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Assessing participatory practices in community-based natural resource management: experiences in community engagement from southern Africa

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Abstract

The emphasis on participatory environmental management within international development has started to overcome critiques of traditional exclusionary environmental policy, aligning with shifts towards decentralisation and community empowerment. However, questions are raised regarding the extent to which participation in project design and implementation is meaningful and really engages communities in the process. Calls have been made for further local-level (project and community-scale) research to identify practices that can increase the likelihood of meaningful community engagement within externally initiated projects. This paper presents data from three community-based natural resource management (CBNRM) project case studies from southern Africa, which promote Joint Forest Management (JFM), tree planting for carbon and conservation agriculture. Data collection was carried out through semi-structured interviews with key stakeholders, community-level meetings, focus groups and interviews. We find that an important first step for a meaningful community engagement process is to define 'community' in an open and participatory manner. Two-way communication at all stages of the community engagement process is shown to be critical, and charismatic leadership based on mutual respect and clarity of roles and responsibilities is vital to improve the likelihood of participants developing understanding of project aims and philosophy. This can lead to successful project outcomes through community ownership of the project goals and empowerment in project implementation. Specific engagement methods are found to be less important than the contextual and environmental factors associated with each project, but consideration should be given to identifying appropriate methods to ensure community representation. Our findings extend current thinking on the evaluation of participation by making explicit links between the community engagement process and project outcomes, and by identifying further criteria that can be considered in process and outcome-based evaluations. We highlight good practices for future CBNRM projects which can be used by project designers and initiators to further the likelihood of successful project outcomes.

Keywords: public participation; community participation; Joint Forest Management; Democratic Republic of the Congo (DRC); Zambia; Mozambique

1. Introduction

The emphasis on participatory approaches to environmental management and development more broadly has increased, alongside decentralisation discourses and a rejection of more traditional top-down, centralised, exclusionary approaches to natural resource management (e.g. Kapoor, 2001, Kumasi et al., 2010, Hulme and Murphree, 1999). The aims of participatory environmental management align with the co-generation of conservation and sustainable development outcomes, enabled through local actions, as emphasised by the Brundtland Report (1987), Agenda 21 (Hutton et al., 2005) and the Millennium Development Goals, and led to revision of policies in many countries (Jumbe and Angelsen, 2007). Community Based Natural Resource Management (CBNRM) is amongst the more popular approaches to participatory environmental management that have emerged in pursuit of these multiple economic, social and environmental goals. CBNRM encompasses initiatives such as Integrated Conservation and Development Projects (ICDPs), Joint Forest Management (JFM) and community-based payments for ecosystem services (CB-PES) including agroforestry and conservation agriculture activities. While the specifics of these schemes differ in their aims, origin, project design and resource focus, they all broadly seek to address sustainable natural resource management, whilst simultaneously contributing to rural livelihood opportunities. In some cases CBNRM is initiated by communities themselves, seeking ways to manage common pool resources. However, CBNRM projects may also be externally initiated by for example, NGOs, the private sector or government (Measham and Lumbasi, 2013). Evidence suggests that the extent to which CBNRM goals are achieved varies (Dougill et al., 2012, Blaikie, 2006, Phiri et al., 2012). Hutton et al. (2005: 363) highlight some of the major challenges, concluding that the reasons for failure range from 'the poor quality of project design and the unqualified nature of many of those attempting implementation, to major policy failure in the devolution of power and authority'. They also echo the calls of others (e.g. Brooks et al., 2012, Blaikie, 2006) to improve understanding of the factors associated with project success and failure in order that the potential of participatory approaches can be harnessed.

Participatory approaches in CBNRM tend to be evaluated either through process or outcome-based factors, or both. These factors, for example empowerment, ownership and equity, are often hard to define and measure. In this paper, we focus on process-based factors, which we broadly define as 'community engagement', and their links to outcome-based success. The ways in which communities are engaged is one of the critical factors likely to affect whether the anticipated outcomes of an externally initiated project are realised and whether the longer terms aim of CBNRM (that of co-management of natural resources), is achieved. De Vente et al., (under review) explain that the success of CBNRM projects depends on participant selection and the process design. Kapoor (2001) raises questions pertaining to how the process can be made meaningful in practice and institutionalised. Project experiences from Tanzania outlined by Mustalahti et al. (2012) demonstrate the need for improved alignment of community priorities and project goals, while Measham and Lumbasi (2013) assert that one of the most widely recognised factors in CBNRM failure is top-down project initiation and imposition of initiatives as opposed to project initiation by communities. The literature therefore highlights many areas in which further investigation would

benefit future participatory CBNRM projects and the ways in which communities are actively engaged in project design and implementation.

There is not an agreed definition of the term 'community engagement' in the literature (Tindana et al., 2007). Indeed, the term 'community' also remains contested and can include geographically-bound populations, groups that utilise shared practices or social norms, or can refer to the extent of and cultural identities (Agrawal and Gibson, 1999). This paper uses 'community engagement' to describe elements of project design, implementation and the mechanisms used to actively involve communities in natural resource management projects. Community engagement therefore begins at the first instance at which the project initiator approaches the community, and continues to consider their ongoing involvement in the project.

This paper aims to assess the factors affecting community engagement within externally initiated CBNRM projects alongside stakeholder experiences in three participatory case studies from southern Africa, in order to:

1. Evaluate a variety of community engagement processes seeking to deliver CBNRM in different contexts across southern Africa;
2. Assess the links between the process-based factors in community engagement and anticipated project outcomes; and
3. Determine key community engagement lessons that can usefully inform future externally initiated CBNRM projects in southern Africa and more widely.

2. Evaluating participation and community engagement

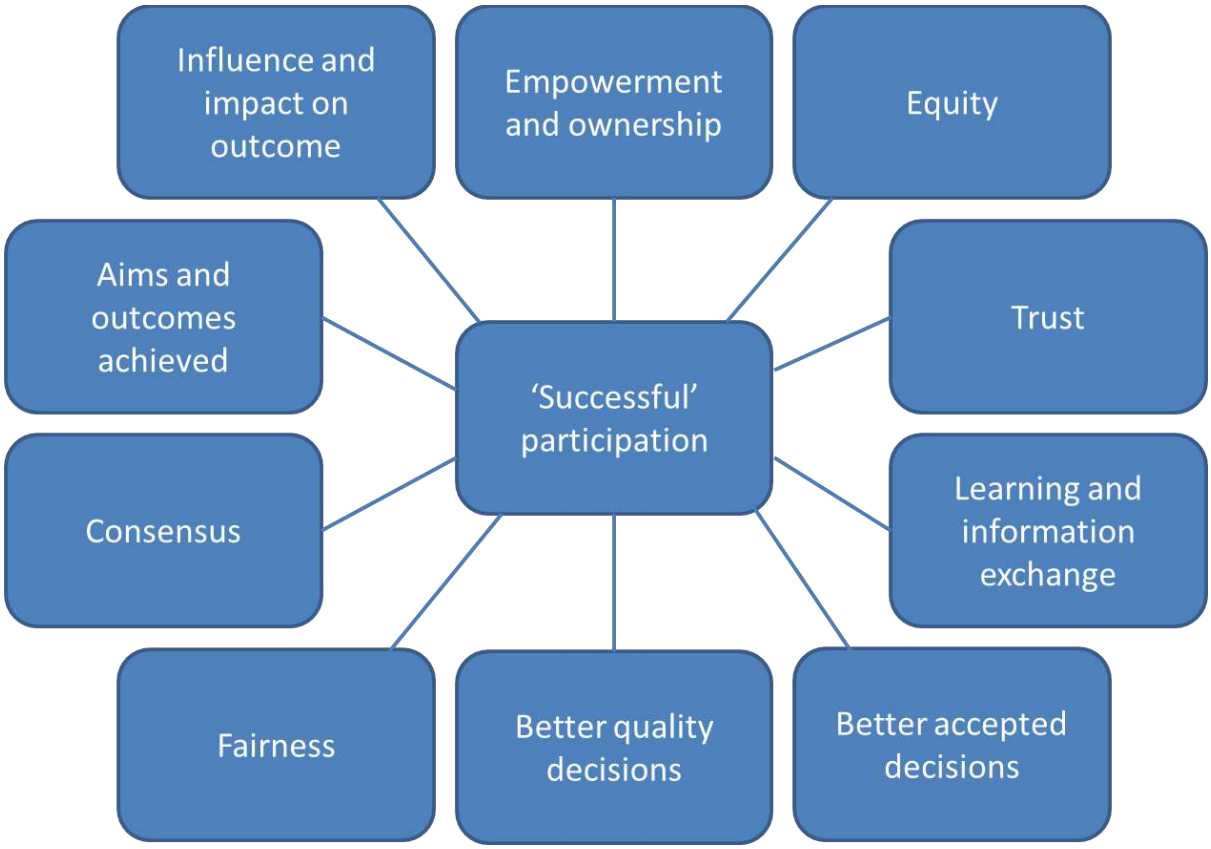
Participation in environmental management initiatives is both 'value laden and complex' (Conrad et al., 2011: 762) and there are no standard methods for its measurement (ibid, 2011). Hence, there are very few empirical examples of comprehensive evaluation (e.g. Rowe and Frewer, 2000). While authors agree that ideal evaluation would ask the opinions of the participants in the participatory process (e.g. Blackstock et al., 2007, Reed, 2008), this is not always possible. In addition, for those planning a participatory process to initiate a CBNRM project, it is useful to know what makes the process successful from the outset, and how outcomes can be assessed. This contrasts with *ex-post* evaluation by the participants.

Evaluation of participatory approaches tends to be measured through process or outcome-based factors, or both. The following sections review the current dominant thinking on each of these approaches.

2.1 *Outcome-based evaluation*

Outcome-based evaluation of participation tends towards identifying outputs that signify 'success' of a project. Rowe and Frewer (2004) suggest outcome-based evaluations should start by defining success in the context of the project, developing indicators and procedures to measure success and subsequently evaluating it. There is broad agreement on what constitutes 'successful' outcomes for participation as summarised in Figure 1. However, many of these factors remain hard to define and measure.

Figure 1 - Summary of outcome-based components of 'successful' participatory processes (Developed from Reed (2008), Reed et al.,(2010); Webler and Tuler (2006), Chess and Purcell (1999), Twyman et al.,(2001))



The success criteria in Figure 1 can be useful in evaluating participation but are often subjective and differ according to the perceptions of the stakeholders involved. Furthermore, many success factors could be considered to be dependent on the process which led to the outcomes, and indeed, be considered as process-based factors themselves. For example, while empowerment is a desirable outcome, it is likely also to be a component of a meaningful participatory process. Empowerment infers the rebalancing of power to disenfranchised stakeholder groups through awareness raising or education (Potter et al., 1999), but can, and should, be viewed from multiple perspectives (Twyman et al., 2001). It is pertinent, therefore, to first consider the components of a 'meaningful' participatory process, referred to here as 'community engagement' that provides a forum for stakeholder views and perceptions to be balanced and fulfilled, and assess the links between the process of community engagement and the chances of realising these 'successful' outcomes.

2.2 Process-based evaluation: community engagement

Process based evaluation of participation focuses on the criteria for community engagement that should secure the outcome-based criteria of success. Kapoor (2001) asserts that while participatory processes for community engagement in CBNRM are likely to be contextually more appropriate and inclusive than traditional top-down processes, there are many factors impacting their effectiveness and the extent to which they are meaningful. These include power relations, inclusivity and definitions of community. Observations drawing on both theory and practice indicate which factors should be involved in a meaningful community engagement process (Table 1).

Table 1 - Common criteria used for process-based evaluation of community engagement processes

Criteria	Example reference(s)
Early engagement of communities in the process	Reed (2008), Rowe and Frewer (2000), Blahna and Yonts-Shepard (1989)
Identification, analysis and systematic representation of relevant stakeholders	Reed (2008), Rowe and Frewer (2000), Blahna and Yonts-Shepard (1989)
Clear objectives set out and agreed by stakeholders at the start of the process	Reed (2008), Rowe and Frewer (2000), Chess and Purcell (1999)
Continued engagement of communities throughout process	Blahna and Yonts-Shepard (1989); Stringer and Paavola (in press); Hall and Fleischman (2010)
Relevant methods chosen and tailored to the context, participants and level of engagement	Reed (2008), Blahna and Yonts-Shepard (1989)
Highly skilled facilitation of the process	Chess and Purcell (1999); de Vente et al (under review)
Integration of local and scientific knowledge	Stringer et al. (2007); Raymond et al., (2010)
Open and meaningful information exchange and interaction with face-to-face discussion	Chess and Purcell (1999) Webler and Tuler (2007) Fiorino (1990) Newig and Fritsch (2009)
Transparency, trust and fairness	Reed (2008) Rowe and Frewer (2000) Webler (1995) Bovaird (2004)
Appropriate resource availability to enable participants to fulfil role	Rowe and Frewer (2000)
Structured decision making process	Rowe and Frewer (2000)
Cost-effectiveness	Rowe and Frewer, (2000); Stringer et al. (under review)
Unbiased and independent management of the process	Rowe and Frewer (2000)
Equality among stakeholders	Fiorino (1990)
Competent management throughout process	Webler (1995)

A process-based focus that then links to the outcome-based criteria of success allows consideration of different stakeholder perceptions and the ways in which they interact to deliver outcomes. For example in a study by Webler and Tuler (2007) it was shown that while most participants agreed that good practices include inclusivity and openness, there were marked differences in opinions on information provision, leadership and power. This highlights the need to consider participant diversity and to evaluate which community engagement processes allow for different perspectives to be considered. Rowe and Frewer (2004) assert that factors stemming from different scales also affect the process, for example, national political styles and expectations associated with the role of government (cf. Stringer and Paavola, 2013).

Chess and Purcell (1999) state that the choice of method (such as workshops or public meetings) is not as important as the facilitation and management of group dynamics, and the clarity of the process goals. However, Stringer et al. (2006) suggest that community working groups can allow 'community members to take ownership of the process and work iteratively' with relevant stakeholder groups.

3. Research design and methods

To assess community engagement within the context of externally initiated CBNRM projects, three case studies were chosen: Katanino Joint Forest Management area in Zambia, which promotes community-government management of forest resources; Kamoa Sustainable Livelihoods Programme in the Democratic Republic of the Congo, which promotes conservation agriculture; and Nhambita Community Carbon Project in Mozambique, which promotes tree planting. These cases form part of a broader research project that identifies good practices in developing partnerships involving different combinations of stakeholders in complex governance and political economic contexts in southern Africa (see Dyer et al., 2012, Leventon et al., 2012 for further details on case study selection). Case studies focus broadly on delivering community benefits through NRM, while also facilitating climate change mitigation and/or adaptation (see Table A in Supplementary Material).

To assess community engagement within each case, a combination of elite semi-structured interviews and community-level participatory research was carried out (Table B in Supplementary Material). This qualitative approach allows in-depth analysis of respondents' views and is less reliant on large sample sizes demanded by a more quantitative approach. For the purposes of this research 'elites' were considered to be people high-up in a stakeholder organisation who are able to have influence over the decisions and actions of that organisation or stakeholder group (after Richards, 1996). Thus elite interviews were conducted, wherever possible, with at least one representative from each stakeholder group or organisation involved in each project (including project staff), with a particular focus on those involved in community engagement. Questions considered the initiation stage, to determine how communities are approached, how the project is explained, who is involved and how people are selected to participate. Focus then shifted to continued engagement, investigating frequency of communications and relations between groups. Semi-structured interview questions allowed the emergence of themes which participants felt were relevant and that could be followed up in subsequent interviews assessing community empowerment and the associated livelihood benefits.

At the local level, a mixture of village meetings, focus groups and household interviews were carried out within participating communities. Community meetings were advertised widely and held at mutually agreed times through consultation with community members and Traditional Authorities. Relevant participants from community meetings were approached to attend focus groups and/or household interviews to obtain further in-depth information on the projects. The mixed method approach allowed a broad overview, as well as a more detailed household-level perspective. Traditional Authority representatives were interviewed where possible. Questions again focused around initial engagement procedures and ongoing participation with the communities, including relationships within and perceptions of the projects. Community members were asked to construct a timeline of engagement extending from the first time they heard about the project up to May 2012

when field work was carried out, including as much detail as possible on who had visited the communities, what was said, where meetings were held and who was involved. Community members were also asked to explain the rationale of the project, to assess their level of understanding of the project aims.

Semi-structured interviews were recorded on digital recorders after participant consent had been obtained. All data were transcribed before being subject to content analysis. Data on participation and/or community engagement were first assigned a code. These data were then assigned a secondary code according to whether they were related to process or outcome-based criteria. They were subsequently split further into the various criteria summarised in Table 1 and Figure 1, as well as additional categories which emerged during the analysis. Conflicts arising in the coded data were noted and examined for origin and the stage of the engagement process at which they occurred. Often, these conflicts emphasised areas where communication channels were absent or ineffective and became visible through the triangulation of different data sources.

4. Results

Results are presented below for each case study and in Table 2.

4.1 Case study 1 – Katanino JFM, Zambia

Forest officers at provincial and district levels reported that all villages within 5km of the forest boundary were identified for JFM. However, these villages were considered too numerous and small to be engaged separately so were grouped into four 'communities' determined by their geographical location along the forest boundary. As such, these communities were not based on shared social, cultural or economic characteristics. All the JFM activities, such as forming user groups and management councils, were based in these four communities. Community members report that contact for the JFM was initiated by the Forestry Department and officials from the Provincial Forest Action Plan (PFAP) through the Traditional Authorities. One community representative stated that contact was first made in 1994 when the Forestry Department informed them of the meaning of JFM, and that they were engaged in PFAP Phase 1. However, others from the remaining 3 communities stated they were first approached in 2001 as they were engaged only for PFAP Phase 2 suggesting that not all communities were engaged from the outset.

Communities were all able to explain that the aim of JFM was for PFAP, the Forestry Department and the communities to work together to sustainably manage the forest resources, suggesting the initial explanations of the project were understandable and had clear objectives. While official documentation such as guidelines, letters of consent and a memorandum of understanding were provided at the start of the project, one community reported that requests for translation of the documents into Bemba (the local language) were not granted. However, the district forest office was able to provide copies of all documentation in the local language when asked, and indeed were only able to provide the management plan in Bemba.

Communities reported that engagement was ongoing from the time when they were initially contacted and 2005. However, a number of issues were identified that affected, in particular, engagement with the Forestry Department. All communities explained that training had been received in new forest management strategies, agroforestry and nursery management as well as building community capacity for beekeeping within forest areas. However, most community

respondents perceived that they had not benefited further from the training as they had been unable to access the materials for the activities. Community representatives reported that this was due to the fact that materials were made in a different location and had not been delivered or they had not been told to retrieve them. One respondent observed that the bikes had been given to one village to distribute more widely, however they were not given to her village. A problem is thus apparent both in getting equipment from the Forestry Department to the forest, and in distributing it more widely between participating communities. Communities did not feel able to solve this problem themselves, as reflected in the following quotes:

'We knew others had received, and were benefitting from, their beehives and solar driers but we weren't as we were never called to collect ours.'
(Statement recorded during a focus group discussion, May 2012)

'The communities received the materials such as beehives and gardening equipment but they were made at a house far away and so couldn't be moved. We communicated the problem to Forestry but we haven't heard from them since 2008.'
(Statement recorded during a focus group discussion, May 2012)

This suggests a lack of community ownership and empowerment within the project. Discontent was expressed at the lack of consultation on the activities proposed, and three of four communities asserted that the allocation of people to the different JFM activities was top-down and arbitrary, and that it lacked discussion. One community (Biwa) disagreed, stating that each person had been able to join a group of their choosing. Respondents in Biwa were generally more positive about the JFM process and asserted that the JFM plans had been made in conjunction with them in the first instance. Biwa was also the community that had been involved in PFAP 1 suggesting that this was a more participatory phase, the results of which were then applied to Phase 2, or that the approach used had evolved during the project. Biwa residents appeared to have more sense of ownership in the JFM project than the other communities, and explained that they had marked out the boundary of their JFM plot and managed the forest themselves. They had also prepared a funding proposal for a community borehole. However, respondents in Biwa also claimed that after the Forestry Department stopped visiting them in 2008 they had *'no idea of what to do next'* and that the community *'could not make plans on their own or take any actions'* (statements recorded during a focus group discussion, May 2012) suggesting their sense of ownership was on condition of them being supported by the external organisation.

The location of the meetings was reported to be important in shaping relations between the communities, the Forestry Department and the JFM process. Biwa is located near the road and the area where the JFM meetings were held, so people from this area were therefore able to be more involved with the process. However, the other communities complained the location was too far away and that meetings took up whole days where they could not work on their crops. The district forest office are dismissive of such barriers to participation, stating *'they have to sacrifice somehow…they had shortcuts, passing through the forest to the other end*'. Such barriers to participation risk some communities being under-represented in the process.

Absence of a direct link between the communities and the Forestry Department in the later stages of the project (2005 onwards) appears to have had a negative impact. Assertions were made by community representatives that the Chairman, through which communications took place, did not report problems adequately for attention to be paid and that he had benefited more than others.

This communication mechanism therefore potentially increased the possibility of elite capture of project benefits. Mistrust of the Forest Department was also evident in one of the communities, in that representatives felt meetings were only held regularly in the earlier stages of the project because the Forestry officials were able to claim allowances to attend. They suggested that funds received for a hammer mill may have been misappropriated as they received a far lower amount than expected.

4.2 Case study 2 – Kamoa Sustainable Livelihoods Project (KSLP), DRC

For the KSLP, the majority of the process -based factors identified as present in meaningful community engagement processes (Table 1; Figure 1) are evident, and many of the outcome-based factors supporting successful participation can be directly linked to these. Additional factors were identified that could be applied to future projects. Engagement of communities in the KSLP is through a private sector consultancy firm who are promoting conservation agriculture. The consultancy firm report that communities were prioritised for approach and involvement in the project through consultation with Traditional Authorities, and depending on the proximity to the mine and the likely impact of exploration. Selection was in line with requirements for the establishment of Community Development Committees and the recommendations of baseline studies such as the project's Environmental and Social Impact Assessment. Interviews with representatives from the consultancy firm and community representatives showed that the project has since been approached by additional communities who are interested in being involved.

Communities confirmed that they were initially approached through the Traditional Authorities, who called a meeting as a forum for the project to be explained, thereby allowing participation from across the community. Interested community members asserted that this meeting involved two-way communications, leading to open and meaningful information exchange, as well as consensus from participants about taking part in the project. These sentiments are reflected in the following quotes:

'*[The consultancy firm] came and called a meeting to tell people about the project. They asked who was willing and available to take part and asked for agreement from the community members.'*
(Statement recorded in a semi-structured interview with a village Chief, May 2012)

'[The consultancy firm] came and explained the project overview and agreed it with us.'
(Statement recorded in a focus group discussion, May 2012)

Data from focus groups provided evidence of a high level of understanding and recollection of the information given during initial meetings. For example, focus group participants explained that hard work was emphasised and that benefits from the project were intended for broader community development, suggesting that clear objectives were set out at the start of the project in a transparent process. In addition, the project expected a gender balance in activities to further assure representation of key stakeholders and to encourage equality. Activities were also expected to begin on a small scale because communities were supporting themselves and using their own farming expertise as opposed to being gifted money or material goods by the mine. The project was therefore keeping the process in line with key success factors, by ensuring appropriate resource availability, cost-effectiveness and the integration of local farming expertise and technical knowledge from the consultancy. Community participants reported that when a project group had been formed, they identified a piece of land they deemed suitable for vegetable production using

conservation agriculture. When asked why they had chosen that particular land, all communities were able to detail locations of water sources, ownership, fertility and accessibility. This use of local knowledge and empowerment of the group to choose the area for the project was recognised by participants. One focus group participant stated:

'It was joint decision making from the start, including where the garden should be. Then [the consultancy firm] came to check everything was ok.'
(Statement recorded in a focus group discussion, May 2012)

Both the consultancy firm and community representatives asserted that proceeds from the vegetable garden are in sole control of community groups, who decide together what they would like to do with the money, resulting in consensus and better acceptance of decisions . Giving participants control over profits also means the groups can influence the project outcomes. One group invested their initial earnings in planting groundnuts; another hired a tractor to plant 8 ha of maize. A representative from the consultancy firm explained that she had been very impressed when one of the groups had asked her if she would like to buy some produce. She felt this was an indicator that the group had taken ownership and saw her own role as a facilitator rather than a provider. Indeed, one community participant encapsulated this idea by calling the project initiators a '*catalyst*' for them to perform. The skilled facilitation and competent management required for this to be the case were evident in the project team. In focus groups, community members also talked about plans for the future and how they would achieve them, suggesting that they had been empowered to innovate and expand. Ownership and empowerment are further evident in the investment of the initial earnings back into projects as opposed to division of the proceeds between participants for short-term benefits.

In one instance, the consultancy firm reported that they had merged two neighbouring communities in order to make viable group numbers for the project. However, the groups had different ideas about the outcomes of the project. In one of these communities, participants stated that those who were not participating felt that the mine was initiating the project in order to get free labour. The message had therefore been corrupted at some point, leading to confusion. In these communities, trust and consensus were lacking, leading to a reduction in successful outcomes. This highlights the importance of using community-based definitions of 'community' in externally initiated projects.

The consultancy firm and community representatives report that ongoing engagement throughout the project takes place in a number of ways. Project representatives visit the communities frequently, allowing face-to-face interaction and information exchange. When communities identify they need help, access to support is provided. For example, a treadle pump was supplied to one community when it was clear that this would help increase yields and reduce participant workloads. These pieces of appropriate equipment are not used as incentives but as rewards for commitment and hard work, providing encouragement to project participants. In addition to project representatives visiting the villages, extension officers, trained on the conservation agriculture garden at the mine site, are also placed in the communities. This is very positively perceived, as illustrated by a focus group participant:

'It gives us motivation to see [the extension officer] among us. It also means our problems are solved easily as we don't have to go to the [mine] camp which would take a lot of time – he does that for us. We are also still learning as we have just started.'
(Statement recorded in a focus group discussion, May 2012)

4.3 Case study 3 – Nhambita Community Carbon Project, Mozambique

Community representatives in Nhambita were also approached through Traditional Authorities, who arranged community meetings where the carbon project was introduced. A representative from the private sector firm initiating the project asserted that Nhambita community was the first to be involved due to its proximity to the project headquarters, and the project gradually spread to the surrounding areas. Focus group participants in Nhambita explained that trees were planted on the Chief of Nhambita's land first and that households were then offered a variety of agro-forestry based systems for tree planting. These included planting to demarcate the boundary of agricultural land, establishing fruit trees and planting of *Faidherbia albida* to enhance soil fertility in agricultural fields. Focus group participants and interviewees confidently recounted what was said during initial community meetings by the project representative, suggesting that the explanation given was thorough, consistent and appropriate, with clear objectives set out. For example, one participant explained how they were told that they would receive trees to grow and would receive payment dependent on the health of the trees and the area planted. While no interviewees were able to explain the 'science' behind carbon credits, ideas about the co-benefits such as clean air, and the carbon being produced in Nhambita but being sold elsewhere, were asserted. All community interviewees recounted that the private sector representative said they could 'join the project or not', suggesting participants were empowered through the choice of being able to choose whether or not they want to participate. Participants spoke highly of the project initiator, implying skilled facilitation was evident at the outset of the project.

Household interviews with project participants revealed that project participants can identify an area of land on which they would like to plant trees for carbon credits and select the planting system they would like to use. This choice allows participants to use their local environmental knowledge, influence the outcomes, and also take ownership. Project staff then map out the areas, supply the trees, and explain how monitoring and payment are carried out through information exchange and interaction with project participants.

Nhambita project managers also place locally-trained extension officers in the communities for ongoing engagement, learning and information exchange. While community members, and the extension officers themselves, asserted that they could ask the extension officer for help and advice when needed, households also stated that they only saw the extension officers twice a year for monitoring and payment. This suggests they are less proactive than those working with the KSLP. One participant reported that the presence of the extension officers in the communities meant they were able to highlight the issue of some project beneficiaries spending their money soon after receiving it, often on alcohol, leading to participants being given the choice of receiving their payments in non-monetary forms. For example, one person ordered a bicycle and another requested roofing materials. The cost of these items was taken from their payments and the products were sourced by the project initiators. The project was therefore responding to community needs and flexibly dealing with issues as they arose.

Important benefits of the project, cited by many respondents, were the use of a project vehicle for transport of the sick to hospital, and provision of expenses for funerals. This suggests a participatory community engagement approach as participants had been able to request these. It further indicates participants could influence the outcomes of the project in their favour. Although many

respondents were positive about the project, there was evidence of recent communication issues, particularly in the communities further away from the Nhambita headquarters. In light of global economic conditions, the voluntary carbon market has had to adapt to economic unknowns (Peters-Stanley et al., 2011) and the anticipated mandatory forestry carbon offset market is yet to be realised. In addition, the Plan Vivo certified credits produced by Nhambita are selling more slowly than those produced under the Verified Carbon Standard (VCS) system and the project has been unable to sell enough carbon to be financially viable. A private sector representative reported that these factors have combined to delay payments to project participants. Frustrations were evident amongst focus group respondents who stated that there had been little or no communication on the issues of delayed payments and one extension officer stated he also did not know the reason for payment delays. Frustrations had then become intertwined with other issues. For example, one community identified a mistrust of some of the project staff, reporting differing payment amounts to those which were expected. While these were easily explained through deductions made from other goods supplied, the lack of communication about the wider issue appeared to have fuelled doubt amongst project participants. This highlights the role of larger-scale processes over which the project has no control and the necessity to adapt community engagement practices and communications to a dynamic situation.

Table 2 - Summary of the process and outcome-based evaluation criteria evident in each of the case study projects.

Process-based evaluation	**Katanino JFM**	**KSLP**	**Nhambita**	**Outcome-based evaluation**	**Katanino JFM**	**KSLP**	**Nhambita**
Early engagement of communities in the process	X (some)	X	X	Empowerment and ownership	X (some)	X	X
Identification, analysis and systematic representation of relevant stakeholders	X	X	?	Equity		X	X
Continued engagement of communities throughout process	X	X	X	Trust		X	X (at the start)
Clear objectives set out and agreed by stakeholders at the start of the process	X	X	X	Learning and information exchange	X	X	X
Relevant methods chosen and tailored to the context, participants and level of engagement		X	X	Better accepted decisions		X	X
Highly skilled facilitation of the process	?	X	X	Better quality decisions	?	X	X
Integration of local and scientific knowledge		X	X	Fairness		X	?
Open and meaningful information exchange and interaction with face-to-face discussion	?	X	X	Consensus		X	X
Transparency, trust and fairness	?	X	X (at the start)	Aims and outcomes achieved		X	X (at the start)
Appropriate resource availability to enable participants to fulfil role		X	X	Influence and impact on outcome		X	X
Structured decision making process	?	X	X	**New criteria**			
Cost-effectiveness		X	X	Clear understanding of the project aims	X	X	X
Unbiased and independent management of the process	?	?	?				

Equality among stakeholders		X	X (at the start)				
Competent management throughout process		X	X (at the start)				
New criteria							
Access to project initiator throughout process		X	X				
Access to communities through appropriate structures e.g. Traditional Authorities	X	X	X				
Flexibility in methods and an ability to respond to issues as they arise		?	X (at the start)				
Agreed and locally appropriate definition of community		X (some)	X				

Key: X highlights where criteria are evident from the data, ? highlights where it was not possible to tell from the data and blank spaces show where the data suggests this criteria had not been addressed by the project

5. Discussion

Evaluation of the three case study projects provides several insights around three main themes that resonate with, and extend the existing research literature. These are around the process-based factors currently used to evaluate meaningful community engagement (Table 1); links between process-based and outcome-based factors (Figure 1); and for community engagement lessons in future externally initiated CBNRM projects.

Process-based factors affecting community engagement

Early and ongoing engagement of communities, and meaningful communication, through extension officers being placed in the communities, appear key to meaningful community engagement in project design and implementation. When effective communication occurs, communities are aware, at every stage, of what is happening and of their role within the project. Process-based evaluation criteria linked to communication which also emerged as important are: 1) flexibility within the project to adapt to problems arising where good communication mechanisms are in place and 2) access to the project initiator throughout so that communities can instigate communication when the need arises. The model of placing a locally-trained extension officer into the community offers a valuable two-way link between communities and the project, as well as potentially allowing learning (building human capital) as outcomes. This approach was also identified as good practice by Stringer et al. (2012) in their assessment of projects in Malawi and Zambia. Local volunteers, working alongside government extension staff, were trained in managing and diversifying income sources through natural resource management, thereby identifying issues at an early stage and reducing negative impacts.

In the southern African context, it is critical that initial engagement is carried out through Traditional Authorities in order to gain their approval. However, this approach makes it difficult to judge whether project participants are representative of the community. The Traditional Leadership can sometimes be implicated in accusations of elite capture. For example, elite capture by male-headed and high-income households has been previously reported in the Nhambita project, as poorer households tend to delay participating until they can see positive results (Hegde, 2010).

A key finding for externally initiated CBNRM projects is that 'community' needs to be defined in a participatory manner. While some communities are clearly identified, some boundaries are vague and less easily-defined. In cases where communities were defined by the project, or two or more distinct populations were joined as a 'community', successful outcomes were limited. This emphasises earlier research findings which suggest that cultural identities and social norms are important components of community (cf. Agarwal and Gibson, 1999).

Our data support assertions by Rowe and Frewer (2004) and Chess and Purcell (1999) that contextual and environmental factors are more important than the choice of method used for community engagement and that overall process design was key to successful outcomes (cf. de Vente et al., under review). Community meetings appear to be the best suited engagement method to increase representation from communities, because when well publicised, they can reach a large

number of potential participants. In addition, placing an extension officer into the community for ongoing engagement allows two-way communications and further benefits through learning. It is interesting to note that the private sector mining company in the KSLP project recognised that they were not well versed in community engagement and enlisted the help of a consultancy company to strengthen this aspect.

Links between process-based factors and participatory outcomes

The data (Table 2) highlight that where many of the widely-accepted process-based success factors are present, outcome-based successes are also evident. For example, evidence of two-way communication aids empowerment and ownership as communities can approach the project initiator at any time with ideas or issues. The likelihood of a sense of ownership and community empowerment appears to increase where participants have a greater understanding of project aims and where local knowledge is incorporated in the project process. Previous research has shown that empowerment requires an alternative development process that is more democratic, efficient and sustainable (Tandon, 1995) with questions of power, powerlessness and social change at the fore in assessing the role of different stakeholders in the empowerment process (Titi and Singh, 1995). In addition, where clear objectives have been set out and agreed by consensus with participants at the outset, roles within the project are clearer. The role of a skilled facilitator is also critical within this process. Indeed, our case studies show the value of a charismatic and approachable project leader who builds trust with participants from the outset. These findings mirror those outlined in previous academic analyses which stress the need for a project manager to be encouraging, enabling, exemplifying and engaging (Tanner et al., 2012). While these qualities are difficult to measure and define, further research into the importance of charismatic project leaders and their communication traits would be useful for developing training guidance for CBNRM project managers. This would ensure that they can develop communication skills for enabling community engagement and empowerment rather than solely community consultation (Bell and Morse, 2012). In externally initiated CBNRM projects, project leaders are the first point of contact with the communities and are perhaps acting as a replacement of an emergent leader.

While our research has not explicitly developed tools for measuring 'ownership' and 'empowerment', indicators of the presence of these characteristics can be observed in the data. Ownership of the KSLP project was evident in several communities through the investment of project profits into community-driven ideas and the clearly defined role of the project initiator as a 'catalyst' for development. Empowerment was clear when project participants had been given the authority to make decisions and were able to justify these.

The challenges of community engagement in CBNRM initiatives are not unique to the southern African settings. While we recognise that the results display a certain level of context specificity (such as the role of Traditional Authorities within communities), many lessons are applicable to projects in other areas and promoting different types of environmental management. For example, problems with power struggles and conflicting interests between actors have been noted in community forestry initiatives from across the US, Nepal, Kenya and Tanzania (McDermott and Schreckenberg, 2009) and recent REDD+ forest projects in Peru (Rendon Thompson et al., 2013). Elite capture is widely thought to be the primary reason for the breakdown of the flagship CAMPFIRE

initiatives in Zimbabwe (Balint and Mashinya, 2006, Borgerhoff Mulder, 2011) and a barrier to implementation of Joint Forest Management in India (Balooni et al., 2010).

6. Conclusion

This paper has analysed case study data from southern Africa in order to assess community engagement within externally initiated CBNRM projects based on Joint Forest Management, conservation agriculture and tree planting. Across all three types of environmental management, process and outcome-based success factors were identified from literature on community engagement and participatory processes as a starting point for analysis. These were supplemented with further factors emerging from the project-level case study data. In addition to recognised criteria, our findings suggest additional factors which will affect the success of projects. For example, community access to, and regular communications with, the project initiator throughout the project and an agreed and locally appropriate definition of community developed at an early stage of engagement were added to process-based criteria, while importance of a clear understanding of the project is an important outcome-based criterion. Empowerment, two-way communication at all stages of the engagement process and charismatic leadership based on mutual respect and clear communications of roles and responsibilities are vital to improve the likelihood of participants developing understanding of the project aims and philosophy. The mechanisms used in community engagement processes are less important than contextual factors for realising project outcomes but consideration should be given to identifying appropriate methods that can ensure community representation.

Good practices in the design and implementation of future CBNRM projects therefore include:

- Defining 'community' at an early stage with the target participants of externally initiated CBNRM projects;
- Choosing methods for community engagement which ensure participants are representative of the community as a whole;
- Employing a project manager who builds trust with participants;
- Clearly defining aims and objectives of the project with communities at the earliest opportunity;
- Two-way communications throughout combined with community access to project staff at all times, potentially through local capacity building and community extension officers based in project communities;
- Taking a flexible and adaptable approach to project design.

These good practices extend current analyses of success factors in CBNRM and can be used to inform future community engagement in environmental management projects in southern Africa and elsewhere.

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Table A – Key attributes of the three case study projects

Case Study	Location	Project implementers and funders	Project aims and further details
Katanino Joint Forest Management (JFM)	Copperbelt Province, Zambia	Zambian government with funding from Finnish International Development Agency (FINNIDA)	The JFM initiative aims to sustainably manage the Katanino Forest Reserve through the sharing of economic benefits from the forest between the Forest Management Committee and the Government (Bwalya, 2007).
Kamoa Sustainable Livelihoods Project (KSLP)	Katanga Province, DRC	Private sector mining company providing funding and implementing project through private sector consultancy firm	The KSLP aims to build a sustainable, independent economy in communities that live and work in the mine concession areas. Conservation agriculture and the introduction of extension services into the communities, an indigenous tree nursery, and rehabilitation of drilling sites, market gardens and a composting unit are the main focus of activities in the first phases of the project (Envirotrade, 2011).
Nhambita Community Carbon Project	Sofala Province, Mozambique	Private sector company, University of Edinburgh, Edinburgh Centre for Carbon Management with initial funding from EU.	The Nhambita Community Carbon Project is located in the buffer zone of the Gorongosa National Park. The project is a pilot which aims to both generate carbon credits through the rehabilitation of degraded forests, as well as to provide livelihood opportunities through agro-forestry systems. The project is Plan Vivo certified (Groom and Palmer, 2012).

Table B - Summary of elite interviews and community-level research carried out at each case study location

Case study project	Elite semi-structured interviews	Community-level research
Katanino JFM	FINNIDA 1 x District Forest Office representative 1 x Provincial Forest Office representative	3 x community meetings 3 x focus groups – chairpersons of producer groups, members of producer groups and female only focus group 2 x household interviews with those involved in Katanino JFM
Kamoa SLP	4 x mine representatives 2 x consultancy representatives 1 x community extension officer	1 x chief 4 x focus group meetings with project committees from four villages 1 x household interview with President of the Village Committee
Nhambita Community Carbon Project	4 x private sector representatives 3 x community extension officers 1 x District Agricultural representative	1 x chief 2 x community meetings 2 x focus group - Nhambita Community Association and participants 9 x household level interviews