not take account of the environment.

A further area in which emigration has affected the local economy, is through the stimulation of considerable land price inflation and speculation. The demand for land by emigrants has caused land prices to soar, particularly since the mid-1970s. There has also been a notable reduction in the amount of land placed on the market. According to records in

the local Ministry of Finance offices in the Alvão, the number of property transactions in the period 1981–85 in the four villages studied was almost 50 per cent lower than in the period 1971–75. The result is that it is now much more difficult for farmers to expand their holdings in order to make them more efficient. This has affected in particular those who have not emigrated, and do not have access to the funds to purchase land. In this context, those who have been marginalized, are not so much emigrant households, directly caught up in the process of incorporation into the European economy, but rather non-emigrants, who have been excluded from the benefits of emigration.

Marginalization: a process of inclusion or exclusion?

The problem of whether 'marginalization' is a process of incorporation or exclusion has wider relevance, not just in the specific context of the Alvão, or the example of emigration. In fact, in the literature variously of social and cultural geography, and the geography of women, and development geography, marginalization is defined in both ways. In sociology, where the use of the word has its origins, Robert Park (1928) described 'marginal men' as those who had migrated from the countryside to towns, but had undergone incomplete incorporation into urban culture. Park saw such men as 'cultural hybrids' (Park, 1928, p. 892), who nonetheless represented a progressive force for social and cultural change. In contrast, others in social geography have used the word 'marginal' to refer to a whole range of social outcasts, from ethnic minorities and illegal immigrants to drug addicts and students (Winchester and White, 1988). In work on the 'marginalization' of women, the term has been used to describe both exclusion (Mernissi, 1978; Sinha, 1984) and incorporation (Glennon, 1979; Mies, 1984) of women into the capitalist world economy, leading Scott (1986) to propose that 'female marginalization' is untestable as a thesis.

Blaikie and Brookfield (1987) provide examples of 'marginalization' as a process of both exclusion and incorporation. Thus they quote the work of Casanova (1970) on Latin America, and Young and Moser (1981) on women, both of which show marginalization as exclusion, even though Blaikie himself (1985, p. 125), suggested the process is one of 'incorporation into the world economic system'. There is no reason in practice why both exclusion and incorporation of small farmers into the international system should not have the effects suggested by Blaikie and Brookfield. However, to describe both processes as 'marginalization'

is confusing. This is especially so in the light of comments such as those of Susman *et al.* (1983), whose work is quoted in *Land degradation and society*, who suggest that their 'theory' of marginalization as incorporation is radically opposed to the interpretation of this process as one of exclusion.

A further problem with the term 'marginality' is that it comes to rural development geography with some inappropriate alternative meanings. In *Land degradation and society* for example, it is argued that emphasis should be shifted away from blaming the 'stupidity' or 'conservatism' of farmers for land degradation, considering instead the wider political and economic circumstances in which they make land management decisions (pp. 34–7). Following the work of Richards (1985), Blaikie and Brookfield suggest that small farmers often possess considerable knowledge and skill in land management, but that the ways in which these producers cope with the problems of environmental degradation, and maximise overall productivity, may be disrupted either through the extraction of a surplus from the traditional system, or by the displacement of small farmers onto different, and often less fertile land. According to Blaikie and Brookfield, as a result of these processes, the economic and political marginality of small producers is increased, along with the ecological marginality of the land.

However, in the sociological literature on marginality in particular, the term has been used more than anything to describe a set of character traits that are almost entirely negative (Perlman, 1976). In Chile for example, where the DESAL school popularized the term 'marginal' to describe urban slum dwellers, the main problem, a lack of political participation, was seen as being due to the social disintegration of 'marginal' groups (Portes and Wilson, 1981). Gilbert (1986) in reviewing the Latin American literature on 'marginality' argues that in practice, 'marginal people' are condemned as they are categorized.

Political ecology and the chain of explanation

A further difficulty exists with 'regional political ecology' in the way that the relationship between the rural society, in which land management decisions are made, and the wider political economy, is theorized. Although emphasis is placed by Blaikie and Brookfield on the dialectical relationship between society and land resources, and between local and wider scales, the political economy is described simply as 'exogenous' when the process of land management is modelled (Blaikie and Brookfield, 1987, p. 70). This

model, which is reproduced by Blaikie (1988a), suggests that there are only three possible outcomes after a decline in land capability. On the one hand, the problem may be perceived, diagnosed and corrected. Alternatively, if this is not possible, the solutions are to 'change social data', or 'migrate'. Although the model itself is iterative, there is also no explicit consideration of the ways in which local conflicts over land resources feed back into the wider political process. In this sense, the relationship between nature and society is hardly shown as dialectical. This one-way traffic in terms of causality is reinforced by Blaikie (1988b) in subsequent work, where it is argued that the state affects agrarian society, which in turn affects land management, but not *vice versa*.

In addition, there appears to be little consideration in *Land degradation and society* of the ways in which local political structures, often intimately bound up with the landholding structure, affect environmental outcomes. The history of forestry in Portugal provides an example of the importance of this local dimension. Implementation of the afforestation programme was not simply a state decision imposed from above, nor were the benefits of afforestation only felt outside the rural area, even though the vast majority of the profits from forestry were expropriated by central government. Rather, the active participation of local political leaders was of considerable importance in ensuring the passivity of the populations who formerly used common land. An insight on this process in the Alvão is provided by reports in a local newspaper, the *Notícias de Basto*, in January 1934, of meetings convened by members of the provincial bourgeoisie to explain the afforestation policy to smaller farmers. In some villages, such as Lamas d'Olo in the central part of the Alvão, local politicians were able to dissuade central government from carrying out the Afforestation Programme, through representations made at a regional level. In general however, although a forum was set up for local grievances, these were in practice ignored. Many local leaders meanwhile went ahead with the planting of pines on their own mountain land, since this confirmed individual expropriations that they themselves had made. A study of the planting of eucalyptus in the mountains of southern Portugal by Jenkins (1979), shows a similar vested interest in afforestation on the part of local leaders, as a result of the profits that were there to be made.

The struggles of poorer local people against the afforestation of the commons meanwhile had considerable political significance beyond the local level.

In his novel *When the wolves howl* (1963), Aquilino Ribeiro paints a vivid portrait of the political conflicts generated by afforestation. The subsequent suppression of the book by the Portuguese state helped to focus international attention on the problem. Moreover, the resistance against afforestation was not in vain, since after the revolution of 1974, one of the first acts of the new government was to return control of common lands to local people. This achievement, although ultimately short-lived, highlights the need to focus on the way environmental conflicts may affect the wider political process, rather than simply considering how exogenous factors affect the rural world.

CONCLUSION

In the context of debates in other areas of geography and social science over the relative merits of locality-based research on the one hand, and theoretical endeavour on the other, the call from 'regional political ecology' to bridge this gap in development geography is a welcome one. In the past, too much local fieldwork, particularly in the environmental field, has failed to be placed in a proper theoretical context, whilst development theory as a whole has shown an unhealthy distaste for fieldwork and empirical evidence. Blaikie and Brookfield (1987, p. 239) argue quite rightly that although 'each instance of land degradation is highly conjunctural, which implies that it cannot be satisfactorily theorized,' it is important to 'build a theory which allows for complexity, and identifies the sources of that complexity'. The example of Serra do Alvão demonstrates the extent to which local agricultural crises are very much related to the wider political economy. A 'chain of explanation' that incorporates these external influences, marks a considerable advance on traditional explanations of crisis, and not only within the limited field of land degradation.

However, although the call for an integration of theory and empirical work is timely, it is not clear that the 'theoretical basis' advanced in 'regional political ecology' represents a consistent approach on which to base future analysis. This is particularly important, given that it is the development of a theoretical explanation of land degradation, rather than the enumeration of specific causes of erosion in local case studies, that is the major concern of 'regional political ecology'. For example, the use of the term 'marginalization', to describe the process that leads to environmental degradation, constitutes a rather

awkward label for several, quite contradictory processes and outcomes. In a wide range of geographical and other literature, it has been used to describe both the exclusion and the incorporation, variously of people, regions, sectors of the economy, and modes of production.

In fairness to Blaikie and Brookfield, it is argued in *Land degradation and society* that a plurality of approaches to environmental degradation is necessary, and this variation is seen in the range of examples cited in the book, as well as in the many and varied uses of the term 'marginalization'. However, the list of circumstances which may result in environmental crisis is so long as to cast serious doubt on how far the approach represents theoretical abstraction at all. For example, they point to the extraction of surplus labour, the expropriation of land-based resources, as well as the integration of rural economies into wider markets, arguing that all may cause erosion. Furthermore, they comment that 'both an upswing and a downswing in the rural economy' can lead to degradation (Blaikie and Brookfield, 1987, p. 17). Ultimately, it would seem that virtually any external interference *could* lead to degradation, and given that practically all agricultural societies now have linkages of some kind with the capitalist world system, this suggests that the whole world is potentially at risk from erosion. Although this may be the case, it is no help in establishing a theoretical case for explaining which areas are most susceptible.

If 'regional political ecology' is to be used as an approach for future work in the field of development geography, a revision of the theoretical side of the approach may be appropriate. On the one hand, a greater role should be allowed for the ways in which local politics and local politicians influence the impact of external political and economic forces on poor people and the environment. Where the emphasis is on the 'marginalization' of regions, there is a danger that insufficient attention is paid to the differential impacts of degradation on various classes, and the extent to which class-based groups manipulate these impacts. At the same time, greater emphasis should be placed on the ways in which events that occur at a local level can have ramifications within the wider political economy. This would provide an opportunity to stress the dialectical relationships between political economy and the environment, rather than simply observing the influence of the former on the latter. However, the most important part of a future 'regional political ecology', is that the theoretical basis of the approach should be more rigorous and

tightly defined. The role of theory should be to direct research, and provide rational generalization, not to open a Pandora's box of possible processes and outcomes.

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