

The role of social memory in natural resource management: insights from participatory video

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Abstract

This research looked at the role of social memory for adaptive natural resource management within indigenous communities of the North Rupununi social-ecological system (SES) in Guyana. Secondary data from historic texts and archives were first used to build a social and ecological history of the North Rupununi SES. Current social memory 'in use' was then surfaced through a Participatory Video (PV) process led by the indigenous community. From this, a compendium of key narratives of the communities' social memory was identified and modes of social memory creation, transmittance and modification were revealed. These highlighted the role of social memory in identity formation and self representation, how social memory maintains and reinforces community connectedness and collectiveness, and how PV supports indigenous ways of communication, especially the visual. The study provides some valuable insights into the dynamic nature of the North Rupununi SES social memory, how it is used to make sense of the world, and how PV can be used as a tool for surfacing and recording social memory.

Keywords: Guyana, social memory, participatory video, natural resource management, narratives, adaptive

Introduction

Social memory describes how an individual thought, emerging out of a specific experience, can become part of the collective knowledge of a group, which in turn, frames individual practice and creativity, in an ongoing spiral of adaptive reinforcement (Misztal, 2003). It refers to a representation of the past that is commonly shared and jointly remembered, but also shapes a group's present identity, conditions and realities by providing understandings and frameworks to make sense of the world (McIntosh, 2000). Within social-ecological systems (SESs) - where human and ecological components are tightly integrated through feedback interactions over a range of scales (Berkes *et al.*, 2003 and Berkes and Folke, 1998), social memory could play an important role in building adaptive fitness and resilience (see Walker *et al.*, 2002, Folke, 2006). This is especially significant for indigenous SESs as they are in the process of rapidly evolving in response to both internal biophysical and social changes, but also in dealing with emerging external social-ecological challenges (Barthel *et al.*, 2010).

Within predominantly oral cultures, oral transmission binds the past to the present for its survival, a dynamic and transformative spiral of unconsciously and continually readjusting the past to fit the present (Ong, 1983). In addition, memory is the only frame of reference by which to judge the past (through, for example, creation myths), and thus, social memory plays a vital role in maintaining a group's cohesion and order. As such, in many oral cultures, the spiritual, mythical and physical are all involved in everyday life and form part of their social memory. This social memory can be transferred, reinforced and reworked in a number of ways: through habits or rituals (e.g. learning through doing, imitation of practice, social gatherings) (Ong, 1983; Le Goff, 1992); through oral communication (e.g. storytelling, dialogue,

teaching) (Schneider, 2002); through ‘institutions of knowledge’ (e.g. rules-in-use, values, metaphors) (Davidson-Hunt and Berkes, 2003); and, through physical/spiritual forms and artefacts (e.g. places, objects, tools). Habits, rituals and oral communication are processes of ‘participation’, allowing people to take part, share and make relations with others. This participation is organised around ‘reification’, processes whereby an abstraction, relation or object is considered as if they had human or living existence and abilities i.e. objectification (Wenger, 1998). Reification examples include institutions of knowledge and physical/spiritual forms and artefacts. Processes of participation and reification therefore work together to allow social memory to be established and/or evolve (Barthel, 2008, Barthel et al., 2010).

Many indigenous peoples are still heavily reliant on oral modes of communication (Mistry, 2009). Many also maintain an intimate relationship with place (Castree, 2004), constructing their worlds around vibrant social/spiritual/physical relationships with particular landscapes and locations. They depend on natural resources present in these landscapes for their survival, and have developed social and cultural processes that reflect and adapt to the very real dynamics of natural systems i.e. they are active SESs. However, even for the most remote communities, regional, national and global driving forces, whether they are locally led economic development or foreign extractive activities, as well as global phenomena such as climate change, are bringing different challenges into the frame. It could be argued that the ongoing survival of indigenous SESs in response to historical impacts (colonisation, introduction of Western culture, enforced resource regulations and governance, and external exploitation such as mining and logging) is the result of a resilient and adaptive social memory, as appropriate knowledge and skills have been acquired and retained over time in response to changing circumstances (Berkes et al.,

2003). However, in more recent times, even greater rates of social learning on how to adapt to rapidly changing conditions are becoming essential for the continued survival of these communities, and indigenous modes of communication may need to be complemented and fortified with other ways of social remembering.

Participatory video (PV) could be a tool for analysing and reinvigorating indigenous social memory. Video, in the form of indigenous media – “media conceptualised, produced and/or created by indigenous peoples” (Wilson and Stewart, 2008, p2) - is not a new concept and has been central to indigenous peoples movements across the world (Ginsburg, 1991). PV can be a form of indigenous media, involving a group or community in shaping and creating their own films according to their own sense of what is important, and how they want to be represented (Johansson *et al.*, 1999). However, as well as focusing on Freirian values of participation, learning and empowerment for steering the processes of social change, PV also promotes the involvement and response of the audience (Burton, 1990; Gumucio-Dagron, 2009). Through cycles of planning, filming, editing and screening videos, there are various opportunities for the PV participants and wider community/group members to share, reflect and contribute to discussions around the theme of the video (Mistry and Berardi, 2012). With this focus on *process*, PV could potentially help establish community-owned solutions to new social and environmental challenges by strengthening as well as transforming social memory. However, a critical approach to PV is required (see for example Chalfen *et al.*, 2010, Milne, 2012, Mistry *et al.*, 2012) to ensure assumptions about outcomes are reflected upon.

In this paper, we report on an exploratory study of social memory and the use of PV with indigenous communities of the North Rupununi, Guyana. This small

project was linked to a larger project on adaptive natural resource management (see Wetlands Partnership, 2006, 2008) and was viewed as a stepping stone to an in-depth study. Our aims were to analyse the North Rupununi SES social memory and investigate how PV as a process could elicit social memory. To note that the short-term nature of this project did not allow us to investigate how PV can be used to reinforce social memory over the long-term.

To address our research aims, we first researched the social and ecological history of the North Rupununi SES, to identify an aspect of social memory prevalent in historic texts and archives. We then facilitated a PV process led by the indigenous community for surfacing the current social memory 'in use' by the people. From this we identified key narratives of the communities' social memory, and by also drawing on other sources of information, identified the means through which social memory was being created and transmitted. This then enabled us to reflect on the potential uses and limitations of PV for social memory elicitation.

The research context and methodological processes

The North Rupununi is located in the south-west of Guyana, and is a subset of a larger historical SES, in which the traditionally semi-nomadic indigenous Makushi and Wapishana peoples, moved freely over the Rupununi savannas which extend into Brazil and Guyana, and straddle the watershed divide between the Amazonian basin and the Essequibo River catchment, the largest drainage basin of the Guiana Shield. This watershed boundary was used in 1926 to form the international boundary between Brazil and Guyana, thereby effectively splitting the established SES into two distinct socio-political units: the Brazilian side (currently comprising a population of approximately 15000) and the Guyanese site (comprising a population of around 5000

individuals). However, even today, the international border remains a fluid entity and the passage of people from one side to the other occurs without official sanction.

The North Rupununi is characterised by a unique wetland/savanna/forest ecology determined by the inland floodplain of the Rupununi, Essequibo and Takatu Rivers. Since colonial times, the region has also experienced a distinct socio-economic trajectory which has created a unique and self-reinforcing ecological, social and political entity. The social memory and PV project was initiated while implementing a natural resource management project in the region, linking local indigenous livelihoods with biodiversity conservation (Wetlands Partnership, 2006, 2008). A number of discussions with community leaders highlighted how the historical context of the region was an important influence on current natural resource management practices and focused our enquiries towards exploring the communities' social memory. The idea of using PV came from dialogue with other PV practitioners and academics, and from a desire to enable local communities to take greater ownership of the research process and present their views authentically (see for example Turner, 1992, Kindon, 2003, Mistry and Berardi, 2012).

In carrying out the research, we first built a detailed timeline (approach adapted from Walker et al., 2002) in order to identify the North Rupununi SES social memory as captured and portrayed by outsiders e.g. colonists, academics. This was done by consultation of secondary data and literature available on the history of the North Rupununi mostly comprising of explorer/colonial accounts of the region (e.g. Im Thurn, 1883; Schomburgk, 1840), and a limited number of anthropological/cultural studies (e.g. Forte, 1996a, b).

We then initiated the PV process to surface current social memory as represented by the North Rupununi inhabitants themselves. This began with a training

workshop open to all the communities from the region. The aim of this workshop, attended by eighteen people, was to introduce the project (each individual attending the workshop would then go back and present their experience to their community), give some basic PV training to all participants, and then be able to select individuals to carry out the main research. The workshop took place over nine days and involved training in participatory methods, ethics, basic filming techniques, editing and a final screening of films. At the end, four young adults, three men and one woman (co-authors on this paper) were selected as community researchers based on their video camera and computing skills, their ability to speak local languages of Makushi and Wapishana and their enthusiasm for undertaking the main research project. All community researchers were engaged through a paid part-time position over an eighteen month period.

Through iterative cycles of discussion and practical PV work, the community researchers set about selecting, meeting and interviewing individuals (using semi-structured interviews with thirty-three people – video and written notes were taken and interviews varied from 30 to 90 minutes) within the communities and the local NGO, the North Rupununi District Development Board (NRDDB), using PV to facilitate the process. Initial meetings took place with older members of the communities to elicit and record the types of memories they had of social and ecological events (and resulting social actions) which may have affected the adaptability and resilience of the North Rupununi SES. Further video interviews took place with individuals from different age groups, again focusing on eliciting major events and allowing individuals to express their feelings about these. As filming continued, the community researchers began to translate interviews into English and

edit the clips into two themed films, and these were screened to communities at all opportunities, allowing group reflection on the findings.

In the analysis of the data, our aim was not to seek evidence for predetermined theories, but instead to explore the emergence of dominant narratives from both the literature and PV. The process involved assigning a large pool of tentative themes to text and video clips, and then analysing the resulting spread and diversity of themes in order to identify plausible arguments. Both the textual/video material and emerging arguments were then reviewed iteratively (by the whole research team - academics and community researchers), in order to arrive at consistent and plausible associations. This iterative process often involved a reappraisal of text and video sections – sometimes combining previously separated video clips together again, sometimes dividing units into distinct clips. Units and codes were also moved in and out of emerging narrative boundaries as these evolved and changed. Inspired by grounded theory (Charmaz, 2006), our results therefore report on the dominant narratives which emerged from the data through a bottom-up, adaptive process of analysis.

In the following sections, we first present findings on the processes and narratives of social memory, supplemented by informal discussions and conversations with local community members, our participation and observations in local events and festivals, and by research diary entries over ten years working in the region. We then link these into the wider themes that emerged from the research. We do not comment on the issues arising from the PV research process itself which is documented elsewhere (see Mistry and Berardi, 2012).

Participation and reification

Social memory can evolve over time through repetition, learning, experimentation, and the adoption of novel solutions while performing and taking part in day to day activities, both individually and in groups. Table 1 lists current aspects of the ways in which the North Rupununi social memory is acquired, transmitted and modified. One of the key mechanisms is through the life experiences of fishing, hunting, farming and collecting natural materials, activities that almost all of the North Rupununi communities continue to undertake for their subsistence needs.

Most PV interviewees commented that forms of dialogue, particularly storytelling within family and wider social gathering contexts, were the main modes of communicating traditional knowledge, stories of traditional ways of doing things, and folklore stories. These may take place in the village setting, but more often than not, also while partaking in livelihood activities in the farm, savanna, forest, by the river. Certain locations in the landscape, may, for example, bring up certain stories.

INSERT TABLE 1

Through the conversion of abstract ideas into something concrete, objects, concepts or rules are able to carry social-ecological practices and knowledge (Barthel et al., 2010). For example, both within and between villages, there are rules for regulating resource use, norms for cooperation, negotiation, conflict management and decision-making. The Wildlife Festival is an annual event showcasing local traditional practices and competitions between young people and children from different villages. These activities are used to underscore the importance of traditional skills and knowledge. The first author has on many occasions watched skits or plays performed by children and teenagers during formal and informal social gatherings and

meetings. A large proportion of these skits involve binas (a natural artefact, typically a plant, bestowing supernatural powers and/or determining the unfolding of events), where one or two characters require a bina (quite often for romantic reasons) and seek help/advice from an elder or shaman. Reification processes, therefore, work hand in hand with participation processes to sustain social memory.

Social memory narratives

Comparing the historical material with the PV gave us the opportunity to identify dominant narratives within the oral and written social memories. We found that there were three key linked narratives – that of traditional practices, that of non-indigenous interventions, and that of oppression and repression. There are similarities and differences in how these are represented in the written and oral social memories. The quotes in the following sections are all from PV interviews.

Traditional practices

From the PV, traditional practices were mostly customs that were common in the past, but no longer regularly performed, and included the Parishara events, endurance races and the use of binas. Many written texts also recounted these practices.

The Parishara or ‘Humming-Bird’ festivals involved night long singing, music making and dancing (many songs had sexual and naturalistic imagery) where performers were fortified with plenty of cassava-based alcoholic drinks such as ‘paiwari’, ‘cassiri’ and ‘cari’. In many cases, neighbouring villages were invited to these festivals, accompanied by the shaman. As well as reinforcing traditional knowledge, skills and practices, the parishara festivals were very important for community cohesion and support. As a male elder describes it “...in the end you

enjoy. If the group that came, everybody got drunk, it means the host village won that competition. So the village, the invited team who lost will have to go back and invite this team for a repeat, and this normally came after the harvest season, going on to December and it was nice when you understand it. Of course during that time a lot of people get final wife or a husband because it was open to anybody". This is supported by some early explorer accounts of these dances. The German, Theodor Koch-Grunberg who travelled in the area between 1911 and 1913 observed "...the festivals served the purpose of fostering neighbourly relations with tribal relatives or with members of other tribes, for renewing old friendships and cementing new ones. ...They offer likewise an opportunity for the exchange of news, of all kinds of gossip, for flirtations and earnest love affairs, and finally for a brisk trade before scattering" (1923: 154-155).

Endurance races were competitions between villages where people from one village would set out from a set point and race each other to another village. At the 'host' or receiving village there would be barrels of 'cari' waiting to be consumed. However, to reach the 'cari' the racers had to get past men waiting from the host village who would attempt to stop them. As described by a male elder "Long ago people use to have competition with the other people from the other communities and they always invite people who they know and who always want to have competition with them.when they come now if the person only pass this man, if he only knock down this man he would go straight to the canoe, duck his head inside and they would put this man on a bench to sit down and they would give him cari for him to drink and that is his personal one and the other rest would share their cari. They people normally drink whole night, in the day, the next day and after that they would have party, this is not like the Parishara, and it have a man who know to sing the kaka song and they

would dance and enjoy their selves. That is how competition of this endurance race goes”. As with the Parishara events, the endurance races reinforced tradition, displayed strength and hierarchy important for social processes and at the same time underlined bonds between individuals and communities.

The ‘bina’ stories had an emphasis on traditional knowledge and biding by rules. Binas are charms that are made from plants or animals and are used in various ways on people and animals (Forte, 1996a) – PV interviewees recounted their use for hunting, fishing and in familial and intimate relationships. ‘How to bina a lazy dog’, for instance, involved cutting a dog’s tail and burying it on a deer track, according to the teller. Most bina stories stressed the importance of knowing how to use binas properly, its effectiveness and the loss of this knowledge in recent times. As noted by one PV interviewee “today we don’t use Bina because the old people died and nobody can’t use Bina”.

Stories of animism and folklore mostly involved tales of collaboration, trickery and/or coercion and featured animals, plants, rocks/stones, people and spirits (Roth, 1915). Some were also about the interaction between the earth and the sky where people, other living beings and spirits moved seamlessly between the two worlds. Stories in the PV of Makunaima, the culture hero and creator god of the Makushi, and his younger brother Insikiran (also known as Pia), were usually in the form of Makunaima as a creator, a transformer and a trickster. In contrast the few tales of Kanaima - an evil spirit that possesses people and causes them to turn into deadly animals and/or go into a murderous rage - warned against revenge and being careful/wary of doing ‘bad’ things.

Non-indigenous interventions

The adoption of non-indigenous livelihood activities by the indigenous North Rupununians features highly in the social memory of the region. The first small herd of cattle was introduced into the North Rupununi in the 1860s, but it was not until the 1890s that the ranching industry began in earnest when H.P.C. Melville, a Scottish rancher and his associate John Ogilvie, settled and married in the region. Some communities also began ranching activities themselves and cattle herds grew considerably in the early part of the 20th century. The 1860s also saw the start of the balata industry. Balata, the latex of the bulletwood tree (*Mimusops globosa*), was one of the main raw materials for the manufacture of rubber products during the late 19th and early 20th centuries. Balata exports peaked in 1917 at 1.6 million pounds, and most of this was produced by indigenous labour in the North Rupununi (Forte 1989, 1996a). Balata bleeding was a wet season activity and this left communities free to concentrate on farming and fishing in the dry season.

Within the written historical accounts, the focus is predominantly on the indigenous population being subjugated and coerced to work under Europeans. For example, Perberdy notes “The Macusi people have been brought into persistent contact and mental conflict over a considerable period of years with an originally impoverished rancher-industrialist-settler population struggling for establishment in Macusi country with more or less marked success. The limited benefits derived by the Macusi, mostly of an impermanent nature, from rancher occupation, have not sufficed to replace tribal customs of self-sufficiency based on tribal laws which constituted the very backbone to racial dignity and independence. These customs have been greatly disrupted by alien infiltration and occupation” (1948, p.9). Other texts describe ranching in the region as a stratified, manorial system of mutual obligations, where indigenous work often straddled the line between kin- and wage-based labour and

where the mixed descendants of whites formed the local socio-economic and political elites (e.g. Myers, 1993).

The PV, on the other hand, elicited a rather different memory where balata bleeding and ranching were fondly remembered as the ‘good old times’, evoking a time of opportunities and good fortune. As a male elder reminisces “Long ago we use to work on balata where we use to earn our income, and where we use to travel to Georgetown with the balata. We use to buy a lot of food for our selves. Those days things use to be cheaper, this days things are very expensive and hard. We never be like this before, every thing just get expensive. Now days you cannot buy enough food stuff for your family and G\$1,000 is nothing these days, and in those day we normally live on our farm products such as yam, pumpkin and other things”. The focus of ranching was on the ownership of cattle and many reiterated this quote: “[we] had plenty cows here before, not like now. It really had cows, we had plenty cows here” (male elder).

Oppression and repression

The written history recounts numerous interlinked influences and processes which appropriated rights from the indigenous population (particularly over land and resources) (Mistry et al., 2009), and attempted to assimilate indigenous people into ‘civilised’ culture. Mission schools, for example, taught English, religion and certain trades, as well as ‘manners and etiquette’. Indigenous people were discouraged from eating certain species which were traditionally important to them, such as tapir and peccary, and consuming traditional alcoholic drinks, such as cari. Beef, a food item almost never eaten prior to the 1880s (Schomburgk, 1840; Im Thurn, 1883) now became an indispensable part of the North Rupununi diet (Myers, 1944, 1946). Above

all, missionaries opposed the practice of Alleluia (an indigenous-led regional, messianic religion that emerged in the late 18th century) (Forte, 1996b; Staats, 1996), the Alleluia dances and the practices of the piamen or shamens, all of which they took to be devil inspired (Carrico, 2007).

Nevertheless, very few of the oral memories focused on these issues. In almost all the PV recordings, the event that dominated peoples' memories was the 1969 Rupununi Uprising (the following is an account constructed from the various first hand recountings - see Farage, 2003 and da Silva, 2005 for a detailed description based on testimonies from exiles). The Rupununi Uprising began on the 2nd January, 1969, just three weeks after the 1968 elections in Guyana (which were thought to be rigged by the out-going government). A group of white ranch owners in the Rupununi, mainly from the Hart and Melville families, supported by a few Amerindians with connections (waged or kin) to them, attempted to secede from the country through armed struggle. The police station at Lethem (the administrative centre of the Rupununi District) was attacked by the armed ranchers, and other stations in Annai and Good Hope were also seized and personnel held captive. Five policemen and one civilian were killed, the government dispenser was shot and wounded, and a number of people, including the District Commissioner and his wife, were herded into the regional abattoir and held hostage. The leaders expected that Venezuela, who had competing claims on the area, would deliver arms and support to them, but no such support materialized. Without any time for dialogue or negotiation, the Guyana Defence Force (army) flew in a well-armed unit and the rebellion was crushed. A number of ranchers and indigenous locals were killed, but most of the rebel leaders escaped to Brazil and Venezuela.

People vividly recalled the event, describing in detail what happened. Emerging themes from these PV interviews focused on the unexpectedness and surprise of the event, how external forces had manipulated and betrayed the communities, and how the resulting brutal repression is still used as a way of instilling fear in order to maintain external control. All the interviewees, old and young, claimed that the communities had been manipulated and led into the rebellion and that the majority of the population did not even know what was happening at the time. As one male elder says “The 1969 Uprising was a surprise to us because we knew nothing about it. The Melville then, Teddy who was really the man, like the senator, he became frustrated and disappointed at the move of the PNC government. So with the Harts which the Uprising plans as the brain child of Valery Hart. They engineered the whole situation. Get a lot of indigenous people involved and a lot of innocent suffered because of this, but it not the people of north savanna or anybody. I went to jail for interrogation. But after the interrogation they found nothing and we were released after three days. Then they started to do the mop up, still had a lot of people and lots of people suffered. But it wasn’t the indigenous people, it was Teddy Melville and the Harts who really caused the Uprising that is all we know about”. Another female elder recounts “they point gun to us and he [soldier] ask me if I know this is happening or it going to happen before, and I told him no, I don’t know, they didn’t tell us. They [soldiers] ask Thaman [one of the indigenous ring-leaders] never tell you any thing? We say no”. This quote highlights the communal understanding that the whole event was out of their control. However, a couple of community members, primarily Thaman Davis, had joined forces with the ranchers and had rounded up individuals to fight. But in the most part, the event is not something that most people in the North Rupununi predicted or expected, and almost all saw it as a surprise.

Many of the stories were imbued with emotions of fear and highlighted suffering. As two elder individuals recount: “I could remember when me and my mother went to the farm. All we hear is bullets flying over our heads and we had to hide behind a big tree for a good while they were firing up. I don’t know what they was shooting at but the bullets been in our direction, and we get scared and we hide for a good while”; “...then they [soldiers] tie up and put him out side and they kick him up and they do what they feel like. Each one of them kick him on his face. He said he don’t know nothing. After that right there they soak his face in blood... You know these things here hurt my heart, even to last night I think about it”.

People also felt that not only did they suffer at the time, but they were also the victims of the whole event, pointing out that the actual indigenous supporters of the Uprising had escaped into Brazil or Venezuela. Interestingly, even younger members of the community, those in their teens for example, depicted messages of victimisation, although they lacked the precise details of the event: “... the soldiers reached in and they thought that this uprising was planned by the Makushi but it was the people from Pirara planned it and all of them got away. They cross over and our partner gets away with them also. They went to the Spanish place [Venezuela], up to now they didn’t came back. We told them that it was not planned by the Makushi, we sent a message to tell them that it was planned by the Americans not the Makushi” (teenage respondent).

During community screenings, in particular, there was open and candid discussion on the role of the indigenous ringleaders and the brutality of the army. Most people viewed the longer-term impacts on them as ‘closure’; the area, their livelihoods, their development had been closed down. However, in terms of written material, there are limited accounts of the event. The press and other non-military

citizens were prohibited to enter the region, and reporting of the event was heavily censored by the state.

Emerging themes

Fundamentally, social memory provides the link between present, past and future – in that whatever something is becoming (whether we know what that will be or not) – is in some respects part of what it is, along with what it was (Howitt, 2001). Therefore, in terms of dealing with future environmental and social challenges, we believe that understanding social memory and the processes which maintain, support and help its evolution will be essential. Drawing together the findings, we have identified three key themes that highlight the community's worldview - identity, connectedness and collectiveness - and their significance for effective adaptive management of the North Rupununi SES. We also discuss social forgetting as a process for adapting and evolving social memory, and the role participatory video can play as an audio-visual means to elicit social memory.

Identity

Traditional stories, living a 'traditional' life as exemplified by daily livelihood activities rooted in the land and the reification of what it is to be from the North Rupununi, all contribute towards the construction of a North Rupununi identity. Riley (2003) makes a strong case for ascribing the purpose of these traditional narratives as establishing and reinforcing a distinctive Makushi identity, intricately linked to place, which can then be used to justify increasingly successful claims for land rights to traditional territories and associated natural resources. Without distinctive indigenous identity narratives, indigenous people would instantly revert to an equal status with

regards to fellow non-indigenous citizens (Bolaños, 2010) who have no claim to the state-controlled interior.

One could therefore argue that it would be absolutely crucial that identity narratives are maintained and reinforced in order for the Makushi to gain greater control over their territory and for self determination over the management of their natural resources. However, there should also be awareness that these traditional narratives may justify a lack of development investment from the nation-state in the region, so as to maintain the social-ecological system not only within its pristine ecological state, but also within the pre-modern cultural state. A focus on cultural 'heritage', mainly construed from reification processes (e.g. the North Rupununi heritage celebrations, 'traditional' shows for tourists) rather than participatory processes, could be used by some to limit the indigenous voice in other crucial aspects of their development, including political economy (Jackson, 2006).

For example, there have already been calls from some activists that current 'low carbon' initiatives being promoted by the Guyanese government, where communities will be paid for maintaining their forest resources in a pristine state, have failed to fully consult with indigenous groups and could increase inequalities (Colchester and La Rose, 2010; Okereke and Dooley, 2010). Yet, as Hill (2008), working with the Wakuénai in Venezuela points out, traditional narratives are not a "folkloristic representation of a pristine indigenous past", but a way to reinterpret their historical struggle and change as rooted in the history of expansion of colonial and current globalising forces.

It has been argued that most memories are not necessarily factual representations of past events, but narrative interpretations grounded in emotion and feelings, whereas traumatic memories, also called 'light bulb' memories such as crises

events, are more likely to preserve detail (Barthel et al., 2010). In the North Rupununi SES, by far the strongest and most vivid social memory was that of the Rupununi Uprising, especially since many older members of the communities interviewed had had first-hand experience of the event and its impacts. The key messages that came across from these various Uprising stories was that of victimhood - the indigenous people had been the victims of something many knew nothing about – and that what had really happened was never disclosed publicly. Misztal (2003) points out that memory plays an important role as a source of truth where political power heavily censors national history and where oppressed groups experience a profound deficit of truth in external representations. For the North Rupununi SES, the Uprising is a memory representing an authentic story about their past.

For future adaptive natural resource management, there are some interesting issues emerging out of the Uprising stories. Firstly, the victimisation narrative may suggest that a discourse of powerlessness may be created when faced with future changes, rather than encouraging proactive adaptation. Barthel et al. (2010), for example, discuss mal-adaptive social memory where communities have ‘locked-in’ to a specific interpretation of reality that has increased community rigidity by hanging on to mal-adaptive behaviours and structures as a response to crises, rather than exploring innovation and change. This could lead to an overriding feeling of helplessness and loss of control. Yet, the only restrictions imposed by community leaders on the use and distribution of the PV footage were that the Uprising material was not to be taken outside of the North Rupununi. Reasons given for this included the protection of key elders who had taken part in the project and were implicated in the Uprising, but also a resistance to revisiting the injustices of the past at a time when the region was receiving assistance from the government and external donors.

This illustrates how social memory may play different roles for different audiences – in the case of the Uprising, the importance of social memory for truth-making is clear, but at present it is only for internal truth-making (as judged by community leaders). High (2009) working in Amazonian Ecuador highlights how the multiple forms of social memory of the indigenous Waorani people, rather than contradictory or competing, are in fact used by different facets of the community to portray different but relevant identity representations to internal members and outsiders.

The image of ‘victim’ was not to be advocated to the outside world, perhaps out of fear for the repercussions for development in the region (as had happened in a prolonged period after the Uprising – limited land titling, reduced socio-economic investment, greater military presence), but at the same time out of an implicit tactic of promoting the North Rupununi SES as a place of prospect and opportunity. For example, when discussing current challenges during the PV, the upgrading of the road which crosses the North Rupununi was seen by many as a way of bringing greater economic prosperity and development to the region, including opening new markets for produce from the region. One popular community leader characterised this new attitude by championing the slogan: "don't think of what we can do for the road, but what the road can do for us". This saying captures the current concealment of the ‘victim’ narrative - the local population does not want to be seen as powerless pawns in development initiatives imposed on them, but as people directly engaged in managing the development process.

Connectedness

Howitt (2001) talks about taking a relational approach to dealing with complexity in natural resource management systems – what these systems *are* is not just about how they appear or function, but also what they do, how they develop and how they are linked to other elements of the socio-ecological environment. Indigenous worldviews are inherently and implicitly relational, where the multifaceted aspects of the human and non-human worlds exchange material, energy and spirits, and the past and future characterise the present (e.g. Berkes, 1999; Rose, 2005). In the North Rupununi SES, the holistic perspective is especially evident in the traditional stories that form part of its social memory. Participation in activities such as fishing and hunting and their links to specific reified sites and places also cement this view of the world.

Yet, although there has long been an appreciation of the human-nature linkages in indigenous cosmologies and the recognition of incorporating indigenous knowledge into complex resource management situations (e.g. Gadgil et al., 1993, Berkes and Folke, 1998), it is only recently that more widespread practical and on-the-ground consideration of indigenous knowledge in project implementation has started to take place (Mistry, 2009). However, our study of the North Rupununi SES shows that going beyond ‘indigenous knowledge’ and by connecting the ‘seeing’ (worldviews) with the ‘doing’ (practice), social memory can provide a cosmological framework which can be a powerful tool for creating local, contextualised interventions that embrace complexity and support transdisciplinarity (Apgar et al., 2009).

This characteristically connected feature of the indigenous view is also tightly woven into the traditional narratives described above in terms of the approaches to conserving and managing resources. Hames (2007) provides an interesting debate on the ‘ecologically noble savage’, the notion that indigenous peoples live in harmony

with their environment. In the North Rupununi SES, there is ample evidence to substantiate this idea; for example customary resource use rights, the projection of the indigenous as steward of the environment within heritage festivals and the prohibition of resource extraction from sacred sites. Ecological nobility is a concept used by the indigenous leaders in terms of identity, but is also deployed more widely by indigenous supporters and civil society organisations as a political tool in debates around resource right and governance (Brosius, 1999).

On the other hand, historical evidence shows that in the 1970s, as a result of outside demand and reduction in livelihood opportunities post Uprising, two particular species, the black caiman and arapaima, were overharvested almost to extinction in the North Rupununi (Watkins et al., 1999 cited in Fernandes, 2005). From our study, albeit exploratory, there were no recollections about this overharvesting, although much was said about current conflicts with the black caiman as a result of their increased numbers. In the case of the arapaima, Fernandes (2005) shows how the breakdown of traditional taboos on eating the fish (maintained by myths and stories) was the start of the journey to overfishing. Indigenous peoples may undoubtedly be ecologists, but they may not always be conservationists - we clearly need to have a better understanding of how and why over-extraction of resources can come about and be permitted in these communities. "Connectedness" to the living non-human components of the North Rupununi SES can be conveniently forgotten in order to meet pressing needs in the here-and-now. Social memory serves a purpose by determining community survival, and it is clear that at least in the case of the arapaima and the black caiman, rapid adaptation in what is retained in memory was required in order to guarantee community survival during a period of economic 'closure' following the Rupununi Uprising.

Collectiveness

The social memory of the North Rupununi SES reveals that there is still an innate sense of ‘unity’ within and between the communities. Many of the narratives from the PV, those of the parishara, endurance races and Uprising, as well as participation and reification aspects of social memory, indicate the enduring nature of kinship and village level cooperation. There is much to be learnt here – what maintains the cooperative spirit in these communities? What are the processes of dialogue and negotiation that give rise to collective agreements?

Gombay (2010), for example, recounts how although the Inuit of the Eastern Canadian Arctic have serious social-ecological problems, their moral geography of obligation, specifically around food sharing, is the basis of community construction and maintenance. In the North Rupununi, a durable ‘community’ is tied up with identity but it also has important implications for approaches to managing natural resources. Social memory narratives, such as those of ranching and balata bleeding, show evidence of adaptability to changing circumstances and opportunities, where whole communities were engaged in new enterprises. But there was reliance on outsiders and external forces. Today, there is still dependency on outside funding and support for ‘community’ activities – although this support is varied amongst the communities. Some villages show strong collectiveness plus entrepreneurship, for instance in ecotourism ventures, and have turned the dependency relationship into one of collaboration. Understanding the community processes that allow truly collaborative arrangements between communities and external organisations/individuals will be vital as future conservation policies, such as Payments for Ecosystem Services (PES) and Reduced Emissions from Deforestation

and Forest Degradation (REDD+) (Mistry et al., 2009), heed the growing calls to decentralise resource management to the local level. Initiatives like these require a collective, community level response as many of these ecosystem services are held at a regional, communal level and cannot be repartitioned and assigned to individual, private management. Social memories of collective decision-making and benefit sharing have the potential to play a determining role in a successful engagement with such initiatives.

Social forgetting

Misztal (2003) highlights that what is not remembered, i.e. forgetting, is just as important as what is remembered in social memory. Comparing the written archives to the material from the PV, we find instances of events or practices, such as the Alleluia religion or overharvesting of fish, recorded in historical texts and scientific articles, which were not recalled by any of the interviewees. More probing during the PV interviews may have surfaced some of these memories, but it was felt that as an exploratory project, the focus would be on only those recollections willingly and enthusiastically offered by the participants.

Fivush (2004) suggests that social influence may cause forgetting, particularly of memories that conflict with the group's goals. In the case of this study, an element of 'forgetting' may be linked to issues of identity, as discussed above. For example, recalling times of overharvesting does not match with a current identity that represents the Makushi as 'sustainable' and 'conservationists'. As Van Assche et al. (2009) state "Only by collectively ignoring and forgetting most of what has happened can social groups and communities reconstruct their histories. Through forgetting,

groups, organizations or societies ‘mark’ their past and organize their memories“ (p. 212).

In historical times, the state and the church have practised physical and symbolic violence to impose specific instances of forgetting - Connerton (2008) expresses this as “forgetting as repressive erasure” (p.60) - on indigenous memories. The missionary opposition to the Alleluia religion and the church’s role in assimilating indigenous peoples into ‘civilised’ culture, mechanisms of historical erasure, as well as the current strong influence of evangelical Christians in North Rupununi communities, may have “displaced certain images from the past beyond expression and memory – ‘humiliated silences’ (Connerton, 2008: 67)... as a strategy conditioned by power relations” (Ramos, 2010, p.61). In these cases, social forgetting may only be “the inaccessibility to particular images of the past that, nonetheless, and in different ways, may still be transmitted from generation to generation. Thus, remembering is the historical possibility of bringing those images inherited in silence to the present and identifying coherence where there was disconnection” (Ramos, 2010, p. 59).

PV as a process to elicit social memory

Oral communication is foremost the most important form of transmitting, maintaining and recasting social memory in the North Rupununi SES. Johnson (2004) suggests that accessing the past is undertaken through the media in which the past has become anchored. As in many other indigenous societies, storytelling above all (Schneider, 2002), plays a pivotal role in the exchange of knowledge and skills. PV is particularly attuned to these oral communication processes – PV processes support the elicitation of social memory through the promotion and reinforcement of storytelling/narration

modes of 'speaking'. However, we would also suggest that the 'visual' is just as important in these processes.

In this study, we found that the visual element came through during the sharing and discussion of footage at community screenings. For example, screenings of the Uprising, where interviewees were vividly recounting experiences of persecution or marginalisation, had direct emotional effects on members of the audience and memories of their own suffering. PV offers a way to include an 'extended language' (Ramella and Olmos, 2005) i.e. people's emotions, expressions and gestures, thereby allowing much greater depth of communication and potential elicitation of social memory.

The community screenings, in particular, played an important role in bringing forth social memory. They allowed an iterative process to occur, emphasising dynamism rather than linearity and provided an additional space, as well as a place, for dialogue. This fostered community members recalling, verifying, disputing and consolidating memories, in what some scholars would call a 'transactive memory system' (Wegner, 1986). The transactive memory is not individual memories coming together but an emergent property of socially shared remembering, transformed as it is encoded, modified, and retrieved across a distributed but coordinated group of people.

As indigenous communities are facing rapidly evolving social-ecological futures, PV could provide a useful platform upon which social memory can be elicited and shaped for internal and external representation (Harris, 2009; Wheeler, 2009). The latter is becoming increasingly significant as indigenous resources become ever more nationally and transnationally 'valuable' (in terms of global biodiversity, climate change mitigation etc. – see various statements by the Guyanese Office of the

President at <http://op.gov.gy>), and indigenism is being pursued through translocal initiatives that involve both indigenous and non-indigenous peoples and institutions (Escobar, 2001; Castree, 2004). Issues of self representation are made explicit in Riley "... when a group of white, educated, moneyed scientists and consultants comes to Guyana and provides support to Amerindian groups, this appears to have a direct effect on how Amerindians talk about themselves in the present and what kinds of indigenous knowledge, objects, and ideas are expressed, represented, and reinterpreted within Amerindian narratives and, ultimately, historicities" (2003, p. 157).

However, we should not forget that PV is a technological intervention, not just in terms of machines and equipment, but also involving and imbued with non-indigenous patterns of organisation and values. We are critically aware of "specifically, the extent to which ICTs (and their attendant praxes and idioms) are assimilable into local values and lifeways; or conversely the extent to which dominant modes of thinking and doing are embedded in their very matrix, luring users into an inescapable ICT hegemony" (Landzelius, 2006, p294). In addition, there is no 'original' memory – it is created by repeated re-enactments or re-visitations of events, tales and histories, a process which also entails the subtle art of forgetting (Miształ, 2003). Social memory is dialectic, fluid and responds to changes in the social and biophysical environment; it can only be made sense of in the current social-ecological context (Nazarea, 2006). In light of these views, we would argue that compared to knowledge/memory 'banking' technologies, including video, PV is more about the *process* than the product. However, recordings will be made and stored in the PV process, which brings to the fore related questions of PV as reification and whether PV will prevent communities from forgetting and the subsequent implications.

In addition, it is difficult to gauge the impact of representing social memory through the PV process without direct comparison with more conventional elicitations of social memory. A study would need to be carried out which would allow the PV and conventional processes to be directly compared, without one approach influencing the other's results. This could possibly be carried out by undertaking the different approaches in distinct communities that share the same culture, history and environment.

With regards to the long-term impacts of the use of video to represent and reinforce social memory, only time will tell. It is possible that communities may decide to "forget" these videos, as the memories recorded may no longer serve their collective intentions. Indeed, it was an explicit requirement of the communities that no copies of the videos should be kept by outsiders. To our knowledge, community members still hold copies of the videos, but no public screenings have been held since the research.

Conclusion

Our investigations showed that even after centuries of significant disruption, the North Rupununi communities have a strongly defined social memory which plays an important role in identity formation and self representation, helps to maintain the indigenous relational and multifaceted worldview and reinforces their sense of community and cooperative spirit.

The PV process allowed community members to actively participate in surfacing, sharing, and discussing their collective memories without the need for outsiders to control and facilitate the process. The visual/oral forms of communication inherent in video allowed strong community participation at all stages of the process –

from recording to the evaluation of the editing. This is in stark contrast to established practices of researching social memory which almost always involve the physical presence of the non-indigenous researcher in facilitating and recording. Further studies will certainly need to be carried out to investigate how PV compares to conventional approaches used to investigate social memory, and how the outputs of the PV process influence the evolution of social memory in the long term.

Furthermore, we need to have a greater understanding of the generational and gendered differences in social memory, and how multiple and contrasting forms of social memory can be expressed and re-created by particular kinds of people (High, 2009). Older people (both men and women) formed the dominant group of participants in our PV study, so we need to investigate in more detail the current social memory of younger members of the communities, especially youth and children as they will be the ones who will grow to lead the communities through impending social-ecological challenges. Linked to this is the internal political dynamics of representation within communities. The Uprising stories, for example, were barred to outside viewing by village leaders, but in all instances other members of the communities, such as women and the elderly, were not consulted on this decision. How different groups within the same community represent themselves and the authority (or lack of) to do this to an external audience is another area which requires further investigation.

The issue of intergenerational social memories also raises interesting questions regarding whether lost memories can be revived when needed again - can relearning occur? Moore (2009) provides a case of the Khwe people social memory and human-elephant conflict in Namibia. She suggests that although it would seem that stories and mythical tales used by the Khwe to manage the conflict were in danger of being

lost (as it is confined to older members of the communities), children's observance of their environment assists them in preventing existing and more traditional forms of knowledge being lost. This presents a perspective of adaptation as circumstances change.

Our study has provided some valuable insights into the dynamic nature of the North Rupununi SES social memory, how it is used to make sense of the world and how PV could potentially play a role. We hope to draw on these findings for current and future work as we continue our collaboration with the indigenous communities of the North Rupununi in bringing forth a sustainable and resilient social ecological system.

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Table 1. Modes of participation and reification in the North Rupununi social memory (adapted from Barthel et al., 2010).

Participation		Reification	
Rituals/habits	Oral communication	Rules-in-use/metaphors	Physical forms/artefacts
Learning by doing – e.g. fishing, gathering, hunting, farming	Conversations with relatives	Resource use rights and management	Landscape locations/features e.g. sacred ponds, hunting sites
Children imitating adults e.g. playing with bows and arrows	Storytelling	Internal codes of conduct	Handicrafts e.g. baskets, balata models, jewellery
Community work e.g. construction of new communal buildings of traditional architecture	Village meetings, NRDDB meetings, womens' group of meetings	Amerindian heritage and culture commemoration and celebration events including Amerindian Heritage, Wildlife Festival, Rodeo	Books, research papers
Parties and other social gatherings		Skits (plays)	
Childrens camp –		Songs	

children taken for

week long

expeditions into

forest to learn

traditional skills

Phrases/sayings