DRAFT PAPER

NORAGRIC
Centre for International Environment and Development Studies

Dr. Paul Vedeld, NORAGRIC, NLH[1]

THE PROCESS OF INSTITUTION BUILDING TO FACILITATE LOCAL BIODIVERSITY MANAGEMENT

1. INTRODUCTION

Biodiversity conservation and management has experienced an increased global public attention over the last decades. It is estimated that the number of hectares of forest per person has been cut in half since 1960. Around 5% number of the plant species and 15% of all mammals are considered threatened by Worldwatch Institute (2001) through economic processes of natural resource extraction for production and consumption purposes. The forested area in the world is now down to 30%, from 50% some 8000 years ago. Increased pollution of water, soils and air has also contributed to irreversible losses of genetic material.[2] Not only has our scientific knowledge increased substantially on the importance of maintaining and enhancing biodiversity and on the threats mounting up. There are also influential actors working for conservation of nature and biodiversity management including academia, NGOs, politicians and media. These actors constitute powerful forces in putting conservation of biodiversity on political agendas. There are thus rather complex processes behind the biodiversity interest- not only "the seriousness" (see Sundqvist 1991).

In recent years, the follow-up of various biodiversity agreements and conventions has led to policy goals, measures and instrument debates on international, national and local arenas for decision-making. Such policies stated in various protocols and in the Convention on Biodiversity (CBD, 1992) encompass the management of natural ecosystems, wild species and varieties of plants, animals, and microorganisms in their natural state and genetic variations within species, agricultural ecosystems and also domesticated species and varieties. The Biodiversity Convention stresses conservation of biodiversity, the sustainable use and aspects of equity and fair sharing of benefits and it has a separate issue on ethical, cultural, scientific and economic dimensions of biodiversity management. **Local participation** is stated as a key element to "ensure the implementation" in the national follow-up strategies.

Conserving and enhancing biodiversity at national levels date back to at least 1850. Locally, we can find such initiatives several centuries back (Pretty, 1995).

Up to 1980-85, the "Fortress Conservation Approach" dominated, where people and land were physically separated. This was to prevent people from "destroying" the resource, by their consumptive and non-consumptive uses. The Park was seen as a pristine area and the overriding national goal was to conserve biodiversity. Agencies put in place to protect the

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[1] *Agricultural University of Norway P.O. Box 5001 N-1432 Ås, Norway. Phone:+47 64 94 99 5 0Fax +47 64 94 07 60 Direct phone :0047 64 94 9389 E-mail:noragric@noragric.nlh.no Internet:http://www.nlh.no/noragric/ Direct e-mail:pal.vedeld@noragric.nlh.no.*

[2] *Biodiversity management has several dimensions. We have the more concentrated efforts for sustainable management of particular vulnerable and "valuable" biodiversity resources. On the other hand, we have a trend with increasing commoditization of natural resources; on out-door recreation, on hunting, rafting, on tourism and eco-tourism etc. that takes place in nature at large. In this paper, the main focus is on the first dimension.*

areas developed a “fine and fence” type of instruments use and took away local people’s traditional rights and prevented actual use of the areas and its resources. Grazing, wood collection and the acquisition of wild meat for the pot etc. were all banned activities for local people. These policies were strongly supported by agencies such as IUCN, UNESCO, WB, Frankfurt Zoological Society etc. There was a peak culminating in 1961 with the Arusha Declaration;“Serengeti shall not die”. These conservation ideas were also internalized by the African leaders/elites after Independence (Adams and Hulme, 2001).

From 1980-85, more **participatory approaches** developed with shifts in focus from conservation to sustainable resource use partly for the following reasons;

- Local and other people did not respect the conservation approach and encroached on vulnerable biodiversity resources to secure livelihood, reduce costs of prey animals and increase incomes for themselves because they economically would benefit from it. The biodiversity resource became threatened.
- Local people had been deprived of what they saw as their intrinsic or traditional usufruct rights in the areas – traditional authorities and rights were taken away by states with rather low levels of legitimacy. Many local and national conflicts.
- Externally; advocacy groups mounted pressures on behalf of local people; NGOs, national and international donors, etc.

The ideas behind the new participation approaches came from a rather mixed group of people, with quite different intentions. The overall process has been termed **ecological modernization** and came as a result of several “trend shifts” in society (Weale, 1992, Jännicke, 1997, Hajer,1996, Hanf,1998):

- The communitarian movement with origins in the US. Etzioni (1976,1988) were heavily involved in the devolution of power and resources from public to local communities in order to regain legitimacy for the public.
- The participation approach fitted well into a neoclassical economic approach and neoliberal ideology (“New Public Management”); where “wildlife should pay its way”. One could reduce public influence and control and secure a contraction of public expenditures at the same time (Bromley, 1994).
- The more orthodox conservationist NGOs supported these new participation ideas, but from a strategic rather than an ideological viewpoint. Substantial funds were plowed into projects with communitarian conservation approaches, according to Adams and Hulme, 2001.

The new and participatory approach had at least three goals;

- To secure the biodiversity resource better than before
- To increase local economic and social values added
- To improve the relationship between “rulers and those ruled”

These goals were to be accomplished through devolution of authority, resources, rights and duties from central to local levels of governance. The move also implied a shift of governance style; devolution of resources and power from public to civil society, also including increased involvement of private actors and market integration.

The narrative of local participation and its basic tenets thus had appeal to a variety of important actors, including policy makers and donors, and the approach gained momentum in

biodiversity management. The approach has been tried out in various forms in different context over the last two decades with very varying degrees of successes. It is now time to take stock of these experiences, and develop revised approaches.

The experiences with the "naive participatory approach "are mixed. There are many good success stories to be told and that can be used as good pilot and demonstration activities. But in many cases the main goals of maintaining and enhancing biodiversity were not met. There has been a lack of distribution of benefits to local people. Whatever benefits are transferred, they are low, compared to the substantial costs of local people of having conservation areas and wildlife close to homes and crops. Furthermore, "local people" and local communities are complex entities with substantial heterogeneity of interests, values, norms and skills and both the creation and distribution of costs and benefits tend to have social and political biases, also within local communities. Many new, formal institutions were launched, disregarding the existing institutions and complex power relationships behind them. It has also turned out that local level public authorities and other leaders were ill equipped to accept, understand and handle participation in conducive ways. The legitimacy of public officials and the state even further detoriated in the eyes of local people, contrary to what one had hoped for.

The lessons learnt are, however, not to discard the local participation approach and revert to the "Fortress Approach". That latter approach was left because it did not work. An improved or revised participatory model would encompass;

- An acceptance that local participation is about facilitating a long term process of social change; where actors with conflicting interests have to co-operate through existing local institutions and arenas
- Interventions must have explicit aims to increase incomes and reduce costs for involved actors
- Local institutions or principles for resource management, should preferably be built on or constructed from existing institutions, styles of thinking, sanctioned social relationship and experience based local knowledge
- Public bodies and officials need improved understanding and competence on institution building and local participation and how to work with complex processes of social change
- There must be public acceptance to give up authority, resources and control to local level bodies and to civil society

Important values are at stake; both in terms of biodiversity resources, but also in terms of possible additional economic values generating from controlled grazing, hunting, forest produce, agricultural land use, tourism etc. Especially in economies under pressure, in systems with corruption and public and private power misuse and in areas with increasing populations etc., pressures tend to aggregate to increase economical utilization of these valuable, but vulnerable resources. In a wider context, there are also national social values at stake, linked to the legitimacy of public governance in the relationship between state power and local communities.

This paper outlines approaches on how people adapt and what local participation implies. It discusses typical features of well-functioning local institutions. The paper takes up experiences around how local participation in fact has worked relative to biodiversity conservation. It also discusses possible new approaches on how to address problems of local participation and biodiversity management.

2. LOCAL PEOPLE, LIFE MODES AND BIODIVERSITY CONSERVATION-THEORETICAL APPROACHES

2.1 Introduction

Environmental management and biodiversity management is a multi-layered process, where state or public officials and bodies and various groups of non-state actors meet at different levels and in different arenas (Wilson and Bryant, 1997).

Natural resource managers involved in biodiversity management are farmers, land users, pastoralists, foresters; utilising biodiversity resources directly in order to make a living. Other groups, like merchants and private operators, may not control land or other natural resources directly, but can still depend on "biodiversity resources" in some way to make a living.

Local people are heterogeneous, in terms of what they do for a living, what kind of resources they have access to, in the culture they are brought up and in socio-economic and cultural respects. Not all own land nor manage natural resources; they may work as teachers, as private operators etc. with no or little interest in nor contact with biodiversity management.

There are public bodies and officials working with biodiversity management and development related issues. The may work directly with biodiversity management, or they may work indirectly through interacting with local natural resource managers and their institutions. Below, I present some main groups involved in biodiversity management, using what is called a life mode approach.

2.2 Natural resource managers and a life mode approach

2.2.1 The life mode approach

Socially created values and norms constitute the foundation for human behaviour and adaptation. The social individual is constituted through primary and secondary socialization processes where they learn right and wrong actions through reward and punishment mechanisms. Values, norms and appropriate action are conveyed from the society to the individual (Berger and Luckman, 1967, Allardt and Littunen 1975, Wadel 1990). Growing up in a local community, children gradually internalize both social values and practices and the worldview that encompasses everyday life. In agriculture, both practical skills and social values are internalized from early childhood. Knowledge and values are conveyed from parents to children in a master/ apprentice relationship. Through the good example and trial and error farming and forestry proficiency is developed.

When children and young people are brought up in the same situation as their parents or other significant adults are in, they tend to become bearers of the adults life modes. They acquire the knowledge, the skills and the ideology essential to the self employed life mode. Being raised into a specific social form implies being subjected both to its societal conditions of existence and to its ideological tenets. The self employed life mode of agriculture implies that children from earliest years are brought in its practical functions.

In most rural cultures, one can identify common sets of values and norms, constituting social institutions. Social institutions are understood as "going concerns that structure relationships between individuals in society". It can be seen as "routinised types of behaviour" that become over time and that are societies' and communities' response to regularize behaviour, to reduce

or solve conflicts, to reduce levels of risks and uncertainty and increase predictability and to distribute costs and benefits in a reasonable way between different individuals and groups.

People grow into society and its many institutions and gradually become part of these. The institutions constitute people and enable them to act. On the other hand, they also form constraints or limits to individual freedom and to creative forces. Such institutions thus constitute glue that keeps society and communities together and create form, meaning and direction. They include rules and regulations, traditional norms, values and rights, habits and routines and appropriate ways to act. There has been a popular perception or narrative that local communities are traditional in an inert sense. More recent research defies this. Social institutions are still not inert, nor some kind of straightjacket. They are dynamic; they may change over time, both through internal processes and through external pressures for change.

Let us look at an example of a such institution from Norway: Satisfactory outcome from the farm is secured through practicing "*good agronomy*", which can be seen as a common denominator for the practice that realizes the self-employed life mode in agriculture. This model has been developed for Scandinavian agriculture, but it can be used as a general model for describing and explaining adaptation and perceptions, of course with local modifications. Together with expert advice and literature, "good agronomy" is founded on the multidimensional experience-based competence in managing the particular farm. Experience-based competence can be understood as "knowledge in action" (Molander, 1993). Good agronomy also includes a set of basic values that can be derived from the farmer's self employed life mode, but they also influence this life mode. A model for good agronomy is presented in Figure 1.

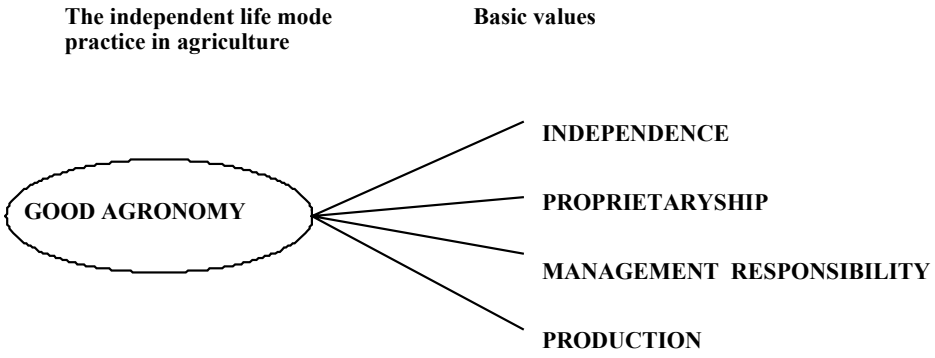


Figure 1. Good agronomy and basic social values
(*Vedeld and Krogh, 1998)*

What farmers perceive as right or wrong, sensible or not, agronomically sound or not, must thus be interpreted in the perspective of good agronomy. And furthermore, in attempts to predict response to changes in economic or other external conditions, the concept of "good agronomy" constitutes an important analytical entity.

2.2.2 Natural resource managers and biodiversity

When working with local participation and biodiversity, an awareness and intimate knowledge of life modes and of existing local social institutions and norms is a precondition for a successful intervention. The institutions have strong bearings on biodiversity management- and to the willingness to organize and work together- in local participation.

How would for example Norwegian farmers engage in biodiversity management and conservation- given the "good agronomy" institution?

Production: A satisfactory economic result, realized through the production orientation, is a precondition for to sustain the farm. The result could be that the farmers´ intention or wish to take care of biodiversity on the farm in an environmentally acceptable way may have to yield for the economic "realities" in terms of securing high incomes or cutting costs (low investment levels in forests). Do biodiversity conservation ideas prevent traditional or crucial economic values from being realised?

People living close to conservation areas and areas with substantial biodiversity values depend on utilising natural resources to make a living. They use certain resources as inputs that also vulnerable species and even limited habitats depend upon; such as water for irrigation and consumption for people and livestock, grass harvesting/ grazing, taking out forest products, forest land conversion etc. It is also a fact that the production processes impact on biodiversity quality through pollution, removal of trees and blocking wildlife trekking corridors etc. From a production point of view, there is, what Randall, 1987 calls a rivalry, in use of the resource. Even consumption processes can impact on biodiversity quality in different ways.

In other words; if biodiversity management implies constraints on farmers' access to resources, on how or on what they are allowed to produce; one should expect conflicts. Present initiatives for on-farm forest biodiversity conservation in Norway has for example created substantial conflict and situations of boycott and sabotaging of conservation measures (Vedeld and Vatn, 1998).

Independence: Norwegian farmers attach strong values on being independent. "You do not talk to a Norwegian farmer- you talk with him". Seen from local people's point of view, the proximity to conservation areas often constitutes a constraint on their possibilities and the existence of the conserved area very often leads to substantial costs for people living in the proximity of the area; due to damages from wildlife, restriction of use and movement etc.

Proprietorship: Norwegian farmers attach strong values to their farm as an object. It is part of their identity and constitutes a strong sense of belonging. Historically speaking, many valuable biodiversity areas previously under the control of the local people, have been taken away from them. Such factors imply that there will be conflicting interests, conflicts that have been sought reduced through participatory approaches with benefit and cost sharing.

Management responsibility: The Norwegian farmer expresses a strong sense of responsibility towards the farm in itself and as a medium towards taking responsibility for future generations. I "run the farm on behalf of future generations". This also implies responsibility towards environmentally sound management and sustainable development. These values can be utilised by good public officials in biodiversity management and conservation, if the participation, and the rules and regulations on biodiversity management are matched with such values. Does the management system allow for consideration to be made for next sets of generations? Will the new forest management give a forest that looks professional and that leaves a good visual impression of a responsible farmer and forester?

Experience-based knowledge: Farmers' attitudes and motives for actions must be understood relative to their experience-based knowledge and perceptions of good forest

management. Farmers learn in the field and in the meeting with knowledge and expertise that is matched against their experience. Molander (1993) uses the expression that the knowledge is "glued to the action". Altering farmer's adaptations must take this into account and present possible changes in a way that is compatible with farmer's life mode.

If one has an intimate type of knowledge about local level production systems, of perceptions of "good agronomy" and "proper forest management" etc. it will be easier to play a conducive role in designing participatory approaches that meet with local perceptions of right and wrong, good and bad, fair or not fair.

2.3 Other life modes and biodiversity

2.3.1 Public servants

Public servants "belong" to what may be called the dependent lifemode; employed in the public service, and they work in institutions that have developed quite particular management cultures. Such cultures encompass basic values and norms, definitions and interpretations of particular problems, tasks and cases in question. They have developed "exemplary procedures for handling and solving the cases. The culture reflects the history of the organisation, its professional or competence composition, recruitment policies, its area of operation, its authority and powers and its competence ad proficiency in a wide sense. This culture is extremely important, in the meeting with other public bodies and with the private sector and towards local people; on how cases and issues are started, formed, implemented, monitored and completed; and how conflicts are dealt with.

In biodiversity management, public servants are typically employed in forest departments, wildlife and tourism or environmental departments and their different directorates. Contrary to agricultural advisors and extension officers that tend to share values and norms, "good agronomy" with farmers, this is unfortunately often not the case for environmental officers (Vedeld; Bergum, Krogh,Vatn et al, 1998). Their education is within natural science and ecology with little insight in agronomy and practical management of soils, crops and forests. Their focus is on nature and nature conservation and less towards farmers, agriculture and good agronomy. The perception of valuable forests would for example be quite different. In their management culture there is often a historic skepticism towards the natural resource managers and their more applied perspective on biodiversity. They often see land owners as "an enemy" because they try to sabotage conservation issues and because they in general try to keep the public away from their resources and their land. There is also a history of many conflicts. With a top-down "stick and fence" policy style, constraining farmers' production and livelihood, the relationship has been one of conflict and mutual distrust.

There is also often a systematic difference in that the public environmental officers often come from urban settings, with little tacit and experience- based knowledge about practical farming and forestry (Vedeld, Krogh and Moulton1998, Mehta et al 2001, Hulme and Murphree, 2001). **The clash between this life mode and farmers' life mode constitute maybe the most important source of conflict in local biodiversity management.**

In Norway, and in many countries, the agricultural extension officers, however, have a much closer and better relationship to farmers. They have a background in agronomic sciences and they are often raised on farms, having a much more tacit and intimate knowledge of the culture and of "good agronomy". They speak the local language.

2.3.2 Other local lifemodes

Local communities are heterogeneous, with substantial potential for conflicts also related to biodiversity management. Small- scale self employed business managers often try to utilise whatever could be available of income opportunities. An experience from eco-tourism activities is that it is often self-employed people from local settings (and not land owners) that involve in such activities. Self-employed people are unfortunately often without knowledge or skills on biodiversity management. Such interventions therefore often create local conflicts- around the distribution of costs and benefits.

Most local people, however, are not involved in direct economic utilisation of local biodiversity. They rather use nature as an arena for recreation, religious activities and contemplation and outdoor sports.

In many developing countries, a common feature is that landless and resource- poor people, with little access to other income- generating activities tend to depend on open-access or common pool resources for their survival and livelihood to a much larger extent than the average rural dweller. From India; poor people may have up to 20-30% of their income derived from biodiversity resources, whereas more well-to-do people in the same dwelllings may be down to 2-5% of their income from such sources (Pretty, 1995:138).

2.4 Summary

Environmental management involves many actors with differing economic interests and with different social values and norms. Local communities are thus heterogeneous. There are many conflicts and there are good reasons to expect conflicts over biodiversity management. The level of conflict will usually increase with the conservation ambitions of the biodiversity resource in question and with the number of constraints and regulatory instruments imposed on owners and users. The level of conflict will also vary systematically with how good the public servants are in communicating with the natural resource managers. This leads us to the next section, where we discuss approaches to local participation.

3. GOVERNANCE, BIODIVERSITY AND LOCAL PARTICIPATION

Negative experiences with the "Fortress Approach" created pressures for rethinking policies on biodiversity management. Experiences were in particular linked to that people did not recognize or accept the exclusion policies, as they experienced substantial direct costs of being close to the biodiversity resource and they were also deprived of resources and substantial incomes. Local people encroached valuable habitats and areas, took out wildlife species through poaching, cut forest resources and harvested other resources "illegally". The biodiversity resources were threatened. In addition, the restrictions and policing activities and behaviour of public officials and local people's activities created a general tension between public bodies and civil society. There was a strong degree of mutual distrust.

The local participation approach emerged as a response to mitigate such problems. The general philosophy in society behind natural resource utilization gradually changed from conservation to sustainable use, and from purely public management to increased use of markets and to privatization. One also anticipated that by making local people more responsible through involvement and inclusion, the biodiversity management would be improved and conflict levels would be reduced.

This section takes up biodiversity management as a governance challenge where local participation is analyzed as a "policy style" with bearings for the selection of a particular combination of policy instruments. I address the following:

- What is governance and the use and devolution of power?
- How do physical properties of the resource impact on how it is managed?
- What is local participation and how can it be applied to biodiversity conservation?
- What are criteria of successful local institutions for biodiversity management?

3.1 Governance – goals, measures, instruments and the devolution of power

The state and its representatives have a legitimate right and duty to steer resource use in a society according to the will and the interests of its citizens. The state has the overall powers in a society, but distributes power and resources in various ways, partly as a measure to counteract misuse of power, partly as measures to improve resource use by letting involved parties more directly govern the resource management. Power is thus spread both horizontally and vertically in society; between sectors and within sectors at different levels of governance.

The identification of policy goals and the selection and use of instruments[3] implies the use of power. Power may be defined as "the ability of an actor to realize his interests in the face of other actors interests" (Hernes, 1978). From such a point of view, the use of instrument signals a desire from government to change present resource allocation and use.

[3] There is an analytical important distinction concerning policy formulation. A **policy measure** is a concrete physical change in the resource use (input in production, production processes, output and consumption) that the actor should carry out in order to reach a particular **policy goal**. Examples; stop land clearing and timber production, plant trees, stop poaching, stop hiking in vulnerable areas etc. A **policy instrument** is a means under public control to make actors carry out measures necessary to reach particular aims in society. Examples; legal bans on land clearing and logging, subsidies for tree planting, campaigning against and policing and fining poaching and trespassing, etc.). **The state controls instruments. The farmer controls measures.**

In a democratic society, however, it also matters **how** power is exerted. If we re-define power use to be "reasonable distribution of resources" (Easton), we would still be occupied with what kind of power is exerted through a certain instrument, and on the other hand, how the afflicted actor responds to the power use. (Ex.; It is not reasonable if the government introduces death penalty for illegal spraying of glyphosphate in a forest in order to prevent destruction of biodiversity!).

The concept of policy instrument implies that it should be a surgical tool, devoid of the turmoils of the world. However, it is not only goal formulation processes that are politically potent, but also the selection of instruments. Instruments are not neutral tools; but imply a redistribution of powers, resources, costs/benefits and relative wealth between stakeholders. Instruments assign and impact on actors' status, roles and interests is society. They furthermore also often have more or less un-intended side effects. This implies that the selection of instruments in itself constitute key areas for conflict in society- we often see that the instrument discussion carry as much heat in the public debate as the debate on goals. *For example; a farmer or a landowner may be in favour of taking care of biodiversity values in the forest- but he can at the same time be deadly against the legal instrument of formally conserving areas of high biodiversity.*

Different actors furthermore **interpret** signals sent through selection of instruments. **What kind** of power is exerted through instrument use? Etzioni (1966) makes a distinction between **coercive power**, where people are forced to obey, **remunerative power**, where people obey because they are rewarded to do so, and **normative power** where power is exerted through efforts of convincing people cognitively (see also Vedung et al 1999).

People, on the other hand, may react through calculative responses; where costs and benefits of obeying are considered. They may react through a moral response; where they assess the power used as right or wrong; depending on if they think the goal is cognitively right or wrong and to what extent they see the governance as fair or not fair. People may also respond in a strategic way; they may not agree or disagree, but rather cynically accept the verdict and act according to their own interests.

Table 1. Relationship between types of power exerted and response (Etzioni, 1976)

	Coercive power	**Remunerative power**	**Normative power**
Calculative response			
Moral response			
Strategic response			

When considering a certain policy instrument use, this matrix may be useful. However, it assumes a rather thorough knowledge of actors, their life modes and their relationship to the issue in question. Let us take one example; *If Norway agrees to protect their wolf population at a certain level, it may involve conserving a particular valuable habitat. If the government does not own this area, they have to consider expropriating the area, or at least certain usufruct rights linked to the area. Such coercive power use would inflict a negative moral response from landowners and from other actors affected by an increasing wolf population. It could also invoke a strategic response from their side. An alternative choice of instrument from the government could be to apply enumerative power; the government could offer money to the landowner to manage the resource, evoking a calculative response. The government*

may also a co-operative approach, trying through local participation and organizations and using a normative reasoning/power. This could activate a moral response from landowners and involved parties.

The Government knows that instrument and instrument choice contain political dynamite and usually addresses two sets of criteria for instrument choice; efficiency and legitimacy.

It is important that instruments are effective and efficient; you should reach the aims set, and in a way that is **cost-efficient**. It is also important that the instrument is dynamically efficient; that it leads to long-term adaptations in line with the intention of the instrument use.

The government will often have as an ambition that their rule is considered **legitimate** by the governed. This implies that the use of policy instrument is deemed reasonable; both cognitively and also in relation to fairness. Cognitively means that the governed actually agree with the goal and to the implied instrument. *Is the goal of reintroducing wolves in an area where sheep is grazed sensible or reasonable? And is an instrument of banning sheep from the pastures acceptable? Fairness relates to if one accepts the distributional effects of the instrument. If the sheep is banned- who will pay for the lost pasture values?*

Another example; using death penalty for violators of a ban on grazing animals inside a national park is not legitimate, because the power use does not match with people's perception of the extent of the "crime" or violation. It could still possibly be cost-efficient. A fine or a written warning, however, may be considered a reasonable reaction, that would also be seen as legitimate.

It is important for the government that the use of instruments is considered reasonable or legitimate, as legitimacy is the glue that binds together those that governs and those governed. There is also a feedback mechanism in that the degree of legitimacy is linked to the degree of effectiveness and commonly also the economic efficiency of the instrument.

Policy instruments are typically categorized in four common types (see Table 2) according to how they are thought to impact actors and their frame conditions. One could also try to link these instruments to certain types of both power use and to certain types of responses. For example a tax could be seen as using enumerative power and evoking calculative responses. A legal ban could be seen as using coercive power and getting a strategic response. An information campaign may be seen to use normative power and evoke normative responses. If we want to analyze this closer, we could use a social construction perspective and the life mode approach.

One example from Norway. I found that most Norwegian farmers reacted very negatively on an ambient tax on fertilizers, which they saw as a fiscal tax on a product that in their mind is useful in getting high yields and in "building up the soil and the farm for the future". On the other hand, the farmers were quite positive to an ambient tax on pesticides as they saw pesticides as a poison, that it could be wise to minimize the use of. So; we had the same type of instrument, the same group, and the same effect in terms of losing income, but quite different moral response to the "goal" and the steering signal sent by the instrument (Vedeld, 1997, Vedeld et al, 1998).

Table 2. Categories and mechanisms of policy instruments

Category of instrument	Mechanism	Types and examples related to biodiversity
Administrative	Changes people's "attainable combinations" and perceptions of what is physically possible to do (coercive)	- Building structures and institutions (Directorate of nature conservation/local environmental bodies) - Establishing particular routines for handling cases - Assigning authority; rights and duties to different actors on resource use; market/state, central/local
Legal	Changes people's "attainable combinations" and perceptions of what is legally and normatively acceptable to do (coercive/normative)	- Issuing laws (general ban on hunting) - Bylaws (spec. ban on certain species) - Regulations, general and individual rules (ban on motor transp.) - Prohibitions and rights to resource use; including standards, non-tradable quotas etc.
Economic	Changes people's "attainable combinations" and perceptions of what is economically profitable to do (remunerative)	- Taxes (on charcoal production) - Subsidies (on tree planting) - Prices on inputs and outputs (min. price on pesticide) - Tradable quotas/permits- (carbon quotas)
Pedagogic	Changes people's "attainable combinations" and perceptions of what is possible and acceptable to do (normative)	- Extension service to particular actors (biodiversity man.) - General information campaigns- influencing norms and action (on conserved species) - Particular campaigns for certain target problem, actors etc.

To sum up; Governance in society involves- and reflects- the consideration of various interests as goals and policy instruments are identified and selected. It means that questions of governance must be seen relative to the use of power and authority, the capacity, competence and proficiency of the public. Governance is also about relating to the response from concerned actors. The role of government is thus in part to strike a balance between aspects of efficiency and legitimacy. It does matter how the state decides to treat its citizens.

I shall shortly apply these perspectives to local participation and to institution- building. But first we need to sidetrack a little, and look at the specifics of physical properties of the biodiversity problem in question because it affects governance.

3.2 Physical properties of the resource and type of governance

Conserving biodiversity implies conservation of genes, species, biotopes, habitats and also larger areas of coherent natural resources. Some biodiversity resources are inert or immobile, others move around. Some biodiversity resources are extremely vulnerable to human influence; others are quite robust and can endure substantial pressures from tourism or other types of use of the resource (CBD,1992).

Maintaining, enhancing or conserving biodiversity is difficult from a policy point of view, as biodiversity is a complex physical phenomenon. It is difficult to identify, to contain, to monitor and control and costs and benefits of different "biodiversity levels" are extremely difficult to assess.

Physical properties of the resources have bearings for the tenure systems evolving around particular areas and resources. Areas of high value; where exclusion of others is easy and where there is rivalry in the consumption of the good will tend to be closely monitored (and

intensively used), and the resources are often privately owned. Areas with lower values, less rivalry and shaped so that exclusion of others is more difficult, will often be communally managed and owned. With decreasing economic value, we increasingly find state ownership or even open access regimes for the resources (Bromley, 1994 and Randall, 1987).

Biodiversity resources are thus found under different types of tenure regimes; private, open access, common property and state regimes. Up to this time, most conserved areas have been state land and common property land where rights have been taken away from original holders. To some extent, the biodiversity is conserved because it is easy and not necessarily because it is the most valuable! With increasing ambitions on biodiversity conservation, more common property and privately held land will be considered for conservation or restrictions in use. This has induced more research efforts and increased public attention to the phenomena of biodiversity conservation, as local people's rights and economic interests increasingly have been challenged by "this greater common good". Tenure of course has strong bearings on the decision-making arrangements around the biodiversity resource.

Another physical dimension of biodiversity is that it is often spatially diffuse. Compared to an environmental challenge of reduced water pollution levels from a point-source pollution through one factory pipe, genetic resource conservation could imply involving on-farm habitat conservation for 500 000 small-scale landowners. It demands a policy instrument package quite different from regulating one actor's behaviour. And habitat conservation will often involve local participation and voluntary approaches and participation. This also goes for how to address people living around conservation areas. This physical aspect of biodiversity then has bearings on the type of instruments one may apply.

Summing up: Physical properties of biodiversity impact economic and practical conditions for management and has bearings for how the authorities can and will choose to govern biodiversity management.

3.3 What is local participation?

To return to local participation; it should be seen as strategy of devolution of authority and power, resources, distribution of rights and duties from state to local levels of governance and from public to civil society. Such devolution thus involves transferring policy formulation and policy implementation powers from central to local levels. It also involves the use of packages of instruments described above.

There are two schools of thought and practice on local participation, according to Pretty, 1995:168: One views local participation as a **means** to increase efficiency; if you involve people, they are more likely to agree with and support the development effort. The other sees local participation as a **right**, in which the main aim is to initiate mobilization for local and collective action, empowerment and institution building. This is an important distinction, but unfortunately in development work worldwide, this distinction is not made clear.

According to Pretty, 1995:168: *"..almost everyone now says that participation is part of their work. This has created many paradoxes. The term "participation" has been used to justify the extension of control of the state, and to build local capacity and self-reliance; it has been used to justify external decision making; and to devolve power and decision making away from external agencies; it has been used for data collection and interactive analysis. "But more often than not, people are asked or dragged into participating in operations of no interest to them, in the very name of participation" (Rahnema,1992)".*

It is possible to state, as Pretty1995:169 does, that *"governments both need participation and fear it, because a larger involvement is less controllable, less precise and so likely to slow down planning processes. But if this fear permits only stage-managed forms of participation, distrust and greater alienation are the most likely outcomes".*

Local participation can thus both be a goal in itself and be seen as a means to reach other goals, such as increased conservation of biodiversity. Pretty (1995) has with support from Uphoff (1992) made a useful overview of different levels of participation (Table 3).

Table 3. A typology of local participation (Pretty, 1995: 173)

TYPOLOGY	Characteristics of each type of participation
1. Passive participation	People participate by being told what is going to happen /has happened. A unilateral announcement by an administration/ project management without listening to people's responses. Information shared belongs to external professionals
2. Participation in giving information	People participate by answering questions posed by external researchers using questionnaires or similar approaches. People do not have opportunity to influence proceedings. Findings not shared/checked for accuracy.
3. Participation in consultation	People participate by being consulted/external agents listen to views. Agents define problems and solutions, and may modify these in light of people's responses. Such consultative process does not concede any share in decision-making and professionals are under no obligation to take on board people's views.
4. Participation for material incentives	People participate by providing resources, for example labour, in return for food, cash or other material incentives. Much on-farm research falls in this category, as farmers provide the fields but are not involved in experimentation or the process of learning. It is common to see this called participation. People have no/little stake in prolonging activities when the incentives end.
5. Functional participation	People participate by forming groups to meet predetermined objectives relative to the project , which can involve the development or promotion of externally initiated social organization. Involvement does not tend to be at early stages, but after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become independent.
6. Interactive participation	People participate in joint analysis, which leads to action plans and formation of new local institutions or the strengthening of old ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives, and make use of systematic and structures learning processes. These groups take control over local decisions and so people have a stake in maintaining structures or practices.
7. Self-mobilisation	People participate by taking initiatives independent of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need, but retain control over how resources are used. Such self- initiated mobilisation and collective action may or may not change inequitable distributions of wealth and power.

In my opinion, it is not necessarily the highest level of local participation that is appropriate. The **level of participation must be seen relative to the issue in question**. In some instances, mere information to people may be appropriate whereas in other cases, participation and capacity enhancement of people should be the main goal. A high degree of local participation can also be more important in certain stages of a project, program or a process for change than in other stages. Participation in formulation of goals is of course crucial in gaining local legitimacy and practical support.

I think it is important to note that the expectations of local participation effects on biodiversity conservation most likely has been too high, and that there has been a systematic lack of competence in how and to what degree local participation both has been planned for and

actually implemented. Local Agenda 21 initiatives became more Hidden Agenda for biodiversity conservation interests rather than true local participatory approaches for sustainable use. We shall return to this discussion in section 4.

3.4 Linking biodiversity resources and participation

Barrow and Murphree, 2001, have gone through a number of biodiversity management schemes in Africa and they find that the type local participation level selected is systematically correlated to objectives for biodiversity conservation, to ownership and management scheme selected. If a resource has low commercial value, if few people have been involved in the areas from before and if the type of resource management wanted prohibits other use, there is little need or room for local participation from a governance point of view.

Table 4. Approaches and characteristics of local community conservation

	Protected area outreach	**Collaborative management**	**Community based conservation**
Objectives	Conservation; ecosystems, biodiversity and species	Conservation with some rural livelihood approach	Sustainable rural livelihood
Biodiversity resource	Vulnerable	Reasonably robust	Robust
Ownership/tenure status	State owned land and resources (national parks, forest and game reserves)	State land with collaborative management of certain resources with the community. Complex tenure and ownership arrangements	Local resource users own land- either de facto or de jure. State - some control of last resort
Management characteristics	State determines all decisions about resource management	Agreement between state and user groups about management of some resources that are state owned. Management arrangements are critical	Conservation as an element of land use. An emphasis on developing the rural economy.
Policy instrument package	Participation as means and pretext		Participation as goal
Focus in East and Southern Africa	Common in East Africa, with a little in Southern Africa.	East Africa, some in Southern Africa.	Predominant in Southern Africa, but increasing in East Africa
Actors	Researchers	Farmers	Tourism/ruraldev. initiat

(Partly based on Barrow and Murphree (2001)

Looking at this and the distinctions made by Uphoff 1992 and Pretty 1995, on local participation, it seems clear that it is complex to achieve and that making blueprints for what local participation is, how to achieve etc. makes little sense. How one formulates a system for local participation, should depend on the problem in question and its physical, tenurial, economic and social setting and on what one wants to achieve. Participation will typically involve a package of economic, legal, pedagogic and administrative instruments. A pragmatic approach is necessary, where due trade-offs are made between legitimacy and efficiency. The use of power and force must be seen relative to perceptions of stakeholders. A major problem lies in the public sector and in the management cultures of public officials.

Achieving good results in biodiversity conservation is difficult as it can seldom be detailed regulated. A regulation requires substantial use of extension and information. Due consideration and space should be left for the life modes of local people; their basic values and norms, social institutions and organizations, perceptions of right and wrong and not least- their experience-based knowledge and proficiency in the management of natural resources. What would be important features of such local institutions relative to local participation and to biodiversity management?

3.5 What is a local institution- successful long enduring common pool resource regime?

A "local" community is socially bound by that people live within a confined spatial boundary. They may to some degree have a common identity, although we find various types of life modes within a local community. There may also, to some degree, be some common economic interest and this can often be the case for biodiversity management issues (Barrow and Murphree, 2001). Local communities are not homogenous nor a group of actors with common interests. Power, rights and duties and authority lines have developed through time and have strong bearings on how and to what extent one may find common ground upon which local participation can be founded. In most cases, the local participation should rather encompass and utilize local heterogeneity.

We have defined a social institution as "going concerns that structure the relationship between individuals in society" consisting of common sets of values, norms and experience-based knowledge and competence. It is not necessarily formalized organizations, but can be seen as ways to understand the world, as ways to relate and act upon challenges.

Many researchers have presented models for how to describe, explain and prescribe systems for management of common pool resources and conceptualizations for local participation. The most widely used model for CPRs is undoubtedly Ostrom's "design principles for long enduring CPRs". It rests on modified models presented by Oakerson,1986) and lies within a tradition based on rational choice oriented institutionalism. It is also a rather empirical based model, where the design principles are developed from experience and analysis of many such regimes.

Table . Modified design principles for long -enduring common-pool resources

Success Principles	Description
1. Clearly defined physical boundaries	Clear relative to neighbours or competing uses
2. Clearly defined membership and rights:	The rights system is multilayered and may include the right to physical access the area, the right to withdraw resources, the right to manage or decide on use, the right to exclude others and the right to alienate others through sales or leasing.
3. Congruence between appropriation and provision rules and local conditions	Should be a reasonable balance between what individuals contribute and what they take out
4. Collective choice arrangements	Most of affected people can participate in decision making
5.Effective monitoring procedures	Those who monitor and audit CPR conditions are accountable
6. Legitimate system for graduated sanctions .	There are rules against violation. Sanction depends on the offence. It should be assessed & imposed by fellow users or accountable officials.
7. Cheap and accessible conflict- resolution mechanisms	Conflict resolution should be swift, inexpensive and fair.
8. Recognition of rights to organise	No challenge by external government authorities; if they come in and overrule local decisions, local authority is undermined.

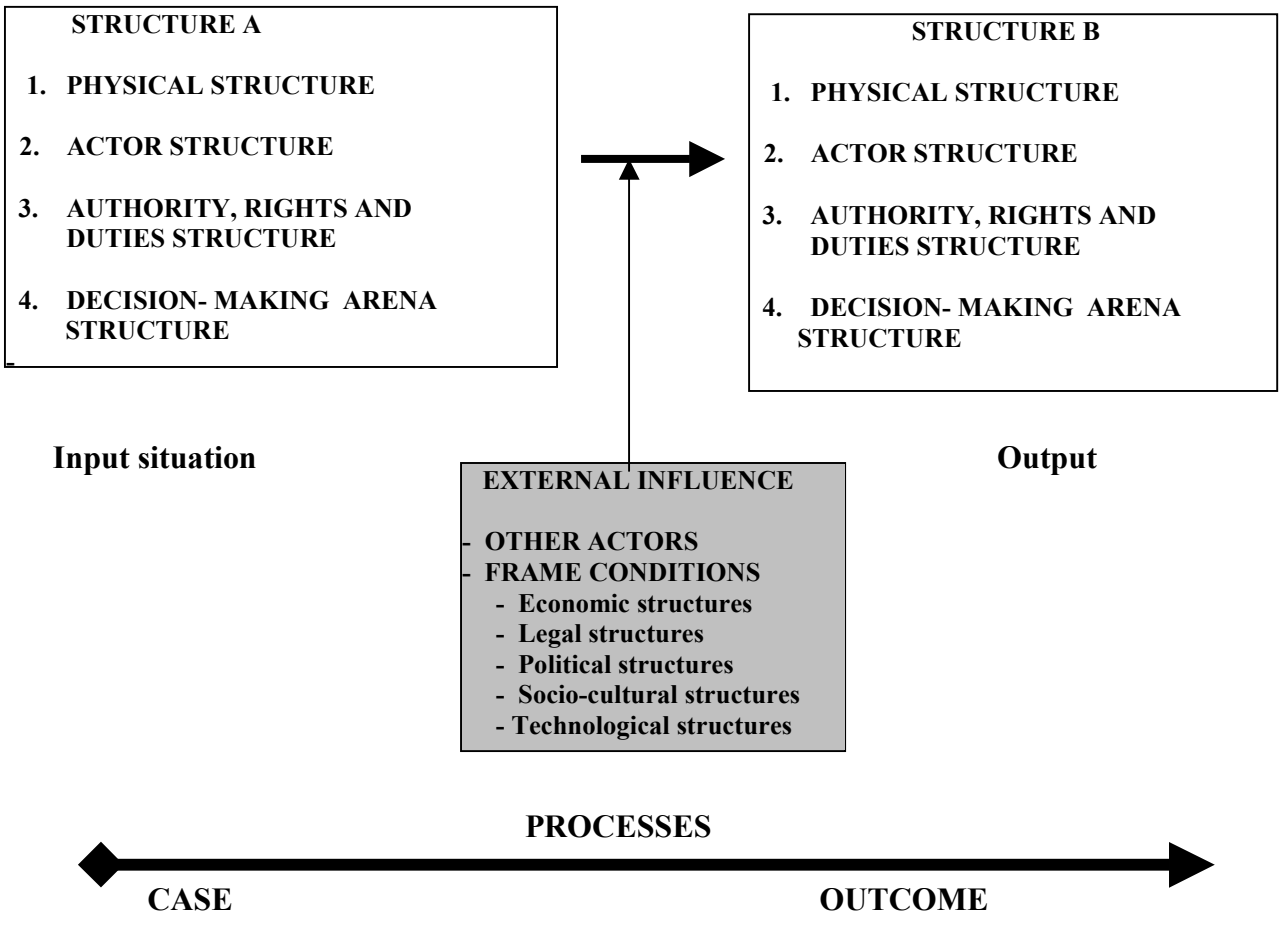
(based on Ostrom, 1990)

Research and experience indicates that certain key elements and structures should be in place for the common property regime to be long enduring; clear membership rules, clear boundaries of physical resource, congruence between provision and appropriation systems, legitimate systems for rule creation, monitoring and conflict resolution, system compatible with wider networks of rights and duties. The less these are in place, the more conflicts will and the less likely it is that the regime will endure over time. The model proves useful for practitioners in the field, trying to get a swift overview of important features of local institutions and aspects related to degree of successful local participation (I return to this).

3.6 A structure-process model for analyzing local participation, institution building and biodiversity

An approach on local participation should include ideas on the issue in question, biodiversity, and on what actors or stakeholders that are involved. One must also understand the institutional context in which the different actors meet and the relationship between actors. I have tried to encompass the life mode approach and the ideas behind Ostrom's design principles and the structures she points to that should be in place for a local institution to function well over time. I also have included the process oriented concerns of Pretty here, were participation is seen as the level of interaction and devolution of powers etc. to local people and actors. One can use a structure/agency type of approach on this; identifying biodiversity resources, local communities, identifying key actors, systems for distribution of rights, duties and arenas for actors (see Vedeld and Vatn, 1998).

Figure 2. A structure-process model for analyzing institution-building and local participation



This model is used in section four to discuss issues around local participation and the use of local institutions to promote biodiversity conservation and management. First I make some more general comments.

As we have stated, local participation must be seen as a conscious policy for devolution of resources and power from central to local and from state to private stakeholders. This is part of what has been termed a deliberative policy- part of a contemporary mainstream trend. It means that power is spread, both horizontally between sectors and from government to private, and vertically from central to local levels of governance and from the public domain to private actors and arenas. One the one hand is seen as economic efficiency and on the other hand that it is a move towards improved legitimacy of biodiversity policies.

In the policy formulation process on design of local participation, is however, not only about identifying goals and instruments in a given organizational and institutional context, but it also involves changing such frames or contexts. Local participation and institution- building deals in particular with the **redistribution of powers, resources, rights and duties**.

It is not only a matter of establishing a structure and supplying various types of resources and inputs in order to improve biodiversity conservation. Policy formulation must be understood as a process; from inception of ideas, through decision-making and to implementation and evaluation. In this respect; one should see the identification, maintenance, enhancement or establishment and functioning of local institutions as a starting point for a process of local social change that implies an improved management of biodiversity in a local setting. In this context, aspects of the implementation process are crucial- how the bureaucracy and citizens are able and willing to execute political goals.

Apart from that: a policy process like participation and institution-building would typically involve packages of different policy instruments; building administrative structures, issuing changes in legal rights and duties, using subsidies or taxes to promote certain actions and communicating with people to generate awareness and ability to handle new systems for resource management.

Local participation is thus a both policy measure and part of a process for social change and empowerment. One can, however, wonder about to what extent the abilities and willingness of different governmental bodies are in place to understand, nurture, and develop such institutions?

Much of what people do, however, is not controlled by government or by specific policies. Much of the natural resource management takes place outside the realm of direct political or public control. However, the frame conditions constituted by various policy instruments and economic, legal and technological frameworks still steers resource use in a broad way in particular directions- that may or may not be conducive for biodiversity conservation.

Much of this insight was available and much effort and enthusiasm was put into the sustainable development, into trusting and trying to utilise indigenous and local knowledge, not least through local participation and the use of local social institutions and organisations. But what are the experiences?

4. EXPERIENCES WITH LOCAL PARTICIPATION, INSTITUTIONS AND BIODIVERSITY MANAGEMENT AND EMERGING VIEWS

The development towards increased participation and emphasis on local institutions had as intentions to achieve more biodiversity, improve livelihood and increase legitimacy (Hulme and Murphree, 2001). The experiences that are now accumulating are somewhat mixed. In the following I draw on own experiences, but also on two rather recent publications; one from experiences in Africa on wildlife management (Hulme and Murphree 2001) and one from IDS in Sussex (Mehta, Leach and Scoones, 2001). They sum up some of the factors contributing to the present problems in local participation and institution building efforts and they raise in particular critical comments on approaches based on Ostrom's design principles. I also use examples from my own experiences, both as a researcher and as a local politician in a small community in Norway, working with LA 21 issues.

4.1 Biodiversity-natural given structure

4.1.1 Key challenges

Biodiversity is complex and needs flexible approaches. Many programmes and projects took a stable environment with high degree of predictability as a point of departure (the equilibrium models"). More recent findings tell us that lack predictability and variability is the norm; and that externally designed institutions often have not taken this into account (Ellis & Swift 1988, Behnke & Scoones 1993). By assuming equilibrium model approaches on carrying capacities and applying safe minimum standards, vulnerable resources have been put under increased stress through the local participation approaches, contrary to intentions and expectations.

As demonstrated, physical properties of the resource in question and its use impact on the nature and scale of the biodiversity problem, on the degree of rivalry in consumption, on the possibility of exclusion of others in access, on transaction costs issues and on to what extent the causes and effects are local or global. The possible solutions are also impacted by the physical nature of the issue in question (Randall,1987, Barrow and Hulme, 2001). If blueprint approaches are applied without taking due consideration of such issues, one will easily create conflicts.

When the Norwegian Ministry of Environment signed an agreement on behalf of Norway to build up a population of wolves in some of the highest density sheep free-grazing areas in Norway, it reveals a lack of knowledge and insight in sheep farming and sheep farming communities.

Local participation in biodiversity management, has been hampered by a lack of knowledge and by the inherent uncertainties concerning the natural resource base.

4.1.2 "Emergent views"

Participation must acknowledge physical realities. The degree of participation should depend on the physical problem in question. A wildlife resource is different from a forest reserve. A habitat protection measure is different from a species protection measure. A species that is location-specific requires a different policy approach from a species that migrates. Biodiversity management defies traditional aerial boundaries and requires that people outside the conserved areas are able and willing to take their shares of possible costs. Another example in agro- biodiversity management, is that one cannot regulate farmers' everyday life

down to the last detail, but the conservation depends on that farmers have the basic knowledge and competence; for example for securing micro-habitats for rare species of swallows or bumblebees.

Another example; in a research work from the Benoue Wildlife Conservation Area in Cameroon, we found that main conflicts in the northern part of the Park relates to elephant raiding, whereas in the southern part the main problem is baboons. The losses, the measures undertaken etc. becomes quite different - in the same park, but at different locations. Without a local ecological knowledge, one could not design a flexible policy package. To reduce this problem, one could promote different kinds of crops grown in different sections of the same park (Weladji, 1998).

Physical properties of the resources have bearings on the potential for local participation and the use of local institutions in biodiversity management. In some cases, too much local participation could destroy the resource. In other cases, physical properties set local people as main stakeholders and managers (Adams and Hulme, 2001). In such cases, there is no alternative to local participation to protect or conserve the resource.

4.2 Actor structures

4.2.2 Problems

Identifying relevant actors is a challenge in local participation efforts and requires good local knowledge. The experiences are mixed. Often some actors are excluded or forgotten, whereas others may be wrongfully included. In actor analyses one should careful map actors and their lifemodes, interests, social values, rights etc. Local participation implies to change or manipulate the list of participants - the actor structure. Many things can go wrong in defining such a list. Selection of actors is an instrument in defining agendas, in what will be taken up or not, in what kind of priorities that are made, for how and in what forms co-operation functions etc. **One crucial choice is whether to use existing actor structures and existing local institutions, and to what extent new should be put in place.**

From a local participation program in India, we found that creating a new local organization for management of a common forest resource created a lot of conflicts with the existing institutions that had previously administered the forest resource. The new organisation had other members and other rules for distribution of rights and duties. This created substantial conflicts (Vedeld and Rao, 2001).

Understanding actors is a challenge. Many local people are not interested in biodiversity nor do they see wildlife and possible incomes from as part of their life mode or as part of what they do for a living. Their attitude could be "that cultivating farmland, harvesting in the forest, building roads and schools is development, not nurturing forests or attending tourists from outside and above". Such actors may not be expected to participate in biodiversity management.

On the other hand, many local natural managers possess a local and experience-based knowledge on nature and of systems for sustainable use of natural resources that has often been untapped in local participation efforts.

This means that the ability of people working with biodiversity management and local participation is crucial for defining who should be involved and not. In the public sphere,

some agencies have substantial competence in local participation and using local institutions, whereas others definitely do not have this. We find from Norway, but also from many third world countries that the agricultural extension system usually have good relationship to local people, whereas the environmental planners and the forestry staff usually and unfortunately have a rather antagonized and strained relationship with local people and with land owners in particular (see Vedeld 1997, 2001 and Waledji, 1997, Mbaruka, 1997, Runjoro, 1994).

4.2.2 "Emergent views"

Defining appropriate actor structures is crucial and requires initiate knowledge of existing social values, norms and social institutions. This involves both who to invite and who not to invite. It requires a good insight in local power structures and in local heterogeneity.

It also involves a good knowledge about the local social institutions and organisations; when to use existing institutions and when to generate new.

4.3 Authority, rights and duty structures

The distribution of power and authority between groups of actors is crucial in biodiversity management related to local participation and to securing endurable and well functioning institutions. It defines more or less how cases are approached and handled. In some cases, the distribution situation may not be a problem, but more often the situation is riddled with ambiguity and uncertainties about who is part, who has what authority, power, various kinds of rights and duties.

4.3.1 Challenges

In biodiversity management efforts, some groups are engaged, while others are not. Biodiversity management is partly under government control, but partly also taken care of by existing local organizations, institutions and individuals. If we talk about crucial issues for successful local participation, the choice of actors, arenas and what authority structure with lines of rights and duty one goes for is of paramount importance. Such choices involve choices of public bodies, private bodies and links between them.

Conflicts on these issues arise within public sectors between different departments or segments. There are conflicts between public sectors; typically between forestry and agriculture and between green segments and more development related segments. There are furthermore important conflicts between public sector and civil society. Lastly there are conflicts between different local groups.

Local groups have particular interests, and often they have already particular rights and duties traditionally or legally ascribed, but not always. Much of the conflicts and problems arise from unclear or contested rights and duties. These "rights and duties" involve economic, legal and organisational dimensions.

Concerning **economic matters**, there are large variations in potential incomes and costs from biodiversity endeavors and their relative distribution between different groups of stakeholders. A general experience is that there is often "little congruence between appropriation and provision"; some groups get the incomes, while other groups have to pay.

In many cases, the costs are really substantial and may constitute in the range of annual incomes for households. A flock of elephants raiding a village can destroy man-years of incomes in hours; lions may kill head of families etc. (see f.i. Mabaruka, 1997).

The meager incomes derived from sales of produce to wildlife lodges or having one son working as a guide or watchman, seldom compensate for direct and indirect costs of conserved areas. Weak and underdeveloped markets for tourism, few visitors, non-professional handling of tourists etc. often create low profitability and too low profits for paying local people enough to cover all costs.

Research from the field indicate that the costs accrued by household in having wildlife close to farm land, restriction in movement of livestock and people, restrictions in use of NTFP etc. are on scale much larger than the incomes they may derive directly and indirectly through "local participation" transfers. It means that individual households on average experience substantial losses in welfare from the existence of biodiversity resources in their vicinity. It is also a problem that the private costs of crop raiding, loss of access to resource etc. are so high that not even well developed biodiversity schemes theoretically speaking are able to compensate fully for the losses accrued by local people (Hulme and Murphree, 2001).

Research indicates that it is basically poor people that are most dependent upon such resources. From India it has been found that poor rural people derive up to 20-30% of their incomes from CPR areas, whereas rich people on average has less than 5% from the same areas (Vedeld, 2001 and Pretty, 1995).

From Benoue Wildlife Conservation Area in Cameroon, we found that farmers reported a loss of around 50% of annual gross output value. The challenge will then be to discuss distribution of benefits and costs/ rights and duties (Weladji, 1997).

We thus see that costs and benefits are unevenly distributed within the local community. This also means that some local people may be positive, others may not. The level of internal conflicts can become substantial. Both the level of compensation and its distribution is thus important. "Nothing grows from moonshine".

Concerning **legal aspects**; Altering rights and duties implies a reshuffle of distribution of costs and benefit options and different groups' abilities to realize their interests and protect their economic, social and cultural values in the face of others. Issues of misuse of power and resources, bribery, corruption, nepotism, local leadership etc. are also important in this respect.

Tenure[4] is a social institution. In a property right, one would ideally have well defined property *ownership*, one would have a *set of specified rights*, and transparent systems for *transfer/transaction of rights* and systems in place to *execute or monitor* the different rights.

In real life, much of the tenure is riddled with uncertainties and ambiguities. The property rights as a social institution regulate concerns about rights of tenure that again structure important relationships between people. Social institutions in general form or constitute people, and can create stability and secure a base for development. However, property rights

[4] We make a distinction between property right regimes and property right resources. Any resource can be state, private, commonly owned or be under an open access type of management (with no ownership). Physical properties of the resource have bearings on how society over time has chosen a particular property right system for the resource.

are also used to exclude people from resources and form an important reason for internal conflicts in local communities. Property rights debates are thus more than questions over efficient resource use.

Local authorities and project implementers often do not have a good knowledge about the deeper understanding of rights systems. The lack of knowledge refers to issues like (Barrow and Murphree, 2001);

- Rights of tenure are seldom absolute; they vary in strength, in time and in place
- Their power base can vary from customary law derived from local institutions and norms resting thus a on local legitimacy to formal centrally approached title deeds protected by the state; the legitimacy will tend to vary, creating substantial conflicts and disagreements and situations of uncertainties
- The different types of rights can often be overlapping and riddled with uncertainty over who decides what; from households to the state
- Rights and duties both confer authority and responsibilities. It may not always be the same actor that holds these two functions. If they are delinked, one tend to see also an erosion of the two; creating uncertainties resulting in lack of good biodiversity management

In many cases, reforms or outreach have not been radical enough. We seldom see devolution of tenurial rights- and duties to local institutions.

Concerning **organisational dimensions;** It does matter who has the responsibility for particular biodiversity projects or issues. Time and again, it has been shown that giving the Ministry of Environment or the Forest Department responsibility for outreach is very difficult as their management culture for decades has been riddled with suspicion against local people, and featured by a rather unsuccessful "stick and fence" policy.

An example; In Norway, the responsibility for pollution control in agriculture was with Min. of Environment. This created much conflict and sabotage from local farmers. By transferring the authority and the follow-up control to the agricultural extension service, the conflict level was reduced to almost nothing, while the results in terms of reduced pollution increased. Through investigations, we found that extension officers share values, norms and an understanding of farmers experience- based knowledge that creates a sense of common world view (epistemic community) that is clearly conducive to get results (Vedeld and Vatn, 1998).

Another example from Norway lies in "sector-responsibility principle" in environmental management in general and also for biodiversity management introduced in 1989. It states that it is the line ministry that is responsible for both formulating policy goals, identifying measures and instruments and implementing the policies in each sector. It basically meant that the bureaucracy closest to the matter in question, take on the environmental challenges. Up to now, the results have been encouraging (St.Meld.89-90.).

4.3.2 "Emergent views" on authority structure, rights and duties

If one is to promote local participation and improve biodiversity management more benefits and less costs should accrue local people. This can be accomplished by clarifying rights and duties better, and by transferring tenure and usufruct rights to local groups and individuals. . This is still difficult as it alters important relationship between groups of stakeholders. Who would control these processes and determine new structures?

The public sector needs to be trained in how to understand and handle local contexts, and one should consider a transfer of responsibility from less to more competent departments at regional and local levels, concerning issues on local participation and biodiversity management. It may be easier to train agricultural extension officers in biodiversity than training forest officers in local participation skills (see Vedeld, Krogh and Moulton, 1998).

4.4 Decision- making arenas and structures

4.4.1 Challenges

Local participation involves the identification or establishment and use of decision- making arenas. These include existing or even new institutions and organizations. Decision-making arenas also imply rule sand structures for how processes are to be implemented; how goals are, how one should make decisions and how to implement and monitor initiatives. Decision arenas may be different for different stages of an implementation process.

Ostrom's principles do lead the attention to crucial elements of decisionmaking arenas and structures. However, a critique brought forward is that many approaches on local institutions in both research and implementation suffer from a lack of deeper understanding of how actors and institutions really think and act. Ostrom's design principles and the rationalist approach give a functional perspective on institutions. Too much emphasis is put on production and too little on aspects of social capital, on fairness, legitimacy and on mechanisms behind how society really controls resource use and conflict levels (see Mehta et al 2001, Hulme et al, 2001).

In the local participation narrative, it has been assumed that local communities are in harmony, that they are homogenous, inert and undifferentiated. Experience now tells us otherwise. We have mentioned legal and economic reasons for variations, but they are also reflected in social differentiation People belong to different social organizations and structures and variations in cultural belonging is part of living in a local community. One puts too little emphasis on the multiple identities of people; that people interact in various ways and in various capacities in different roles.

There are also important actors that fall outside Ostrom's principles. One example is children that are not member of any social group, but that actually make the everyday decisions over where animals graze, where fuel wood is collected etc. (Cleaver, 2001). She concludes;

- *"Design principles for local institutions fails to recognize the deeper social and cultural embedded ness of decision- making and cooperation*
- *Formal institutions put in place may actually not recognize this and can actually erode, rather than build, social capital*
- *Formal institutions are not built through institutional bricolage*[5] *and may be seen as costly, lacking in legitimacy and cumbersome in use and in handling conflicts relative to the existing systems for social interaction and resource use practices.*
- *Local institutions or principles for resource management, should be built on and or constructed from existing institutions, styles of thinking, sanctioned social relationship and experience based local knowledge (institutional bricolage*).

[5] Bricolage can be described as a process by which people consciously and unconsciously draw on existing social and cultural arrangements to shape institutions in response to changing situations. The resulting institutions are a mix of "modern and traditional", "formal and informal".

I see greater scope for robust management of natural resources if processes of institutional bricolage are recognized and built upon by policymakers, instead of adhering resolutely to detached and abstracted formal institutional models. There is a need to recognize institutions as the ongoing, temporary products of complex social processes rather than simply emphasizing their manifestation as structures and outcomes, deliberately crafted".

Local participation and the involvement of social institutions and norms often reflect the substantial risks and uncertainties facing people. In fact, too clear rules and regulations may often create more problems than they solve. Local ambiguity gives room for interpretation and negotiations, of human agency, which is part of a more dynamic view on local level institutions (Meinzen- Dick and Pradhan, 2001).

There has been a tendency, according to Barrow et al, 2001, that one does not see the links between formal and informal social institutions and organizations. There are substantial interactions between these and they are attempted operated in a way so as to reduce levels of uncertainties for involved parties. "The institutions are part of a constant process of negotiations that involves power and conflicting interests within communities". (Hulme and Murphree, 2001). It is a challenge for outsiders to grasp the complexities of interactions at the local level. There has been a tendency that CPR R&D activities focus on formal organizations and on more static perspectives related to rules and regulations. Local communities are not "static, homogenous, bonded, local and linked to a particular user group.

There is thus a need to take stock of the experiences with the attempts to utilize local institutions and social capital in promoting biodiversity conservation in a sustainable development perspective. Researchers in IDS, Univ. of Sussex have tried to summarize some of the experiences and develop an "alternative narrative- emergent views", which addresses shortcomings of the participation approach (Table 5).

Table 5. Participatory and emerging approaches to natural resource management

Theme	Mainstream approach	Emerging views
Livelihood and nat. resource man.	Links between single resource and use (e.g. rangeland, forest, fisheries)	Multiple users, complex and diverse livelihood systems
Community	Local, specific user groups; homogenous, bounded	Multiple locations, diffuse, heterogeneous, diverse, multiple social identities
Institutions	Static, rules, functionalist, formal	Social interaction and processes, embedded in practice, struggles over meaning, formal and informal, interlinked with knowledge and power
Property regimes	CPR as a set of rules based on collective action outcomes; clear boundaries	Practice not rule determined, strategic, tactical, overlapping rights and responsibilities, ambiguity, inconsistency, flexibility
Legal systems	Formal legislation	Law in practice, different systems co-existing
Resources	Material, economics, direct use-value, property	Also as symbolic, with meanings that are locally and historically embedded and social constructed
Knowledge	Linear transfer, science as a sole source of expertise	Multiple sources, plural and partial perspectives, negotiated understandings
Power and control	Transaction cost focus, elites, community leaders	Differentiated actors, conflict, bargaining, negotiations and power relations central
Governance	Separated levels- international, national, local, micro level focus	Multilevel governance approaches, fuzzy/messy interactions, local and global interconnected

Source; Metha, Leach and Scones (IDS, 2001)

4.4.2 "Emerging views" on social institutions

The recommendation is not to abandon the emphasis on local institutions, but to improve and refine the approaches along the line of the "emergent views".

In some ways the "emergent views are less operational and practical" and that is a problem. One recommendation is that the executing agencies must develop a social science based competence and proficiency in working with local people, based on a thorough knowledge on life modes of different actors at local levels, their meeting grounds, their experience-based knowledge and their interactions. Using local knowledge and local institutions a necessary, but not a sufficient condition for successful intervention on biodiversity.

Rather than talking about building local institutions to promote biodiversity; we should thus in most cases talk about enabling existing social institutions and local level organizations to cater for biodiversity.

Inside the public sector, it also matters who takes part in the participatory processes; politicians, bureaucrats, local people, others. Should it be a representative system or a scientifically competent system; should it be a sector system or a sector encompassing system?

4.5 Local participation as a process for social change - slow train coming?

4.5.1 Challenges

Local participation and institution- building are best seen as slow processes of social change over time. Actors are activated, problems defined, ambitions clarified and solutions sought. It takes time, other events may impact on process and external forces come to play as well as all the internal actions. Personal conflicts, life modes, economic interests etc. play out in such struggles for resources.

Linked to all "uncertainties" and factors slowing down and diverting processes of local participation, it seems quite safe to conclude that one has under- estimated the amount of time and resources needed to plan, launch, sustain and develop participation and institution building to promote biodiversity conservation. And as Adams states, "there is no guarantee that participation conserves biodiversity". There has been a tendency that more emphasis is put on development than conservation, and that "serious conservation efforts are diluted" (Oates, 1995). Furthermore, as Adams stresses; the process is expensive, long-term and slow, and these are not donor-friendly properties. Slow and ineffective processes also yield low cost-efficiency of local participation both relative to development and to conservation criteria (see Stocking and Perkin, 1992, Barrett and Arcese, 1995).

It has been a major problem that the government bodies in charge of local participation approaches had little experience in creating good processes of dialogue with local people.

Many local participation processes have not been participatory. In some cases, it must be legitimate for governments to use an instrument and goal oriented discourse in order to protect vital biodiversity resource in a society. However, and in most cases it must be an aim for governments to see participation processes as a goal in itself. Local people should themselves be active in formulating both policy goals and instruments, and play on a team

with government bodies in such processes where openness and inclusiveness are properties of the processes and innovation and inclusion visionary thinking prevails (see Straume, 2001).

Pretty, 1997 has given some interesting inputs to important criteria for more successful local participation. I present a modified version of this below, in Table 6.

Table 6. Principles to improve participation efforts

Successful participation principles	Description
Participation must be part of a comprehensive implementation strategy	All parts of a local intervention process must be participatory from the goal formulation process, to identification of measures and instruments, to decision making on organisational structure, arenas, meeting grounds and resource use, to the participatory monitoring and evaluation processes.
The leaders of the participation process ought to have a local anchoring. **Public bodies must go through training on understanding and approaching local communities**	Leaders and external participants must be legitimate and must preferable be recruited locally and or have or at least quickly be taught or achieve competence and proficiency in local values, norms and experience based knowledge.
Message must be made compatible with local life modes	The message and the participation must be firmly embedded in local life modes, in basic values and social norms and institutions and take local level experience based knowledge as a point of departure. The message should be shaped in ways (language, content, models, symbols and metaphors) conducive for local people's way to understand and approach problems and also be given at an appropriate time of the year relative to ordinary work tasks.
Local heterogeneity should be considered a rule, not an exception.	Successful participation presupposes due consideration of heterogeneity in socio-economic, agro-ecological and social status and roles. Who to contact, who to contact first, who not to contact. Where to meet- find arenas conducive for co-operation. Oral, not written, practical not theoretical.
Methods for collective learning	Successful approaches assumes that there are defined systems for cumulative learning by different actors, taking into account context specific experiences. This also includes systems for participatory mentoring and evaluation
Conscious policy for enhanced local capacities	Local people should be trained in all aspects of planning, implementation and evaluation.

(*Partly based on Pretty, 1995)*

4.5.2 "Emerging views" on processes for change

The implementation process itself is important to plan carefully. Local participation must be seen as a social process for change that takes time and resources to establish and nurture.

It is crucial to identify leaders with **local anchoring** that can provide information and examples that match local knowledge and social institutions in a format conducive for the processes of change. They will also know **when** to provide different inputs to the process. Such leaders also know **who** to contact first, who to contact last, **how** to approach the various sub-groups within the local community and **where** they can best be approached (see Vedeld, et al, 1998). It should typically be followed by a set of policy instruments.

The training of local public bodies cannot be stressed strong enough. In many instances, the agricultural sector has an experience-based competence in working with farmers that could be transferred or even utilized directly by ot

> ”He that spares his rod, hates his son, but he that loves him, chastens him early”

5. CONCLUSIONS

This paper set out to view theoretical approaches and practical experiences on local participation and the use of local institutions to improve biodiversity management, secure increased local economic net benefits from the management and increase levels of legitimacy of the public sector among local people.

5.1 A narrative gone astray

The hopes and aspirations for local participation approaches were to achieve more biodiversity, more livelihood and increased legitimacy of the public towards the civil society. The experiences are very mixed. The results have rather been less biodiversity, about the same amount of livelihood and less legitimacy. Why?

The main reason is that there is a basic material and economic conflict between use and conservation of biodiversity and between users and conservationists. There is no reason to hide this conflict. On the contrary. Adams et al (2001) states that the participation process is seriously constrained by the fact that conservation goals of the communities are in most cases quite different from that of donors and public agencies.

Furthermore it is my contention that public sector officials and bodies were sent to the frontlines without proper armour or weapons. They did not have sufficient insight in local social values, norms, institutions and conflicts. They did not have the competence in dealing with local people. They did not realize that local participation is a long-term process of social change, of building capacities and of slowly generating trust and mutual respect in relationships that has been conflict ridden over long time.

One tried out blueprint approaches developed in one local setting all over. One did not see that processes are conditioned by local contexts and that “ultimate forms” cannot be clearly predicted” (Hulme and Murphree, 2001). One tried to establish new institutions on top of old, without realising that it would only make conflicts even more complex. They should have spent more time on discussing what existing institutions that could have been involved.

5.2 Lower the expectation levels!

Like any narrative, the local participation and institution-building approach for securing biodiversity resources has to produce results to survive over time. In my opinion, it is now time to state that the deliverance has been far below the expectations.

We should one the one hand, lower the expectations somewhat and expect that the endeavours take much time and resources. On the other hand, there are certain measures to be taken to improve the outcomes. A solution to revert to the ”Fortress approach” will not help.

Concerning enhanced biodiversity: Local participation and institution building will in many cases be a necessary, but not a sufficient strategy to sustain and enhance biodiversity. One should improve the systems for participatory monitoring and control over the resource base to secure that the resource base is not detoriated. One should identify and develop sets of

institutions that are effectively linked; checks and balances are important, one cannot only naively trust community institutions.

One should carefully diversify the management regimes and outreach relative to the resource in question, taking the physical properties of the particular resource into due consideration.
On improved level of economic returns: Biodiversity management and conservation cannot solve general or larger issues of economic and social development in any country. Not even in local communities will biodiversity management be a panacea for development. However, it may be one contribution to development.

It is important to look at both incomes and costs. Experience now tell us that the level of costs accrued by local people from having biodiversity resources close to own farms and land are on scale, much bigger than the incomes they get. It is thus important to endeavour to reduce costs and establish funds to compensate for losses in life, livestock, crops etc. for local people.

On the other hand, one should also increase economic benefits accruing local people and also increase the share of total incomes to local public bodies. It is also important that the economy of the resource management is transparent, so that local people see all incomes and costs. There has been a strong tendency that outsiders have the lion's! share of the incomes, whereas local people have the costs, and there is thus a considerable "lack of congruence between provision and appropriation", as Ostrom points out. The elaborations to promote links between local communities and private business partnerships would be an important approach in this respect.

In line with this, the market has never been a tea-party. The deliberative policies are quite new and if left unchecked it may lead to that vulnerable resources are left out for grabs. The biodiversity resource is not going to be taken well care of by the market by itself because strong actors, in control, will see themselves best served by an optimal level of biodiversity. The experience is rather mixed and often rather shortsighted profit maximation strategies tend to dominate, especially in corrupt and non-transparent economies.

On legitimacy: The historical alienation implied by the "Fortress approach" did not fulfill the goals of sustaining biodiversity. In addition, corrupt systems, in public management and in local communities and general bad public governance has aggravated the biodiversity detoriation.

The legitimacy of local public bodies and policies can only be proved through practical results. The legitimacy will be strongly linked to the economic results, but not only. Legitimacy is also created through how people are treated and become involved in the process. This requires that the extension staff improve performance in local participation. One suggestion, based on experiences from Norway, has been to merge forest, park staff and agricultural extension systems. It could be that the competence of agricultural extension officers towards local resource managers could become in-house and internalized also for the other officers (Vedeld et al, 1999).

To display trust in local people through transferring usufruct and ownership rights to resources to local people would also enhance legitimacy.

Lastly, in line with Hulme et al, 2001; "Building up trust takes long time; one should assume longer time frames; and keep in mind that conservation in Africa- and other continents- have

been illegitimate for generations. Community conservation has created opportunities for conservation to begin to develop a local constituency¸ but the task of creating a conservation policy that is embedded in African society, rather than imposed from above, will be the work of generations".

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