

³⁰ Fink, Carsten and Maskus, Keith (2005), *Intellectual Property and Development: Lessons from Recent Economic Research*, Washington: World Bank and Oxford: Oxford University Press

³¹ Ibid.

³² Ibid.

³³ Ibid.

³⁴ Friends of Development include: Argentina, Bolivia, Brazil, Cuba, Dominican Republic, Ecuador, Egypt, Iran, Kenya, Peru, Sierra Leone, South Africa, Tanzania, and Venezuela.

³⁵ Submission by the Group of Friends of Development IIM/1/4 (2005), “Proposal to establish a development agenda for WIPO: an elaboration of issues raised in document WO/GA/31/11”, World Intellectual Property Organisation

³⁶ Ibid.

³⁷ Ibid.

³⁸ Ibid.

³⁹ Irish Patents Office; text available at http://www.patentsoffice.ie/en/about_background.aspx

⁴⁰ Organisation for Economic Cooperation and Development (1993), op.cit.

⁴¹ Submission by the Friends of Development (2005). op.cit.

Devolved Natural Resource Management as a Means of Empowering the Poor: Rhetoric or Reality?¹

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Devolved or “community based” natural resource management has become a key development strategy in recent years. It is assumed that devolution of control over natural resources to local communities improves local governance through participation and hence empowers the poor. This paper examines the research on devolved natural resource management emerging from a number of large studies. It challenges the notion that such strategies produce “automatic” improvements in local governance. Rather, if development strategies are to produce the desired effects, donors, civil society, state bodies and other stakeholders need to become more cognizant of the complex political context in which such strategies are being pursued.

Introduction

The issue of control over natural resources is considered closely linked to issues of power or good governance, in particular within resource-rich African countries. “Access and control over resources [in Africa] is considered the major governance issue, especially for rural people, and is the bread and butter issue on which democracy must deliver. NRM [natural resource management] is central to good governance and increasing enfranchisement of rural peoples”, argues a 2002 USAID report (p.3).

Since the early 1990s there has been a significant paradigm shift in conservation and NRM away from state centred control towards approaches in which local people play a much more active role – often referred to as devolved, or community based natural resource management (CBNRM).² This shift in thinking has been brought about by increasing recognition that centralised decision making, control and enforcement of NRM through government agencies, have often proven ineffective and brought about resource degradation rather than sustainable use (Wyckoff-Baird, 1997).

CBNRM is the management of natural resources under a detailed plan developed and agreed by all concerned stakeholders. The approach is community based in that, “the communities managing the resources have the legal rights, local institutions and economic incentives to take substantial responsibility for sustainable use of these resources” (Uphoff, 1998). Under the natural resource management plan, communities become the primary implementers, although in most cases they are assisted and monitored by technical services from outside.

Since the early 1990s, CBNRM programmes have become increasingly common across countries of the South and have been introduced in a number of natural resource sectors, including, watershed, forests, wildlife, irrigation, fisheries and coastal zone management. Some better known examples of this approach include: joint forestry management (JFM) which originated in India and has been adopted more recently by Tanzania and other African countries,³ the community based wildlife and eco-tourism programmes in Zimbabwe (such as CAMPFIRE),⁴ Namibia, Botswana and elsewhere,⁵ the catchment approach to soil and water conservation in Kenya⁶ and the *gestion de terroir* form of land use management planning, popular in the Sahelian countries of West Africa.⁷

Such strategies and a shift in thinking have usually been driven by broader decentralisation and local government reform policies which involve restructuring the power relations between central state and communities through the transfer, or devolution of decision-making and control to local level organisations and institutions.⁸ In India and elsewhere decentralisation is seen as very much part of the good governance agenda which has been adopted by developing countries, often at the insistence of donors.

The main assumption underpinning devolved NRM is that greater participation in decision-making is a positive good in itself, and has multiple benefits. Such decentralised arrangements allow more community participation, leading to better representation and empowerment. Participation and decentralisation have been shown to promote equity and social development through greater retention and sharing of the benefits derived from natural resources at the local level (Ribot, 1999). In addition, by bringing government decision making closer to the people, decentralisation is widely believed to increase public sector accountability and therefore, effectiveness.⁹ A further assumption is that if resources are managed at the local level by communities or local government, they will be looked after better, and more efficiently, resulting in improved opportunities for sustainable livelihoods (SLSA, 2003). This increases the likelihood of positive outcomes for the natural environment – the argument that people are less likely to degrade their resource base if they feel a sense of ownership in decision making and see positive returns from the careful use of available natural capital.¹⁰

Such strategies, however, pose significant questions, particularly in relation to the extent to which devolution has significantly transferred control over NRM decision-making to local users or increased access by the rural poor to natural resources. Has sufficient attention been paid to the complexity of stakeholder roles and relationships at the local level? Has the question of the rights and entitlements of the poor in relation to natural resources been sufficiently addressed in the debate on decentralised NRM – for example, the politically sensitive issue of land tenure? Have the benefits of devolved NRM been shared equally, or are they captured by local elites? How accountable are the different stakeholders and representative groups involved? What is the role of the state, donors and NGOs in creating the conditions necessary for effective devolved resource management? In addition, one has to question whether this

approach has really seen resource users benefit from and influence the outcomes of these new policies. This paper will address these key issues, drawing on a review of the literature and, in particular, the findings of several recent studies.

Stakeholders in natural resource management

The management of natural resources can involve multiple and, often diverse, stakeholders, often competing for use and control of the same resources. There is often deep mistrust between the various parties. Agreeing on rules of resource management and how to enforce compliance poses a challenge to policymakers. Participation has much to offer in theory but can also bring a new set of problems. In practice participation and partnerships in NRM and rural development planning are usually restricted to two kinds of stakeholders: community groups and (governmental or NGO) development project staff. Dalal-Clayton et al. (2003) argue that this has proved insufficient to develop sustainable initiatives in rural development as it ignores the claims of other groups or antagonises them.

For instance community groups in an area of natural forest may wish to continue practicing traditional shifting cultivation but outside groups, such as agribusiness or environmental groups, may be opposed – the former because they are competing for land, the latter because they wish the forest to be left untouched. On top of the opposing goals of these local, or primary, stakeholders, local contexts are further complicated by the influence of external forces such as national and international macroeconomic policies, international decision-making on the environment or the effects of war, climate change, etc. Such competing forces and interest groups can often make NRM a “confusing battlefield” (Dalal-Clayton, et al., 2003). Stakeholder analysis at an early stage in any new programme or initiative can help identify potential conflicts of interest, clarify the roles, and relations between, stakeholders, and is useful to judge the appropriate type of participation by the different parties (Dalal-Clayton, et al., 2003).

Ideally collaborative, or partnership approaches are promoted as a means of improving the commitment of stakeholders through joint involvement in problem-solving as well as improving the overall quality of decision-making (Dalal-Clayton, et al., 2003). Sharing knowledge and communication between stakeholders can be a starting point:

Participatory learning that changes people's fundamental understanding of resource management processes, including their own behaviour, is a means of empowering stakeholders, particularly the underprivileged, to take more control over resources important to their survival. (Ashby, 2004, p.9)

Nevertheless, collaborative approaches require attention to, and assessment of, power differences and the relationships between stakeholders. For example, such arrangements must be cognizant of the power which is built into a particular partnership and whether it is related to some kind of financial or other dependence. Dalal-Clayton, et al. believe that where there is an imbalance in power, then conflicts of interest, and lack of clarity concerning stakeholders' roles will quickly emerge. Ultimately what is likely to prevail is a patchwork of local arrangements and quite often unsustainable open access to natural resources is the end result.¹¹ Nevertheless the Tanzania experience shows that while local people regard government forest reserves as fair game, they will actively protect land where local tenure and guardianship is recognised (Wily, 2001).

There is room for improvement, argue Dalal-Clayton, et al. The various stakeholders may need to renegotiate their roles to accommodate the change from centrally driven planning and domination by government to one of devolved, or community based NRM.

Agrawal and Gibson (2004, p.166) propose that if local management of natural resources is to be successful then there needs to be a shift away from the usual assumption about communities: “small size, territorial fixity, homogeneity and shared understandings and identities”. They go on to suggest instead, “a stronger focus on the divergent interests of multiple actors within communities, the interactions through which these interests emerge and different actors interact with each other, and the institutions that influence the outcomes of political processes”.

Promises and realities of devolved NRM

Research undertaken in Uganda and Zambia by the African Centre for Technology Studies challenges the assumptions underlying the devolution of NRM (Cappon and Lind, 2001). The authors assert that what outsiders perceive to be negative

changes in local environments may be part of a normal cycle of fluctuations in the ecosystem, rather than as a result of unsustainable practices. They challenge the assumption that such change can be reversed through the creation of new participatory local institutions – such as user groups and local NRM committees. Not only do such ideas overlook the considerable divisions which may exist within a community, but they may actually undermine pre-existing institutions and fail to take account of the extent to which local people may already be playing a role in managing natural resources (Cappon and Lind, 2001).

In Uganda decentralisation reforms were found to be more effective where they take account of the differences between people and groups and where they introduce bargaining mechanisms to increase the power of marginal groups to negotiate. In Zambia, the decentralisation process has been institutionalised in response to structural adjustment policies. So called traditional institutions, or authorities, (which may, in reality, owe much to colonial interventions) have been adapted to facilitate the decentralisation of NRM. While reforms on more sectoral lines have led to limited communication between different ministries and departments, coordination at the local level, through informal institutions and networks has been more successful (Cappon and Lind, 2001).

In both countries the researchers found that the overall approach to NRM is dominated by imposed notions of sustainability, participation, ecology and community. There is often failure by policymakers and development organisations to realise that just as local physical environments are varied and heterogeneous, so communities are characterised by division and differentiation.¹² Policies for improving local NRM must be correspondingly diverse. Policies which seek to impose one standard appropriate practice achieve only limited success (Capon and Lind, 2001).

More recent research by the Sustainable Livelihoods in Southern Africa programme, (SLSA, 2003), points to the fact that decentralisation is rarely a singular process but consists of “multiple processes that occur in different spheres of activity, taking on a variety of forms which may push outcomes in different directions”. For example in one area they observed attempts at local government reform creating a new tier of locally elected councils, alongside an array of decentralised committee structures including water catchment, borehole, grazing, woodlot, or wildlife management councils, with varying forms of

membership or authority. Very often there is little coordination between such initiatives. Some may complement each other, but frequently, argue the authors, “there is overlap, confusion, ambiguity and high transaction costs for those expected to participate” (SLSA, 2003, p.79). Case studies in Mozambique, Zimbabwe and South Africa were used to illustrate the point that political authorities with downward accountability to electorates co-exist and sometimes conflict with decentralised service delivery (through line ministries, NGOs, or donor projects). Multiple decentralisations have also brought conflicts between new local government players and more traditional authorities – often further complicated by political party related affiliations. In this politicised setting there are plenty of opportunities for capture of processes and resources by local elites, government officials and private interests, with very limited forms of effective accountability (*ibid.*).

In many rural areas of southern Africa, furthermore, people are not organised, simply do not have open access to information and are unable to make demands on the state or may indeed be afraid to speak out. “Where multi party politics is based on a fragile democratic foundation, the prospects for such a combination of responsive government and citizen voice are limited” (*ibid.*)

Another study of devolution and NRM in several Asian and African countries (45 case studies in Asia and 14 in Southern Africa) reached similar conclusions: that the reality of devolved and community based NRM projects is often far more complex and problematic than the rhetoric would have us believe.¹³ Across the sites investigated, local people did acknowledge a number of direct benefits (although they varied greatly from site to site) as a result of the shift in policy to more devolved NRM, including: greater access to some subsistence and commercial products; share of revenues from hunting, tourism concessions, sales of timber and non-timber forest products (NTFPs); share of incomes from permit and licence fees; employment; support for alternative or diversified livelihood activities; and a more productive resource base. Furthermore there were indirect benefits such as improved infrastructure; local organisational development and capacity building; new channels of communication opened with government; and local political mobilisation. In Asia, where devolution has been in place longer, local people were demanding more autonomy, bringing about such reform as the Panchayat¹⁴ Extension to Scheduled Areas Act in India and the Indigenous Peoples’ Rights Act in the

Philippines. In some countries, devolution made in-roads to enhancing participation of marginalised groups and women in decision-making (*ibid*).

However considerable negative impacts and trade-offs, particularly for poorer households, were also observed. Although access to some subsistence products improved, in some cases access to other important local resources, such as fuelwood or wild foods, continued to be restricted. Poorer members of the communities often established wildlife areas or tree plantations on land used for grazing or cropping. Financial benefits from devolved management usually fell short of local expectations. In India the Forest Department often claimed more than half the income from timber and NTFP sales from local JFM, even when they played no role in protecting the trees. In Zimbabwe the 50% share of revenues only reached communities after inordinate delays (*ibid*).

In some cases devolution damaged or undermined existing organisational capacity, local enterprises and equitable social relations. In Uttarkhand, India, for example, the authority of *panchayats* was undermined by the introduction of village JFM, weakening leadership and public participation. In Orissa, India, forest protection committees run by poor women were taken over by elite men working in cohorts with forest department officials, limiting women's access to essential resources (*ibid*).

Who is in control?

In all the sites of the extensive studies by Contreras, et al. (2002), and Shackleton et al., (2002), effort was made to transfer some decision-making responsibility over NRM from central to local level. Different organisational and institutional arrangements were used to achieve this goal – ranging from local government organisations such as district councils in Africa and *panchayats* in India, and multi-stakeholder district structures aligned to specific central government departments, village natural resource management committees, corporate legal organisations (such as trusts), household based and individual management, to self-initiated organisations that operated outside the state hierarchy (*ibid*.) These self-initiated schemes were often accountable to disadvantaged resource users but in the absence of supportive policy and legal framework were also vulnerable to being co-opted by elites. Overall, it was found that, despite the rhetoric of

devolution, central authorities continued to drive the NRM agenda. Government departments, except where donors or NGOs played a strong role, determined the shifts in control and the types of power that were transferred. In most instances they retained key aspects of management, placing tight constraints on decision-making and sometimes rendering it meaningless. In only a few cases did local people actually gain ownership rights to land. At the same time, scientific management and the notion of environmental conservation as a public interest area, or the need to achieve national economic development goals, were all too often still used to justify continued state control over valuable local resources. The authors concluded: "the State, for all its rhetoric, continues to direct and dominate local NRM" (Shackleton, et al., 2002 p.1).

A separate two-year study of local government reform processes and their effect on natural resource management at state, district and village levels in three states of India, reached similar conclusions (Ramakrishna, et al., 2002). The study found that decentralisation programmes *had* opened up space for greater local political mobilisation – despite the fact that centralising political forces continued to "constrain both the political and ecological scope of the decentralization agenda" (Baumann and Farrington, 2003). The same study found that decentralised NRM programmes were mainly valued by the rural poor as a source of wage labour but did not necessarily increase access by the poor to natural resources. In particular, ownership of land and water resources remain concentrated in a few private hands while more valuable natural resources that could provide a boost to local livelihoods remain under direct state management (Ramakrishna, et al., 2002).

Accountable representation

If participation and decentralisation are to lead to better natural resource management, theory suggests it will be through the mechanisms of a greater local voice in the control of significant decision-making. Yet people's participation is not enough to bring about sustainable management. There has to be adequate representation in decision-making bodies and empowerment to ensure all local communities have bargaining power in negotiations over local resources. Ribot (1999) argues that representation is crucial for it addresses the issue of who has control over resources and benefits. If communities do not have

adequate representation, participation is meaningless because they cannot interact meaningfully with other stakeholders.

Community members often lack the time and means to engage in local politics. As candidates for election to local authorities are often members of village elites there is always the danger that women, minority ethnic groups, religious minorities and other marginalised social groups are further excluded (Ribot, 1999).¹⁵ However the bias may be mitigated in remote areas where the population mainly comprises ethnic groups whose representatives tend to be elected alongside elites (Dalal-Clayton, et al., 2003). Nevertheless mobile groups like pastoralists may still face resistance from both local authorities and more settled groups, and are often left out of NRM decision-making processes (Hesse and Trench, 2000). Another problem arises when heads of local councils are not elected but are appointed by central government. This limits representation since those appointed are accountable in their decisions to the central state rather than local constituents (Ribot, 1999).

Elections are the most commonly evoked mode of representative, or downward, accountability, although not all elective structures create accountability. In some countries candidates for local elections must be members of a political party registered in the capital. Nevertheless there are other mechanisms that complement local elections, and what can, in theory, enhance representation and empowerment of communities to assert their rights and priorities (Ribot, 1999; Dalal-Clayton et al., 2003). These may include:

- legal recourse through accessible courts;
- mandatory inclusion of members from marginal groups on local councils;
- third party monitoring by the media, NGOs, or independently elected controllers;
- working through traditional leadership structures;
- public reporting requirements;
- political pressures and lobbying by associations and associative movements;
- civic education information campaigns on roles and obligations of the state;
- social movements, threats of social unrest and threats of resistance.

We should remember, furthermore, that lack of accountability is not confined to local government authorities. Among village

based associations, committees and resource user groups and NGOs it may enable the more powerful and politically aware to assert preferential rights over resources (Vernoy and McDougal, 2004). Development initiatives (especially where substantial funding is concerned) can provide opportunities for local despotism leading, in particular, to unfair distribution of benefits and the exacerbation of existing power disparities (Dalal-Clayton, et al., 2003). This is supported by the research by Contreras et al. (2002) who found that the local government *panchayats* in India were often more accountable to disadvantaged groups than the new organisations created under JFM, the latter being only nominally community based.

Ribot (1999) argues strongly that because devolution strengthens those it entrusts, it may be counterproductive to support the devolution of public powers to, for example, hereditary chiefs, non-representative committees, private interest groups, or NGOs. These groups may be well meaning (or not) but they are not necessarily representative of, nor accountable, to the public. While all such groups can be subject to the accountability mechanisms mentioned above, Ribot argues that they are less appropriate than a representative system of permanent electoral local government with its accompanying accountability measures.¹⁶ Such groups can have appropriate advisory or consultative roles but should not be entrusted with a population's resources or decisions, he argues. As Fox and Aranda (cited in Ribot, 1999) note: "decentralisation will strengthen autocratic local rulers or democratic rulers depending on which local authorities the decentralisation involves".

"Creating an enabling environment" for devolved NRM

Most of the studies reviewed in this paper agree that if CBNRM initiatives at the local level are to be effective then they need to be supported by an "enabling institutional environment". Participatory approaches need institutions at national, regional and local levels, that facilitate rather than dictate the course of rural development and NRM (Dalal-Clayton et al., 2003). Swift (1995, cited in Wyckoff-Baird, 1997) suggests that the state has a definite role to play in creating the conditions necessary for effective resource management at the local level, by establishing a policy framework conducive to sustainable resource

management, by providing the legal framework for resource tenure, by guaranteeing minimum democratic processes in local administration, by capacity building, and by providing economic incentives and technical inputs and support.

The SLSA team (2003) make the point that if decentralisation is to be effective, real powers and real resources need to handed over by the state to new local administrations otherwise their ability to operate is severely hampered. As is the case in many countries, a cautious or bankrupt government, may resist devolution of powers over budgets and decisions, for fiscal, administrative and political reasons. The end result is that many local government authorities fail to function in any meaningful way and as a result local people will quickly become cynical.

Meanwhile NGOs can play an important facilitatory and capacity building role, argue Shackleton, et al. (2002). They can help to bridge divergent views between local people and government agencies and manage conflict within or between communities. NGOs generally display greater commitment to empowering communities than state agencies and work better to integrate the development of local people with NRM concerns. NGOs can monitor policy impacts, can promote accountability, transparency and gender equity in the way the environment is managed and can influence outcomes through advocacy for the poorest resource users (Shackleton, et al., 2002; Ireland and Tumushabe, 1995). Experience from Botswana and India has shown that CBNRM stakeholder forums, and the formation of resource user umbrella groups and networks, can also provide an effective channel through which people can lobby for collective priorities at the national level.

In most of the countries reviewed by the studies discussed in this paper, donors, together with NGOs, were instrumental in driving the agenda towards greater local control. Donors often attach conditions to their funding, forcing governments to review their policies and practices to favour local needs. On the other hand, donors sometimes lack understanding of local conditions and develop programmes not suited to local contexts, with negative consequences for the livelihoods of poor people. In other cases unhealthy dependencies on external funds may be created resulting in the collapse of worthy initiatives when funders withdraw (Shackleton, et al, 2002). Furthermore, donors usually have very little downward accountability to those they claim to be supporting.

Strengthening capacity and political capital at the local level

The many examples given above show that, although devolution of NRM has certainly brought some direct and indirect benefits to the poor, and has opened up space for political negotiation and empowerment for poorer communities, it has not yet significantly increased access by the rural poor to natural resources. The local benefits of programmes for devolved NRM are more often than not captured by those groups and households already better endowed with access to natural and other capitals (political, social, human and financial). “Ultimately, the decentralisation agenda has not fundamentally challenged the basic distribution of rights and access to natural resources established in the colonial and in the immediate post independence periods”, argue Baumann and Farrington (2003).

In which case, an assessment of how patterns of social differentiation (across wealth, gender, age, caste and ethnic divisions) feed into the politics of inclusion and exclusion in decentralisation, would appear to be a crucial step on the way to ensuring that decentralisation efforts do indeed benefit a wide group and particularly the poor and marginalised (SLSA, 2003) .

Greater attention must also be given by donors, NGOs and the state, to the building of capacity and political capital at the local level to ensure that devolution strategies are more responsive to local interests.¹⁷ Political capital is important because any attempt to transform structures and processes through policies of devolution is likely to be met by resistance from those, at local and national levels who currently hold power, or have a vested interest in certain resources. As several of the studies reviewed found, where local people were well organised and had alliances with NGOs or other influential groups, they managed to secure greater control and benefits. Where local people were aware of their rights and entitlements they were able to challenge elite control within local resource groups and committees. Local users also fared better where they had strong land tenure rights and where they were able to influence the design and implementation of devolution policies. In this context, to have capacity building include ways of improving representation, accountability and transparency (all aspects of good governance) would appear to be central. State and NGO interventions may need to shift their focus, therefore, to stakeholder relationships and political processes and away from technical and managerial aspects.

Conclusion

This paper has explored some of the key concerns raised in recent research on the topic of decentralised, and devolved, natural resource management. Based on the foregoing analyses, it concludes that while decentralisation might improve local management of natural resources, it is not a prerequisite, nor a guarantee of good local management, environmental sustainability, and improvements in local governance.

That devolved natural resource management is a socially just development objective would appear not to be in doubt. It is clear, however, that the rhetoric of decentralisation, good local governance and devolved NRM will be insufficient to effect real change and pro-poor outcomes unless policymakers pay greater attention to the complex political contexts in which different stakeholders vie for access and control over natural resources.

Despite these challenges, devolved NRM remains an important development strategy. There is enormous scope for strong local organisational capacity and political capital to enhance outcomes for local people by enabling them to mobilise resources and negotiate better benefits. NGOs, donors, civil society networks, local government and, not least, the state all have a key role in moving devolution policy and practice towards local interests.

Footnotes

¹ While this paper seeks to explore some of the key concerns raised in a number of recent studies and articles on devolved natural resource management, it is by no means a comprehensive review of the considerable body of literature on decentralisation and community based NRM. Readers who wish to conduct a more extensive literature search on these issues may find the following websites useful:

- www.odi.org.uk/nrp
- www.iied.org
- www.cbnrm.net
- www.eldis.org
- www.id21.org

² Dalal-Clayton et al. (2003); Hesse and Trench (2000); Hinchcliff, et al. (1999); Bass, et al. (1995), see Ireland and Tumushabe (1995)

³ Lele (2000); Borrini-Feyeraband (ed. 1997)

⁴ CAMPFIRE: Communal Areas Management Programme for Indigenous Resources

⁵ Dalal-Clayton et al. (2003); Borrini-Feyeraband (ed. 1997); Jones and Carswell (2004); SLSA (2003)

⁶ Hinchcliff, et al. (1999); Thompson and Pretty (1996)

⁷ Dalal-Clayton, et al. (2003); Hesse and Trench (2000)

⁸ See Shackleton et al. (2002); Wyckoff-Baird (1997); Wily (2001). When using the term decentralisation we should remember what governments often mean is administrative decentralisation, or de-concentration – a transfer of activities within the structure of governance to local outposts without ceding power. NGOs (non-governmental organisations) and CSOs (civil society organisations) on the other hand, usually call for devolution of powers from central to more local authorities, otherwise known as democratic decentralisation (Dalal-Clayton et al., 2003). This power may be total or partial: for example, the rights and responsibilities for planning processes and management of renewable resources might be transferred to local authorities by central government, but the right to receive and distribute revenue generated from those same resources may be withheld (Wyckoff-Baird, 1997).

⁹ Ribot (1999); SLSA (2003)

¹⁰ The concept of natural capital refers to “the goods (including land) and services provided by nature”. Clearly, natural capital is very important to those rural people who derive all, or part, of their livelihoods from resource based activities such as farming, fishing, harvesting wild foods, gathering in forests, etc.

¹¹ An open access resource implies it is open to anyone to use and there are no exclusion clauses. This is likely to be very susceptible to overuse. In contrast, common property regimes allow resources to be commonly held or jointly used by one or more user groups and where rights and responsibilities of access and membership are usually strictly defined, often by customary law (Jones and Carswell, 2004).

¹² For a fuller discussion of the role of community in natural resource management see Agrawal A. and Gibson, C. (1999)

¹³ Contreras, et al.(2002); Shackleton and Campbell (2001), cited in Shackleton, et al. (2002)

¹⁴ *Panchayats* are the lowest level village of local government in India.

¹⁵ Research from India indicates that even where women do occupy seats on councils they often remain silent or participate as directed by their husbands (Shackleton, et al., 2002).

¹⁶ This resonates with the views of Wily (2001), whose research into experience of JFM in Tanzania found that “the long standing existence of legally recognised government agencies at village level in Tanzania has been an important factor in the greater progress made in that State towards establishing genuinely devolved forest management”.

¹⁷ Political capital is understood here to mean the ability of people to use power in support of political or economic positions and so enhance livelihoods (Baumann and Sinha, 2001).

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