

# Rural community capacity-building through increasing local control over forest resources - the case of Tanzania through the example of village communities in Rufiji district.

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## 1. ABSTRACT

Tanzania, together with most countries of East and Southern Africa, has over the past decade devised national policies and legislation to accommodate increased participation of near-resource communities in natural resource management. The forestry sector leads, compared to wildlife and fisheries, in terms progress in enactment of legislative provisions and in experience of implementation. Such policy and legislative provisions have encouraged a shift in relationships between the state and civil society, giving increased powers to the lower levels of governance. A variety of direct management (community based management) and collaborative management models have emerged, the majority based on common property resource regimes. Various analyses have been made, with a diversity of conclusions, of the impacts of empowerment of local communities to govern natural resources on local livelihoods and general development. A major objective of the national Forest Act (2002) of Tanzania is community-based forest management. This paper describes the process through which four communities in Rufiji District, Tanzania were facilitated by a project to gain legal power over the resources, mainly forests, within their village areas. It also briefly describes a further progression from a village administrative unit approach to a multi-

village ecosystem approach to collaborative forest management. It lists the impacts on governance of the forests, on community management skills, on the physical condition of the forests, on the communal asset base, on near forest community well being, on attitudes to forests, on relationships with higher authorities, on access to forest benefits and forest enterprise opportunities and on the wider community and ecosystem. This paper describes lessons learned from the process in order to contribute to documented international experience and to stimulate discussion in countries that have the bulk of their forest estate in either state or private hands.

## 2. INTRODUCTION

The purpose of this paper is to describe the process of facilitating the devolution of forest management power from state to community in a case study area in Tanzania; to list the impacts of such transfer of power, and to describe the lessons learned from the experience. This is a qualitative descriptive paper written from personal experience supported by project monitoring. It presents few statistically verifiable data and suggests that quantitative data regarding impacts needs to be collected.

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### 3. BACKGROUND

Tanzania, the largest country in East Africa has a land area of approximately 945, 000 km<sup>2</sup>, over fourteen times the size of Ireland, the host country of this conference. The human population was approximately 34 million in 2002. Forest area of between 33.5 m (United Republic of Tanzania [URT], Ministry of Natural Resources and Tourism [MNRT]. 1998) and 38.8 m ha covers 43.9% of its land area (Food and Agriculture Organization [FAO]. 2003<sup>1</sup>). In comparison, 9.6% of Ireland is forest (ibid). Tanzania has approximately 1.2 ha. of forest area per capita; Ireland has 0.2 ha. per capita (ibid). A very small percentage of Tanzania's forest (0.35%) area is under plantation forest containing mainly exotic species while most of Ireland's forest area (89.5%) is plantation rather than naturally generated forest (ibid). Table 1 shows a rough breakdown of forest types in Tanzania.

A breakdown of the legal status of Tanzania's forests is provided in Table 2 below, showing that the largest proportion of the nation's forests is unreserved and on public land, mainly within village boundaries. The table does not include a category of 'Forests Managed by Citizens' but in the year 2000 it was estimated that there were 1,527 declared cases of Community Based Forest

Management (CBFM) covering over 300,000 ha. or 0.89% of the total forest area (Alden-Wiley et al. 2000).

### 4. PRESENT POLICY AND LAWS REGARDING FOREST ESTATE MANAGEMENT IN TANZANIA.

The whole of Tanzania's national development plan is focussed on societal well-being. This is reflected in Tanzania's development Vision for 2025 (United Republic of Tanzania, Presidents Office, 2002) which visualizes high and shared growth, high quality livelihood, peace, stability and unity, good governance, high quality education, and international competitiveness. Tanzania is also fully committed to the Millennium Development Goals, one of which is to ensure environmental stability. An indicator for measuring success of this goal is forest cover.

Tanzania's National Strategy for Growth and Reduction of Poverty (NSGRP) (URT, Vice President's Office [VPO], 2005), is an output-related strategy rather than a sectoral plan and treats the environment and natural resources as cross-cutting issues but shows increased integration of their status to societal well being. The government recognises that poor people rely

TABLE 1: FOREST TYPES

Type	Area in Ha.x '000.	Percentage
Closed forests (excluding Mangroves)	1,141	3.40
Mangrove Forest	115	0.34
Open Forests <sup>2</sup> and Woodlands	32,299	96.26
Total	33,555	100.00

Source: URT, MNRT, National Forest Policy, 1998. National Forest Programme [NFP] website. [www.nfp.co.tz](http://www.nfp.co.tz)

TABLE 2: LEGAL<sup>3</sup> STATUS OF TANZANIA'S FOREST (x 1000 ha).

Legal Status	Area in Ha. X '000.	(%) of overall area.	Legally Under what Authority
Unreserved forests on public land-not officially protected	19,038	56.74	Village (but unclear)
Reserved forests	12,517	37.30	Central Government, Regional or District.
Forests and woodlands Within National Parks etc	2,000	5.96	Tanzania National Parks Authority (TANAPA), Game Reserve or Conservation Area.
Total	33, 555	100.00	

Source: URT. MNRT. National Forest Policy, 1998. NFP website. [www.nfp.co.tz](http://www.nfp.co.tz)

heavily on natural resources and are most vulnerable to external shocks and environmental risks, including drought and floods. It sees improved forestry management, the curbing of unsustainable exploitation activities and the investment in forest enterprise development as a poverty reduction strategy and aims to encourage sustainable productivity, increased profitability and increased employment opportunities. It is pursuing sustainable use of natural resources through community-based natural resource management and enhanced district level planning and is intensifying efforts to assist communities to secure tenure over natural resources and thus encourage participatory forestry<sup>4</sup> and wildlife management. As a result of enhanced legal control, the Government expects to see increased revenue contributions from forestry, fisheries, and wildlife. Conservation of biodiversity is only mentioned in the NSGRP in terms of its contribution to the improvement of quality of life and social well-being through reduction of vulnerability to environmental disasters.

## **5. THE CASE OF RUFJI FLOODPLAIN AND DELTA**

### **1. The place and the people**

Rufiji is a coastal district on the Indian Ocean, and straddles East Africa's greatest river, the Rufiji. The area is populated for 2000 years or more. In a distance of 150 km. westward, between tropical coast and semi-arid floodplain, and encompassing adjacent uplands and hills, it is home to 219,319 people (Rufiji District Council, [RDC], 2006), a range of ethnic groups and sub-branches of these groups; Wandengereko, Wanyagatwa, Wamatumbi being the main ones. Rufiji holds, somewhat tenuously now, some of the most valuable natural resources in Tanzania with high levels of biodiversity.

Life in the floodplain and delta and adjacent woodlands, forests and wetlands is dominated by water, seasonal river and lake level fluctuations, and tidal rhythms in the delta. Use of the ecosystem, of which forests are an important part, is an integral part of everyday life and livelihoods. Major floods or drought are likely every three years. Floods are a lifeline providing rich alluvium

to replenish soils and usually result in bumper crops and fish catches. When rains fail, floods provide. But when there is no rain and no flood there is severe stress (Hamerlynck, in draft).

People's household needs are met by a variety of activities, all of which are influenced by the rains or flood periods. The staple crops of rice and maize are grown for domestic consumption and sale to acquire cash needed for other needs, including health, clothing and education costs. In many years most households do not manage to harvest enough crops to fulfil all their food and household needs. Wildmeat and birds from surrounding forests contribute to the diet needs. (Turpie, 2000). Fishing, crop timber, and harvesting of mangrove poles help provide additional cash for food purchases to fulfil the deficit (Hogan et al., 2000).

When floods and local rainfall fail simultaneously, food shortages become acute and fish stocks are not replenished. The forests come under increased pressure. A small survey in four villages showed that the main recourse in times of food shortage is natural resources. And this is the case for the majority of people in Tanzania when crops fail.

Administratively the district is divided into divisions (6), wards (19), and villages (98). Each village has a village government made up of representatives of sub-villages. The decision-making body, which can make legally binding byelaws, is the Village Assembly consisting of all persons over eighteen years of age.

Land tenure in both the delta and floodplain is complicated by several historical and recent factors, the main factors being: officially most of the floodplain and delta are classified as 'Hazard Land' which by law should not be inhabited but are; traditional usufruct arrangements exist between the inner and outer delta communities whereby those on the coast are permitted to cultivate inland and those inland are permitted to fish on the coast; there are several disputed boundaries between villages and the Selous Game Reserve; the district boundaries are unclear; village jurisdiction in coastal waters is not clear, and due to several forced migrations, people have attachments to more than one administrative unit (a village) and move between them (Havnevik, 1993).

## **2. The forests<sup>5</sup> of the Rufiji District. – Management and Exploitation, 1998.**

### **Mangroves**

The Rufiji Delta mangrove forest was the first forest reserve in Tanzania, established in 1898, during the German colonial period. Over the intervening century administration of the forest changed hands to the British colonial government and later to the independent United Republic of Tanzania (URT). Many of the areas maintained their reserved status and some were designated as National Forest Reserves. National Forest Reserve status did not permit human habitation but habitation continued. Provisions under the national Mangrove Management Plan (MMP) developed in 1991 (Semesi, 1991) allowed for a participatory approach whereby the state would involve the local communities. Forest law reform was underway and later the Forest Act of 2002 provided for Joint Management Agreements (JMA) within National Forest Reserves.

### **Terrestrial Forests**

The Miombo woodland is found on the terrace area above the floodplains of the Rufiji River and where increased levels of groundwater are found the woodlands form a mosaic with Lowland Coastal forest (Hamerlynck, in draft). The higher altitude hill areas (150-700 m. a.s.l.) originally supported coastal forest but much of this area is under cultivation. Before forest policy reform in the nineties, sixteen terrestrial forests were reserved as either Local Authority Forest Reserves under Rufiji District Council authority or National Forest Reserves under the Ministry of Natural Resources and Tourism's Forest and Beekeeping Division's control. The remainder of the forests and woodland areas of Rufiji District are unreserved and on Village Land or General Land.

### **Forest Exploitation**

In 1998, most of the forests, reserved or not, were being exploited in an 'open access' manner and licenses, where necessary, were being issued after harvest. In 2000 concern was expressed at the rate

of logging, (Graham & Shah, 2000; Malimbwi, 2000) and serious mangrove forest encroachment, mainly for rice growing, with reduction of the three most valuable pole species.

The economic reality was that local government reform programmes had shifted greater onus for revenue collection onto the local authorities. The Rufiji District Council's (RDC) main priority was to find revenue to run its own administration and to contribute to the central government pool. Its main source was natural resources, particularly forests; 60% of RDC revenues derived from forests in 2000-2001 (Hamerlynck et al., in draft). The problems of low capacity and improper practice meant that a very small proportion of possible revenues were actually collected. The 'mining' of the forest resource continued (Durand, in draft), and accelerated in 2003 due to the coinciding factors of the opening of a bridge across the Rufiji River (Milledge and Elibariki, 2005) and drought which kept access roads passable and also pressurised households to use more natural resources to get cash for food.

Additionally, a logging ban in China had brought pressure on Tanzania's timber resource, particularly Rufiji's, because it held some of the most valuable forest resources in the country accounting for 7% of the revenues of the national government in 2000-2001 (Hamerlynck et al. in draft) and was more accessible than forest resources further south.

The District Council largely had a single use perspective on the forests, which was the harvest of timber mainly in logs or planks, while the rural population valued forests for a multiple of exploitative and non-exploitative uses.

## **3. The Community Environment Management Interventions of the Rufiji Environment Management Project<sup>6</sup> (REMP)**

The World Conservation Union (IUCN) recognised that Rufiji was a place of high biodiversity and conservation value and that there were several threats to the people's livelihood base and to the exceptional ecological wealth (REMP, 1997). The overall project goal was: To promote the long-term

conservation through ‘wise use’ of the lower Rufiji forests, woodlands and wetlands, such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the area’s inhabitants are secured and enhanced.

At the end of the first five-year phase (1998-2003) of the project the expected outputs were:

1. An Environmental Management Plan: an integrated plan for the management of the ecosystems (forests, woodlands and wetlands) and natural resources of the project area that had been tested and revised so that it could be assured of success - especially through development hand-in-hand with the District council and the people of Rufiji.
2. Village (or community) Natural Resource Management Plans: These will be produced in pilot villages to facilitate village planning for natural resource management. The project will support the implementation of these plans by researching the legislation, providing training and some support for zoning, mapping and gazettement of reserves.
3. Established Wise Use Activities: These will consist of successful sustainable development activities that are being tried and tested with pilot villages and communities and are shown to be sustainable.
4. Key forests will be conserved: Forests in Rufiji District that have shown high levels of plant biodiversity, endemism or other valuable biodiversity characteristics will be conserved by gazettement, forest management for conservation, and/or awareness-raising with their traditional owners.

A stepwise process<sup>7</sup> was developed collaboratively by a multisectoral team from the natural resources, lands, planning, community development and agriculture departments of the Rufiji District Council (RDC) to work on the second of the four goals aforementioned above.

*The REMP Seven step process for developing a participatory VEMP*

- Step 1: Make joint studies of the natural resources and village economy.
- Step 2: Identify present problems and future threats.
- Step 3: Identify solutions to the problems and other

untapped opportunities.

- Step 4: Analysis of suggested solutions.
- Step 5: Produce the Village Environment Plan with draft byelaws.
- Step 6: Provide Support for implementation, including training.
- Step 7: Legal recognition for the Village Environment Management Plan.

#### **4. REMP’s General approaches within the Village Environment Management Planning (VEMP) Process**

A short, non-definitive summary of some approaches to implementing the process follows.

Village plans, not informal community plans. The village is the lowest statutory administrative unit in Tanzania and the logical unit to choose for certainty that the process and especially plans, particularly the byelaws supporting them, would be legally recognised.

Complete administrative Unit plans, not individual sector plans. Rather than planning for sectors individually the emphasis was on natural resource management plans. Interpretation of the expected outcome led to a further broadening of the remit to take in all environmental issues and thus a micro-planning process was developed. Should a forest plan be needed separately for legal purposes it would be born out of the overall environment management plan of the village and thus naturally embedded within it.

‘Power-sharing’ rather than ‘Benefit-sharing’ approach. The VEMP vision was that participating villagers would feel more ‘ownership’ for their natural resources and therefore become more directly responsible for them. It was assumed that power-sharing would be more effective than the benefit-sharing examples which had been attempted elsewhere in the region (IIED, 1994). It was envisioned that if villagers gained more legal and financial control of the resources, their direct benefits from managing the resources would eventually exceed their direct costs.

Rights’ approach given more emphasis than ‘livelihood’ or ‘income-generating’ approach. It was realised early during the village studies that low levels of information regarding village rights

and responsibilities was a major factor in village incapacity to take action against illegal fishing, hunting and logging practises. Therefore, it was a priority to ensure that the whole village community received as much legal control of the natural resources as possible. This would also ensure that those residents who wished to run natural resource based enterprise would be enabled to apply for access rights within the village thus reducing costs and bureaucratic procedures.

Micro-planning simultaneously with macro-planning. The village planning process would run simultaneously with the District Environment Management Planning (macro-plan) process<sup>8</sup> in order that the two processes would inform each other. It was also realised that the project staff, particularly the technical advisers would need to take a facilitation role between the communities and the district council. There was an atmosphere of misunderstanding and mistrust between some village communities and the higher authorities because of changes to protected area boundaries and because of physical and other types of communication difficulties. In selection of the four pilot villages, one of the socio-economic and ecological criteria was to choose villages with which relations were positive (Hogan et al., 1999).

Weakness in district capacity would be addressed through both the micro and macro-planning processes. The latter process would provide opportunities to broaden sectoral skills to an ecosystems approach and to acquire new attitudes, perspectives and skills for improving communications with villagers on a more partnering than an 'uppers' and 'lowers'<sup>9</sup> basis.

Governance improvement and the encouragement of increased civic participation. It is widely recognised that a conducive political environment; particularly functioning of the democratic institutions, is a prerequisite to desirable social and environmental outcomes of natural resource management. Attention was given to the functioning of the existing village institutions. The participation of the majority of the village's citizens in planning was vital to the success of the implementation of the plans. Time and energy were allocated to devising methods<sup>10</sup> for effective communication with a widely dispersed, semi-literate population.

Strategy on dealing with boundary issues. It was decided to encourage local negotiation for administrative boundary clarification but not to use scarce financial and personnel resources for either clarification or demarcation of village boundaries. Attention would be given in the first instance to clarify the natural resource boundaries within and between the villages, because this would be adequate for legally instituting byelaws.

Choice of Methodology. Participatory methods, guided by the literature and manuals of Chambers (1997), Alden –Wily et al. (2000), Theis et al. (1991), the line ministries' directives, guides and manuals (URT, MNRT, Forest and Beekeeping Division [FBD] 2001), and others were used at village level at different times throughout the process. Methods included transect walks, semi-structured discussions, various mappings, gender roles analysis, and artistic and dramatic visualisations. Mixing academic science and scientists with local knowledge and experts was seen as a very important process to find good solutions to ecological management for sustainability within a village's administration. Ideas regarding cross-cultural communication were gathered from literature including Fuglesang, (1982). The theories of Dudley (1993) on new ideas being reasonable, recognised and respectable also influenced the thought that went into the VEMP process. Ideas on adult education and critical awareness, action and reflection cycles were taken from various sources including (Hope et al. 1984), minus its Christian culture. Logical Framework Analysis was mixed with Participatory Rural Appraisal (PRA) in identification of problems, their causes and effects and in developing objectives. Objective and output/result hierarchies were used to outline village aspirations and planned measures to achieve them.

## **5. Achievements and Impacts**

### **Human Capital Improvement and Empowerment**

Having begun to build relationships and trust between the four villages in late 1998, the five years of the VEMP process achieved all of the action targets which were laid down at the outset.

Each village has a Village Environment Management Plan containing a socio-economic and natural resources profile, land and natural resource use zonations in visual and descriptive format, byelaws which outline rules, punishments and authorities, forest management or co-management plans and names of those responsible and their institutions. The respective village, ward and district authorities have ratified all four VEMP's and the byelaws contained in them are also nationally recognised. Two of the villages have gazetted their forests nationally as Village Lands Forest Reserves. The other two have prepared Joint (Forest) Management Agreement (JMA) proposals and await approval.

The village institutions are implementing the VEMP's. The human institutions, which were strengthened through the process, include the Village government and the Village Assembly while village environment committees and natural resource scouting teams were newly established. Zonations for various uses including conservation have been communicated to the village residents and neighbouring villages. One village has made a permanent concrete ground map of the zonations in a public place to ensure that locals and visitors have access to the details of the zones and their uses. Patrols of natural resources are operating and illegal and destructive users are being apprehended and fined. Local capacity to monitor and record the natural resource condition has been increased, including botanical identification skills, timber harvesting rules, wild animal monitoring and management, fish catch recording, water level and rainfall recording.

The human capacity to plan, budget and use funds for personal and village development has been raised. There is better communication and understanding between the district and village administration. There is also better networking between the district and national level, which has improved the information base available in the district. Local capacity to communicate and lobby about environmental issues has increased. There is more pro-active and better governance of the natural resources in these four villages. It is suggested that the commitment to implementing the plans is still strong despite the demise of the REMP project in late 2003 and the pressure of the

severe drought and food shortages in 2004-2005. One indicator is that there is still some money in the environment account of Mtanza-Msona village (Mr. Ismail Lusongo, personal communication April 2006), despite serious food shortages.

### **Ecosystem impacts**

The impacts of the VEMP process within the villages include regeneration of the vegetation, return of wild animals, and increased fish stocks in the well-supervised closed areas. Revenues accruing to village accounts from natural resources have begun to increase albeit from a very low base.

### **Peripheral influence**

Outside of the four pilot villages there have also been impacts. These include an increase in enthusiasm for community environment management. Neighbouring villages requested inclusion in further VEMP processes and initiated their own rules and area designations while awaiting district facilitation. A Swiss Funded micro-project was linked with the communities via the district and a lake-forest ecosystem within the jurisdiction of three villages is being jointly managed (Mottier, 2005). They have developed VEMP's, drafted byelaws, and formed a tri-village 'super' ecosystem management committee. A further ecosystem level development with seven communities has succeeded in demarcating and registering the boundaries of a highly biodiverse coastal forest of over 13,000 Ha.

Villagers and district personnel have increased confidence in their approaches to higher-level authorities and academics. This has led to greater recognition at higher levels of the management difficulties faced by the communities and the district as well as the value of the resources in national and international terms. District decision-making capacity has been raised through dealing with issues raised by the VEMPs. Thus the villages and the district are engaged in interpretation and practical application of new laws and policies and have taken on board new, more transparent and inclusive ways of carrying out their responsibilities.

Capacity increased at district level, because dealing with a particular issue, has the wider effect of enabling the officers to use their new knowledge and experience to advise the whole council and thus the whole district. Therefore more informed and environment-conscious decisions are being made.

The success of the VEMP process has brought international recognition<sup>11</sup> to the efforts of the people and is thus encouraging both the villagers and the district administration to value more highly and manage better the natural resources of Rufiji.

### Common Property Resource Institution development.

In Table 3 below, the VEMP-strengthened and newly created human and legislative institutions

are judged against Ostrom's Design Principles of long-enduring common property resource institutions (Ostrom, 1990).

### Poverty status of the communities

There are improvements in livelihood status in a few individual households e.g. those who took up beekeeping, gardening or improved plant pest and poultry disease management techniques. REMP has had an impact on non-income poverty in the four villages by substantially improving the capital asset base, legally putting large tracts of forest and aquatic resources into two village government hands, and increasing the human capital through raised skills and increased access to further information.

TABLE 3: VEMP ACHIEVEMENTS FOR DEVELOPING COMMON PROPERTY INSTITUTIONS IN RELATION TO OSTROM'S PRINCIPLES

	Ostrom's Principle	VEMP Achievements
1	Clearly defined boundaries	Yes, for the natural resources of each village, but not for the village's administrative boundaries.
2	Appropriate rules for exploiting the resource and for maintaining it.	Partially. Rules limiting time (season), places and technologies (allowed by central government rules) are set simply and understandably. And those who use the resources are expected to contribute to sustainability of the resource, but perhaps not adequately.
3	Collective Choice Arrangements.	Yes the people who are affected by the rules, who are also village members, are able to participate in changing them. Outside users do not have rights to be involved in the decision body, which is the Village Assembly.
4	Effective monitoring procedures.	Partially. In that the monitors are either users of the resource or accountable to them, but monitoring is not easy to carry out especially in Mtanza Msona and Twasalie villages which are vast and costly to patrol.
5	Graduated sanctions.	Yes. Fines and punishments are linked to seriousness and repetition of offences; sanctions are assessed and are imposed by fellow users (Village Assembly).
6	Conflict resolution mechanisms.	Yes in theory. Users and officials (Village Environment or Natural Resources Committee) have rapid access to low-cost mechanisms to resolve conflicts (at Village Government) or between users and officials. However some long-standing conflicts remain unresolved, which indicates that in practise rapid access is not available.
7	Recognition of legitimacy	Partial. The rights of users to devise their own institutions are not challenged actively by external authorities, but are not always actively supported by them, particularly in the practical application of byelaws.

## 6. Lessons learned

The following are some of the key lessons learned as identified by the authors of this paper. The first relates to Ostrom's seventh principle 'Recognition of Legitimacy' (ibid.)

- a. Recognition and support from national and district levels for devolved governance of natural resources is critical. Although policies and laws, which provide for community management and co-management of natural resources, are in existence, administrations at district and national levels are slow to support local initiatives to apply them. This frustrates and disillusion communities who, unless they are supported by outside initiatives, do not have the financial resources or the enthusiasm to continue to lay claim to greater control of their resources.
- b. Logical frameworks are not in keeping with community logic in Rufiji District. Logical framework analysis and objective hierarchies and their concomitant action plans are too dependent on the written word, are quite complex and their logic does not appeal to many even highly educated international technical advisers and project managers. The concept of a result, as a collective of actions for getting there, which you have not yet achieved, is difficult to talk about!
- c. Legal information had the greatest impact on achieving feelings of 'ownership' and responsibility. Workshops during which villagers, their governments and their environmental committees had direct access to the most knowledgeable environmental lawyers in the country, gave clear information on the most pressing legal issues in taking greater control of, for example, the fisheries, wild animals, forests, and/or the coastal resources. Having possession of correct information about their rights and responsibilities, village governments could be confident that they were taking the correct steps towards community management or co-management.
- d. Showing interest and measuring resources increases appreciation of their values and causes tensions. The involvement of many outsiders in facilitation of the VEMP process brought visitors to the villages who were fascinated by the natural resource and the people's relationships with them. They made comparisons with other areas in Tanzania and in the world. This has given the villagers an increased appreciation for their own resources and their traditional ways of using them. It also made villagers feel more defensive of their resources and somewhat threatened that the visitors might have exploitative motives. Tensions were also caused between the VEMP pilot villages and their neighbours, especially when the intention to impose harvesting rules was not fully discussed with the neighbouring villages.
- e. Feedback of the results of village studies makes people more conscious of the quantities of the natural resources they need/the ecosystem is providing for daily survival. During the initial identification of the natural resources within the village some villagers visited places within their village, which were heretofore unfamiliar to them. They could see the depletion, which was occurring in the distant forests on which they depend for building timber and raw materials for furniture. Summary estimates of the quantities of fuelwood used by the village for the year opened their eyes to their dependency on the forests and woodlands surrounding them.
- f. Participatory research and monitoring can be a very valuable awareness and empowerment tool. Those who were trained to assess and monitor fish stocks, water and rainfall levels and who were involved in analysis and interpretation of the results of such monitoring practises have become more keenly aware of the effects of both natural and human activities. Similarly, those who have participated in forest inventory work and floral and faunal studies have become capable of expressing changes in the status of these resources to other villagers and to higher authorities. Applied research where the academic researcher communicates well with the near-resource community and facilitates them to participate actively can bridge knowledge gaps on both sides.

## 7. Challenges facing communities in enforcing their powers

Common Property regimes work best when governments keep out of the way or confine their attention to preventing others from usurping CP rights (United Nations Development Program [UNDP] et al. 2005). Although the VEMP process has been successful in legally empowering communities to manage or co-manage their resources they still face many challenges in enforcing those powers.

Initial costs are high for villages to afford and it may take years to break even. It costs approximately \$7,000 USD per village to survey, train, and complete the bureaucratic procedures to register forests and VEMP byelaws. It should be somewhat less expensive in the future because of the community training that was done during REMP; however, it is still beyond the reach of most village communities. Many of the natural resources being handed over to village control have suffered depletion and it may take up to thirty years for some of them to recover enough to be harvested again and yield returns for the village.

Late or non- receipt of information from higher levels. Translation and dissemination of information in relation to natural resource laws, regulations, and guidelines remains slow and under-budgeted.

Communications and facilities limitations. Depending on flooding and drought dynamics most villages of Rufiji district are difficult to access by road or river. This limits the amount of support which can be called upon speedily and it is often impossible to make rapid responses to illegal incursions by better-equipped loggers and poachers.

Macro-economic forces. The demand for timber from China and India is set to increase; therefore the economic incentives to break the byelaws will continue to be high.

## 8. Conclusions of value of this experience elsewhere

In Tanzania the prognosis for community private and native forests is better than over the past three

to five years with a new government which seems very serious about controlling illegal forest harvest and truly empowering communities to take up their, now legal, agency.

Collective common property forest management can work even when communities have little cash to gain initially and even when they are poor and hard pressed to gain their basic needs. The non-timber assets are of high value to them. Basic material needs are less of an issue in 'developed' countries, but basic 'whole-person'/spiritual needs are sometimes lacking in urban-bound societies. Greater access to more diverse multiple use forests could contribute to societal well-being. Perhaps their potential in urban or semi-urban societies (forest alienated societies) in 'developed' nations has not been tested adequately?

A feeling of ownership or inclusion brings with it more respect for a resource and less motivation to sabotage or vandalise it. There has been a reduction in fires in the village forests since the forests were put under village control. Perhaps forest fires in 'developed' nations could be better controlled if power was shared with or devolved to forest-local communities?

Negotiations take time and must be given time. Communicating well is the key to understanding what people want to do with a nation's land and natural resources, and at what price or what non-cash return. It seems that the level of willingness of a state to listen to its people transcends wealth and 'development' differences and that even in countries which have very sophisticated communications, GIS and planning systems and skills available to them unbelievably non-participatory decisions are made regarding land and natural resource use.

Forests, trees and important ecosystems for life functions are threatened by roads infrastructure development in both Tanzania and Ireland (e.g. Mkapa Bridge in Rufiji, Wicklow Glen of the Downs) but the socio-economic issues are different. In Tanzania it is about being able to go from a to b, while in Ireland it is about how fast one can go from a to b. Europe used to be blamed for under-developing Africa, now the emphasis has shifted to China and India but those who are

contributing to climate change are found wherever there is income wealth and are responsible for the risks under which their consumption is putting poor people. That responsibility should be taken seriously in the form of investment in reducing these risks. One way is to grant support to poor near-forest communities to protect their natural resources particularly the forests.

Present world energy and forest economics are making a joke of good forest practise. There is negative income incentive to owning small broadleaved woodlands in Ireland, such as my own four ha. one. Because of high labour costs, I will not break even if I sell my 15th year thinnings for fuelwood. So my thinnings rot on the ground in Co Galway while poor people in Dar es Salaam are burning inefficiently produced charcoal from some of the world's most biodiverse native forests 200 kms away! We are all losing in both the short and long term.

Understaffing is not exclusive to developing countries; in Ireland economic policy dictates a small staff and the outsourcing of work in some state forests. There seems to be an increase in interest in nature among the Irish public (Birdwatch Ireland personal communication). Perhaps there is an untapped human resource for forest management which, with the right incentives could be lured into managing/co-managing state forests for multiple use and increased access and education for the public. Elstrom (2004) advises policymakers not to presume they are the only relevant actors and that they have partners if willing to recognise them. Perhaps her advice is relevant to forest bodies in 'developed' countries.

Must we wait for more natural disasters to occur and for oil prices to rise to over 100 USD per barrel, before we exercise constraint in consumption and make serious investments in poor and local community management of natural resources?

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- 9 Robert Chambers defines ‘uppers’ and ‘lowers’ in Chambers (1997). The ‘Mbwiga’ networking system is described in Vare et al. (2001).
- 10 The REMP project won the prestigious UNDP Equator Award in 2004.

## Notes

- 1 These figures are declared misleading and highly unreliable (Hoare, 2005).
- 2 The Swahili term ‘Misitu’ includes forests and woodlands. The Forest Act 2002 interprets the word “forest” as: an area of land with at least 10% tree cover, naturally grown or planted and or 50% more shrub and tree regeneration cover and includes all forest reserves of whatever kind declared under this Act and all plantations.
- 3 Legal status categories changed in 2002 when forest legislation was reformed (URT, 2002. Forest Act).
- 4 Several authors have covered the topic of forest policy and law reform in Tanzania e.g. Alden-Wiley et al. (2000), Kihyo, V. (1998), Barrow et al. (2000).
- 5 Details of species composition can be found in Malimbwi et al (2000), Burgess and Clarke, (Eds) (2000). and Semesi (1991).
- 6 The Rufiji District Council implemented Rufiji Environment Management Project with technical assistance from The World Conservation Union (IUCN), and funding from the Royal Netherlands Embassy.
- 7 The VEMP process as experienced by the four village communities is described in four books published by IUCN East Africa Regional Office, see Hogan and Mwambeso (2004 a and 2004 b) and Hogan and Nandi (2004 a and b).
- 8 The VEMP process as experienced by the four village communities, is described in four books published by IUCN East Africa Regional Office, see Hogan and Mwambeso (2004 a and 2004 b) and Hogan and Nandi (2004 a and b).