

TOWARDS AN ETHNOGRAPHY OF CLIMATE CHANGE VARIABILITY: PERCEPTIONS AND COPING MECHANISMS OF WOMEN AND MEN FROM LAMBANI VILLAGE, LIMPOPO PROVINCE

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Abstract

Attention to gender and equity has lagged behind in climate change research, programming, national policy-making and in the international negotiations. Studies on climate change and gender links with climate change have initially and by necessity been somewhat speculative in nature. While all societies are affected by climate change, the impacts also vary by location, exposure, and context specific social characteristics, identity, power relations and political economy. This draws attention to recognition of difference and sameness and the way in which common,

confusing, contradictory results emerge across and within terrains. In its concern for gender-blindness, this paper specifically considers the way in which climate variability impacts on men and women in a given locale and captures the enriched narratives and voices of both rural women and men in two selected villages in Lambani, Limpopo Province, South Africa. To build women's participation in national climate change adaptation planning and to take heed of the multiple entanglements around this topic, participatory processes are required that enable diverse groups of disadvantaged women's as well as men's voices to be heard by policy-makers. We use participatory action

research (PAR) to capture people's emotions and perceptions around climate change. In our context, difference is not positioned as the opposition to sameness. It is also incorporated into the self as difference within and is seen as a means of becoming. We consider climatic impacts to be moments where the human and non-human rub up against each other and where human affect becomes tangible. Here our attention to affect is twofold. Not only does it allow for a more realistic reflection of entanglements with nature but also we see affect as being more than emotion as it is a dynamic opening up to possibilities that can effectuate change.

Key Words: climate change, entanglements, emotions, gender, Limpopo Province, participatory action research, diffraction

Hacia una etnografía de la variabilidad del cambio climático: percepciones y mecanismos de afrontamiento de mujeres y hombres de la aldea Lambani, provincia de Limpopo

Resumen

La investigación sobre el cambio climático, la formulación de políticas y las negociaciones internacionales no han prestado suficiente atención a las cuestiones de género y equidad. Los estudios sobre el cambio climático y los vínculos con el género han sido necesariamente de naturaleza algo especulativa. Todas las sociedades se ven afectadas por el cambio climático, pero los impactos varían según la ubicación, la exposición y las características sociales específicas del contexto. Estos diversos impactos llaman la atención sobre el reconocimiento de la diferencia y la similitud, y las formas en que los resultados comunes, confusos, contradictorios emergen a través y dentro de los terrenos. En su preocupación por la ceguera de género, este documento considera específicamente la forma en que la variabilidad del clima afecta a hombres y mujeres en un lugar dado. El trabajo intenta capturar las narrativas enriquecidas y las voces de mujeres y hombres rurales en dos aldeas seleccionadas en Lambani, provincia de Limpopo, Sudáfrica. Para fomentar la participación de la mujer

en la planificación nacional de la adaptación al cambio climático y tener en cuenta los múltiples enredos en torno a este tema, se requieren procesos participativos que permitan a los diversos grupos de mujeres desaventajadas y voces de los hombres ser escuchados por los políticos. En nuestro estudio usamos la investigación participativa (IAP) para captar las emociones y las percepciones de las personas en torno al cambio climático. En el caso que examinamos, la diferencia no se coloca en oposición a la igualdad. La diferencia también se incorpora en el individuo como diferencia interior, y se ve como un medio de convertirse. Consideramos que los impactos climáticos son momentos en que humanos y no humanos se relacionan entre sí, y donde el afecto humano se vuelve tangible. Nuestra atención al afecto es doble: permite una reflexión más realista de los enredos con la naturaleza; Pero también vemos el afecto como algo más que la emoción, ya que es una apertura dinámica a las posibilidades que pueden efectuar el cambio. A medida que aumentan los impactos climáticos, también lo hace la urgencia de resolver este desafío. Al optar por trabajar con herramientas como los emoticones, traemos el afecto a la explanada donde podemos considerar mejor la forma enmarañada en la que el clima (no humano) y los seres humanos se enfrentan entre sí.

Palabras clave: cambio climático, enredos, emoticones, género, provincia de Limpopo, investigación participativa, difracción

Introducing climate change and gender

Climate change¹ is one of the greatest ecological and environmental challenges of our time and it is also an incontrovertible challenge to human rights (especially of the people on the frontline of the climate crisis who have contributed least to the causes of climate change), security, and economic develop-

1 "Climate change' means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." UN Framework Convention on Climate Change (UNFCCC), art. 1, May 9, 1992, 1771 U.N.T.S. 107, Retrieved December 8th, 2016. https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

ment.² Despite these challenges, the lives of women around the world have improved dramatically over the past few decades. Women have made unprecedented gains in the recognition of rights, education, health and access to jobs and livelihoods.³ The progress made by South Africa in women's empowerment and gender equality, despite several challenges still encountered, is globally comparable, and in some instances the advances made put us at the forefront of leadership in this domain. Nonetheless there are blatant gaps in achievements at the global and local levels. Girls and women who are poor, live in remote areas, are incapacitated or belong to minority groups, continue to lag behind. The inclusion and consideration of women and their needs is not simply a moral right, but also a smart and strategic approach to address climate change. In general, women still fall behind in terms of their earnings and their productivity, and in far too many instances their voices remain mute. Women – especially poor women, have less say over decisions and less control over household resources.⁴ Water scarcity causes region-wide negative impact on human populations and not one South African Development Community (SADC) Member State demonstrates a score higher than 61.9 on the Water Poverty Index (WPI).⁵ More than half of the sub-Saharan population lack access to safe water while more than 40% lack adequate sanitation. Despite the agreement that water scarcity is exacerbated by climate change there is not yet sufficient focus on the ethnographic experiences of men and women and the ways in which climate variability affects people on the ground.

As attention to gender and equity has lagged behind in climate change research, programming, national policy-making and in the international negotiations and studies on climate change, gender studies have initially and by necessity been somewhat speculative in nature.⁶ This is starting to change with

2 Alam, Bhatia & Mawby (2015)

3 World Development Report (2012)

4 *ibid*

5 Of the many water poverty indices developed, the most notable is that conceptualized by Lawrence, Meigh and Sullivan (2002). Their composite water poverty index has three components namely, water availability, access to safe water and sanitation, and time and effort to collect domestic water

6 Nelson *et al.*, 2002; Cannon, 2002; Skutsch, 2002; Dankel-

more evidence being gathered from the field of how increased climate variability and climate change is affecting developing countries' populations and with potential future scenarios being explored - but a great deal more of this kind of analysis and understanding is needed. At national levels vulnerability assessments and the National Adaptation Programmes of Action (NAPAs) for Least Development Countries have lacked adequate gender analysis (Dankelman, 2008; Nelson, 2011), although there are cases where this is not so. At the international level in the climate negotiations this absence has been noted for some time and gender activists are attempting to tackle it, with some progress on inclusion in the United Nations Framework Convention on Climate Change (UNFCCC) texts (Dankelman, 2008).⁷

A gender sensitive approach to climate change addresses concerns raised in the literature that women are often on the receiving end of the effects of increasing environmental degradation and depletion of natural resources, in part because of their involvement in, and reliance on, livelihood activities which depend directly on the natural environment. For example, environmental degradation surrounding rural communities may increase the distances that women have to walk in search of clean water and firewood in order to perform their daily household chores.⁸ Feminist political ecology approaches, among others, have documented the gender differentiated effects and experiences of resource use and degradation, as well as marginalization from resource related decision-making, from irrigation management to flood risk, to community-led forestry.⁹

A recent study by the Women's Environmental Network (WEN, 2010), also concludes that women are more likely to live in poverty, and because of gendered social roles, they are more likely to be negatively affected by climate change. Inequality based on gender is the most widespread form of oppression, and development and climate change can only be equitable

man, 2008; Lambrou and Grazia, 2006

7 Sorely missing from the 1998 Kyoto Protocol to the United Nations Framework Convention on Climate Change

8 *ibid*

9 e.g. Harris (2006), Nightingale (2006) and Sultana (2014)

if they place women's empowerment and the tackling of gender inequality centre-stage – it cannot be treated as an optional extra (Neefjes et al, 2009). Although all members of poorer communities are affected, women and female-headed households are likely to be most affected by increasing extreme weather events, greater climate variability and long-term shifts in climate averages. Furthermore, while all societies will be affected by climate change, the impacts will vary by location, exposure, and context specific social characteristics, identity, power relations and political economy (Nelson, 2011).¹⁰ This draws attention to recognition of difference and sameness and the way in which common, confusing, contradictory results emerge across and within terrains. It is important to recognise that the discourse framing women as 'vulnerable, passive victims,' risks reinforcing the exclusion of women as 'active agents' in responding to climate change, and ignores their capabilities, knowledge and relevant skills, which should be built upon in climate responses (e.g. Food and Agricultural Organisation (FAO), 2007). With appropriate support, they can be - and are already - successful protagonists in action on climate change at all levels. Many of the publications rightly emphasize women's capacity to act and the fact that gender norms and division of labour also creates gender-differentiated knowledge. Thus women may have specific skills, for example as seed managers, which can be built upon in climate change adaptation. At the same time other papers note the importance of not conflating 'women' with 'nature' (Nelson et al., 2002) and of exploring how gender roles are constantly changing (Babagura, 2010).

In its concern for gender-blindness, this paper specifically considers the way in which climate variability impacts on men and women in a given locale and captures the enriched narratives and voices of both rural women and men in two sub-villages of Lambani, Limpopo Province.¹¹ In so doing it brings the wisdom, experience and concerns of women and

10 Nelson (2011)

11 The paper is indebted to Water Research Commission for funding the three-year project entitled 'Towards a Gender Sensitive Response to Climate Change,' Project K5/2314. See also Goldin *et al.* (2013) for discussion on water and intangible goods

men around climate change to the fore. While the paper is open to a range of aspects of climate change that might be of interest, particularly as identified by residents of Lambani themselves, we focus primarily on (1) increased occurrence of floods and droughts, (2) changing hydrologic regimes and (3) intensified hot or cold periods as several possible climate change outcomes that are likely to be of concern for rural populations in this heavily agricultural region. These three aspects are referred to these as the three dimensions (3d's) of climate change.¹²

The paper posits that there has been relatively limited in-depth analysis of the gender dimensions of climate change to date, partly because of the uncertainties of climate change science and the lack of down-scaled data which makes it hard to predict how the climate will change at a very local level. Social change processes are difficult to predict and it is challenging to take on ways of thinking that look at the entangled way in which climate (non-human) and human beings confront one another. Gender inequality intersects with other types of discrimination, such as class, race, age, mental and physical disability but within the context of climate change, an analysis of the linkages between discrimination and climate change remains vague. It is not enough just to 'add on' a concern for women's issues in climate responses – gender equality and women's empowerment is not an optional extra but a critical part of equitable development (Nelson, 2011). Similarly it is not enough just to 'add on' age or other demographics such as education, rural/urban skews and so forth, because these are critical when considering equity and climate change.

Bozalek and Zemblyas (2016) see difference, be it age, gender, education etc., in an affirmative light, as a tool of creativity rather than as separation and lack. Difference is therefore not positioned as the opposition to sameness – but is also incorporated into the self

12 Our survey results show that 93% said that there would be more storms, 98% that it would rain more and 84% that they expected greater heat and greater cold. Ninety two percent feared more disease. Ninety four percent feared roads and public utilities being damaged and 94% feared that their private dwellings would be damaged – 96% of women say that they fear their private dwellings will be damaged whilst 92% of men say this

as difference within and seen as a means of becoming. The authors describe this in a language of diffraction where diffractive patterns reveal that there is light in darkness and dark in lightness and that these are similarly fluid and provide an understanding of how binaries can be interrogated and how differences exist both within and beyond boundaries (Barad, 2014). This discussion is important when considering climate and society or 'binaries' such as nature/culture. In fact, from this language of diffraction, these binaries break down and they are no longer fixed references but should rather be read through one another as entanglements (Bozalek and Zemblyas 2016).¹³

To build women's participation in national climate change adaptation planning and to take heed of the multiple entanglements around this topic, participatory processes are required that enable diverse groups of disadvantaged women's as well as men's voices to be heard by policy-makers. There is no straightforward way of successfully challenging dominant narratives and inequitable power relations but new languages – such as the one deployed by Bozalek and Zemblyas (2016) and those working with ideas of participatory parity (Fraser 2009), or expanded notions of human wellbeing as is the case in the Capability Approach to development (Sen 1999, 2012; Atique, 2014; Goldin 2010, 2015; Nussbaum 2001) challenge the way in which we order our universe and open up new ways of seeing. This newness informs our own study where we consider intangible goods such as emotions and the porous way in which emotions entangle themselves between spaces and how they defy rigid 'fixedness' or overly distinct interpretations. Emotions occupy fluid spaces, spaces of question, concern, confusion and change. As such – hope seen today as an expression of possibility might be seen tomorrow as a utopian dream.¹⁴ This discourse is helpful when considering participatory processes because these – although intended to provide a scaffold for voice and to harness

difference - can risk exacerbating divisions, especially if not well facilitated.

One of the ways that we can raise awareness is to open pathways for new methods as well as critical analysis of findings emerging from these methods. Khamis, Plush & Zelaya (2009) used a participatory video as a tool to promote women's engagement in adaptation and planning in Nepal. Their main aim was to explore how the use of participatory video could help poor and marginalised women secure their rights in the face of the effects of climate change. Nelson (2011) stated that sharing and discussing both meteorological data and scenario building with local communities to explore climate futures is part of many adaptation programmes – but space and support is needed if more disadvantaged groups are to have a voice. On the other hand we claim that sharing voices of disadvantaged populations with those who are building databases for meteorological purposes is just as important. In so doing, bringing these voices to climate change discourses is more likely to support imbroglia and to recognise that men and women are not always distinct by difference but also by sameness as we take heed of the enmeshed ways in which climate change affects disadvantaged people.

Site of investigation

We have chosen Lambani because it is prone to adverse weather conditions, ranging from severe mid-summer droughts and floods from time to time. In 1965 a minimum of 190 mm was recorded and in 1977 a maximum of 1087 mm rain was recorded. The Tropical Cyclones that develop over the South-western Indian Ocean and in the Mozambique Channel can greatly affect the rainfall of the Limpopo Province as these systems can yield up to 500 mm rainfall per day (Anthes, 1982). The years 1972, 1977, 2000 and 2013 are examples of four years when Tropical Cyclones affected the rainfall of Lambani. December, January and February are the warmest months with an average temperature of 27C and July is the coldest month with an average temperature of 18C.

¹³ This idea is extended further when considering difference and 'binaries' such as subject and object in the research itself – once again there is an entanglement and the researcher and object of research are entangled

¹⁴ See Goldin (2015) on the distinction between critical and naïve hope

Our site of investigation has a high proportion of elderly residents, particularly women due to the fact that many of the men and youth have left for the urban areas to seek greener pastures. The majority of the villagers are unemployed and the rate of poverty is very high.¹⁵ Basic services such as water, health, houses, etc. are very poor in Lambani. The village experiences many days without clean drinkable water whilst mobile clinics only visit on certain dates. Links between rapid urbanization, urban migration and pockets of rural poverty are marked as the youth are leaving the rural areas to seek jobs elsewhere. Malnutrition is also a constraining factor since many villagers have poor access to proper and nutritious meals. Although this is not always the case our survey data reflects food insecurity in Lambani.¹⁶ A child, even if answering 'yes sometimes,' goes to bed hungry is unlikely to be able to concentrate and perform well at school. The majority of the villagers are living on less than ten rand a day. Access to proper infrastructure, it can either be to water, sanitation, roads and or health facilities is still far from reaching an acceptable standard. Even though there are enough schools, quite a number of the youth did not complete their matric (Grade 12) due to financial constraints their families were facing and other related matters not excluding laziness and not wanting to go to school. More often than not those who do complete matric are unable to further their studies due to lack of funding and/or bursaries. According to Botha *et al.*, (2004) almost 57% of the elderly never attended school and have no formal education or training.¹⁷ All these problems

15 When asked subjectively whether or not respondents considered their village to be very poor, moderately poor or not too poor at all 47% reckoned that they were very poor, 45% that they are moderately poor and only 8% of respondents thought that they were not poor at all

16 Responding to the question 'does your household always have sufficient food to eat,' the answer is that only 59% of the respondents sometimes have sufficient food to eat in their households whilst only 28% of respondents say, yes always, their household members have enough food to eat. Twelve percent say that their household never has sufficient food to eat. When asked differently, whether there are adults who go to bed hungry at night 50% say 'yes sometimes' and 46% of children go to bed hungry at night

17 Thirteen percent of the villagers never reached standard four (Grade 6), 25% have standard four (Grade 6) until matric (Grade 12) and a mere 5% have post-matric qualifications (Bo-

tha *et al.*, 2014)

18 Denzin & Lincoln (1998)

19 Goldin (2005) Denzin (1989), Fielding & Fielding (1986). As in integral step in our methodology we have found it helpful to draw on the following case study material: Bangladesh (Cannon, 2002), Malawi (Kakota *et al.*, 2011), Ghana (Amuzu *et al.*, 2010), India (O'Brien & Leichenko, 2004), and South Africa (Babugura, 2010). These case studies validate – and add value – to our own assessment as they allow for a multi-scalar analysis that contextualises experiences in Lambani within a broader political and geographical context. As such they can be seen to be 'triangulating' our own data

20 Methods used: qualitative: semi-structured face to face interviews, transect walks, participatory action research workshops, participatory observation, participatory mapping, emoticon tool and quantitative: standardized survey instrument

Qualitative research methods and emotions

Because of the recognised difficulty of achieving objective reality, both in quantitative and qualitative research methods, the multiple methods focus attempts to 'secure an in-depth understanding of the phenomenon in question.'¹⁸ This approach is also referred to as triangulation and can be considered as an alternative method of validation.¹⁹ Like Denzin and Lincoln (1998), the project team use the term 'bricoleur,' and although it can have a pejorative meaning, implying, for instance, an amateur, we believe that it describes the astuteness and flexibility of a researcher who is able to 'perform a large number of diverse tasks' (1998, p. 4) in order to achieve rigour and breadth in the study and to take cognisance of the fluid relationship between the other and self, grappling with sameness and difference as it emerges. Our methods were: (1) desktop review to obtain secondary data on climate change and socio-economic profile of targeted communities; (2) semi-structured interviews with key informants (government, NGO's, community leaders); (3) transect walks through villages with men only, women only and both men and women; (4) participatory mapping; (5) focus group discussions; (6) application of emoticons chart and (7) survey application with standardised questionnaire sampling 285 households (see footnote 14).²⁰

tha *et al.*, 2014)

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The approach to the data collection was threefold. Our first step was to gather geophysical data including soil typology, geography, climate change data. We then conducted a socio-demographic profile of the targeted population. These two steps mapped 'tangible' goods (e.g. roads, type of dwelling, number of schools, health status) whilst complementary selected participatory methods tapped into 'intangible' goods (perceptions and experiences of climate change) at the grassroots level. There were verbal, physical, emotional and other clues from the women that we have observed during the participatory exercises and this has informed our analysis. The ethnographic component of the study was interactive. We took care to note sameness and differences around gender, observing who is there, who is not there and when and in what way men and women participate or do not participate in activities and discussions as the case might be.

Walsh (in Seale 2004) presents an argument that ethno-methodology is part of a constructionist approach and it encourages the researcher to focus not so much on how people see things but what they are doing. Our own subjective lens on the world acts as a filter and it amplifies some events and mutes others. For example, Geertz (1973) sees culture as a system of signs, and for him the task of the ethnographer is to produce 'thick description.' The ethnographer is then able to find a whole web of meaning, cultural structures and knowledge that is superimposed on what he calls the layers of a cultural script. Participant observation requires an open heart, alert eyes and ears and a fair mind so as to observe the field reality and to allow for that necessary agility that we spoke of above, accepting too the way in which we also enmesh with the human (respondents) and the non-human (the terrain within which we find ourselves). In the section that follows we isolate two methods – transect walks and emoticons.

using a sample size of 275 households with respondent head of household in four sub-villages of Lambani. The questionnaire took 45 minutes to administer. A survey instrument was administered to validate findings from the qualitative data. The survey instrument included a battery of questions designed to tap into intangible goods. The qualitative component of the study builds on quantitative methods and desk-top studies

*Transect walk and participatory observation*²¹

A transect walk is a helpful tool which provides an opportunity for researchers to engage with village residents in a non-threatening environment whilst getting to know the 'lay of the land.' It is literally a walk through a transect, in this instance cutting through two villages. As we accompany residents on this walk we invite them to identify taps, toilets, boreholes, their churches, ngos, shops, spazas or other places that are of note in their everyday. This provides an opportunity to discuss village matters and to gauge feelings about particular spaces. A transect walk is a useful tool to compare different views as information gathered on one walk by one set of residents might differ from observations or information gathered from another set of residents on a different walk. We validated the transect walk in a day and a half working session where ten women and then ten men (separately) who had participated in the walk were asked to draw a decisive map using participatory mapping techniques. Our selection of women included: young unemployed women, young female farmers, older female farmers, female teacher and women from local NGO's. Our second session of participatory mapping was with men. We believe that men and women 'see' certain village icons and spatial symbols differently and that through the 'eyes' and 'ears' of men and women (the old, the young and so forth) we are able to apply a gender sensitive lens. The participants were not prompted when drawing the first draft of the map and they were encouraged to mark on the map where the most 'sensitive' parts of the landscape are with regards to the three dimensions of climate change. If they did not map water points such as rivers, they were prompted to do so during the second (prompted) phase of the mapping. Women and men were invited to identify places where meetings took place and to describe what the meetings were about. Further, we asked women about their experiences in decision-making within these structures to assess barriers

²¹ See footnote 14 for the range of participatory methods. We expand on transect walks and the emoticon tool for the purpose of this paper. Three transect walks were conducted. The first with a group of women, the second a group of men and the third with a mixed group of men and women. The walks took about 2 hours and in all three cases started from the same point

that women might encounter in decision-making around water concerns as well as the insecurities that they experience around resources such as water. We evaluated gender differentiated access to the resource for domestic and productive uses (drinking water, multiple use systems and small water infrastructure).

Women emphasised water points – such as the wells, community taps, the Levubhu river as well as small streams - and reflected on the difficulty they have in collecting water. They were also anxious about the taste and the quality of the water that they have to drink every day. The women seemed eager to share their experiences and spoke with passion about how difficult it is to keep the water clean and how water from the wells and other sources is too dirty and all too often scarce. The women used thorny tree branches to surround the area around the well as a deterrent against animals. Women ‘used their own heads’ to collect water from the wells, to collect soil from the termite hill for their gardens and also to make the bricks for their dwellings. Women manoeuvre within the non-human elements that are part of their daily lives, collecting firewood from the forest and carrying heavy loads on their heads many kilometres back to their dwellings. On the other hand, the men did not focus on the water issues nor on their relationship with the forest nor did they draw attention to wells and other sources of water that they passed during the transect walk. Their focus was on trees that have fruits, such as the Marula fruit, that they eat and that are used to make traditional wine and beer. Men also consider rites of passage into manhood as being significant and they identified with spaces where young boys gather to participate in initiation schools in and around the village. Men also identified with places where firewood was gathered to be used by women for cooking in their households. Men were proud to show the team the termite hill which produces a particular type of soil that is used to build their houses. Men also showed the team where bricks are manufactured and sold.

The non-human is an arid and harsh landscape. There are areas where the landscape has been ravaged by floods and there are huge ravines in the middle of the roads. There is an eery feeling of severe devastation

but the villagers don’t speak about it. Further inquiry might help unpack the silences around the floods. Is it possible that the everyday for women and men is so entangled with the 3d’s that were identified that this aspect of the non-human is not seen as separate from the human (both men and women in this case) – and is not re-markable? Is it perhaps because there is a feeling of helplessness and ‘no point in talking about it’ or are these things that are not discussed in public but rather in private? Perhaps disruptions in the natural environment and uncomfortable geography to which the women and men are connected are seen as ‘normal’ and part of the everyday entanglements between the human and non-human?

Emoticons

Emoticon is a construction of the words ‘emotion’ and ‘icon’, which refers to graphic representations of facial expressions (Skovholt *et al.*, 2014). Emoticons can be produced by symbols such as (:–)) or by pictograms which are graphic icons (*ibid*). According to Krohn (2004) cited in Kankaanranta *et al.* (2014), the emoticon was first used in written text in 1982 by computer scientist Scott E. Fahlman at Carnegie Mellon University in the UniEmoticon United States. Today emoticons are commonly used in studies such as social media and computer mediated business communication. In our study we asked respondents to circle emoticons depicting their emotions and to expand on the way in which a given emoticon reflected their emotion. People may find it difficult to express themselves in words and find it easier to identify with a variety of emoticons. Whilst initially recognising a number of emoticons, respondents will then often select a single emoticon which best describes their feelings.²²

We have found the emoticon tool to be helpful when considering ways in which the human and non-human mesh and where, by encouraging women

²² Emoticons have been used in doctoral thesis by Owen, G (2016) to capture the public’s emotions/feelings with regards to using reclaimed water for domestic applications. The thesis title is “Opportunity for implementing reclaimed water for domestic applications in South Africa: public perceptions and institutional engagement.”

and men to identify with icons of their choice, we see sameness and difference side by side. A smiley face for instance, could mean the same thing to two people or different things and as such the transitory – and also engrained – way in which emotions trace lines in our bodies and minds – engages with ideas of difference and a continuum of meaning rather than fixed points of meaning. In our own study (see footnote 9) emoticons were used as a participatory tool to flesh out the different ways in which climate change is experienced. A respondent might be frightened and identify with the ‘fear’ emoticon whilst at the same time this affect (fear) becomes a moment of ‘becoming’ and opportunity that we discuss below, where side by side with the emoticon fear a phrase such as ‘we adapt because that is what we do’ reverberates.

With the use of emoticons, we again align our work to the work of scholars in pedagogy that we have identified above, namely Bozalek and Zemblyas (2016) whose work draws attention to the way in which methodology itself challenges our impulse to organise the world. In line with critical pedagogy, which considers entangled realities rather than fixed spaces between researcher and researched, we take on claims in the literature that there is an urgent need for women to express their own view on climate change and how they are affected by climatic traumas and in turn themselves influence these moments by their discursive engagement with climatic conditions on the ground. Alongside the idea of diffraction, we note too that the process itself of identifying the emotions becomes entangled between the researcher and the respondent as icons are selected and justified. Experiences that may have been obfuscated can bloom as a particular symbol is chosen over and above another allowing experiential moments to be articulated, defended and shared.

The emoticon chart encourages residents who were part of the study to consider their gamut of realities through icons and in so doing to bring personal experience vividly to the fore. Intense moments are mirrored through emotional states and in the process the experience of the particular as well as the diverse is expressed via icons which are themselves in (e)motion

in lieu of static narrative. Communications between humans exist through disembodied symbols which carry the voice of the individual further and as such take the human experience into the realm of symbol and becoming.²³

We consider climatic impacts to be moments where the human and non-human rub up against each other and in the chafing we recognise affect. Here the attention to affect is twofold. Not only does it allow for a more realistic reflection of entanglements with nature and their multiple 3d experiences that shape the everyday of women and men – but also we see affect as being more than emotion. It is, as Hardt (in Clough 2007:9) claim ‘our power to affect the world around us and our power to be affected by it, along with the relationship between these two powers.’ It is a dynamic opening up to possibilities that can effectuate change. This transition is explained as a ‘passing of a threshold, seen from the point of view of the change in capacity.’ Thus as Massumi (2011) affirms ‘[w]hen you affect something, you are at the same time opening yourself up to being affected in turn, and in a slightly different way than you might have been the moment before. You have made a transition, however slight.’ This understanding sits well with our quest to ‘undo’ the binary of victim and hero – of those that suffer, those who succumb and those who surmount the multiple challenges of climate change. The individual is affected by 3d experiences and in turn affects others around herself/himself, including the researcher who enters into spaces of affect. Within this cadre, women cannot simply be victims because their affect is a dynamic opening up to possibilities that can effectuate change (see above). We see the way in which the non-human (in this case climate change) entangles itself with the human forcing adjustments to the everyday, for instance “*there is no village hall built for the villagers even though the villagers have requested one from both government and tribal council. During rainy season or when it is either very cold or too hot villagers hardly attend any meeting.*”²⁴

23 Neither the transect walk nor the emoticon tool are stand-alones (see footnote 14)

24 Semi-structured interview with key respondent, Lambani, August 2015. Meetings are usually held under a tree in the center of the sub-village

Perceptions of climate change

Some of the extracts below reflect hazards that face learners during floods and droughts and during conditions of extreme cold or extreme heat. When the learners were asked how they felt during this time they responded ‘*terrible because our mud house cracks.*’ Or ‘*the rain was very heavy. Like it ... the rain would fall from 6 in the morning to 6 at night we couldn’t carry out with our daily life.*’

The gender dimension is pertinent not only to climate change but to everyday life where “*some of these women they are at school²⁵; when they are back from school, they go to fetch water and you can see this is too hard; they don’t have time*” and this impacts on learners as “*this could be a challenge for their studies; for doing homework after school*”

The affects of extreme cold on school attendance are evident “*... not go to school in extreme cold because of crossing the river water: too cold ... is dangerous.*” School attendance during the floods was perceived as dangerous and, as is poignantly expressed in the following statement “*we were scared because houses were flooded and we were hopeless because the one child drowned while going to school.*”

The impact of the non-human (climate) on humans is expressed in other ways – for instance because of lack of food security due to crop failure the towns become viable alternatives but not without risk and hazards:

Migrant workers as outsiders: sometimes if like... a rural boy goes to the city... there are many challenges to make you feel like you are backward. And you can make yourself start to look like you are.. you are coming from the urban areas. [When I go to Joburg] I feel like I’m different. [...] because if you are growing here... [became sad] very different. In Joburg, everything is very fast [...] they are not friendly there. And they don’t get what they want ...²⁶

25 Ages at school range from the young girl child (10 – 14) to the older girls and young women (15 – 25)

26 Interview young man, Lambani, August 2014

Affect as becoming

Massumi (1987) defines affect as ‘a prepersonal intensity corresponding to the passage from one experiential state of the body to another and implying an augmentation or diminution in that body’s capacity to act.’²⁷ Massumi (2002:36) asserts that affect is the ‘perception of one’s own vitality, one’s sense of aliveness, of changeability.’ Berry *et al.* (2010)²⁸ noted that there is an increased risk of death, injury, and population displacement as a result of extreme climate events such as fires, droughts, hurricanes and floods. Anxiety, post-traumatic stress disorder, depression, and other mental health conditions follow trauma, loss of loved ones and property, and displacement. There is at the same time an openness to affect that is determined by the body’s potential. These relationships are central to new materialism ‘where things and matter usually perceived as passive and immutable, are instead granted agency’ (Hultman and Lenz Taguchi 2010:539).²⁹ Extracts from respondents in Lambani capture the openness of the human to change and resonate with ideas of resilience and agency “*... I overcome the flooding by putting sand bags on the eroded area and that process usually takes the whole day*” or again “*... I overcome the effects of floods by ploughing in an opposite direction of the slope and I put stones at the beginning of the ploughing row that prevents the soil from moving.*” Importantly, “*after all these events, we are able to go back to our normal lives. By virtue of the fact that we go back and plant in normal season, it shows we have adapted.*”³⁰

We are struck by the way in which the non-human entangles itself with the human – in some instances it is difference that is palpable, not sameness, as is the example of the girl child who feels the terror of the non-human in her life – “*(floods) takes over in terms of getting to school, difficult for everyone, but for those that cross the river by foot, girls tend to be more afraid and come (to school) less.*”³¹ Mothers said that they felt “*helpless*

27 In Mitchell (2016)

28 Berry *et al.* (2010)

29 See Mitchell (2016)

30 Participatory Action Workshop, Lambani, September 2016

31 Semi-structured interview with key stakeholders, Lambani, August 2014.

and worried’ about school attrition “ ... (learners) could not go to school for one month because the road was damaged.” Some of the learners interviewed said that it was for “as long as three to four months that they could not go to school” or “for three to four months livestock died, huts broke and a bridge collapsed.” The learners reported that “it was was hard to get everyone back to school... local authority had to tell people to come back”

and “it was hard to catch up on the time lost.” Extracts below further reflect hazards that face learners during floods and droughts and during conditions of extreme cold or extreme heat. Emoticons that were chosen to express these feelings ranged from pain, worry, fear and annoyance, some of which are reflected in the table below.

Table One: Expressions of emotion

Pain	<i>It feels painful when the crops are flooded during flooding events and it is also painful when there are droughts while the effects of extreme events get us worried</i>
	(see statement above)
Worry	<i>When there are floods I get worried and the chief does not do anything and I am used to the situation. I feel powerless</i> <i>When there are droughts the crops are destroyed and I get worried during droughts</i> <i>My house was leaking. I was worried about generating money for the house because we needed money to improve our house. The flood event was not good. I hate the times of flood because we suffer a lot. The times of flood our houses, roads, bridges, and pipelines were destroyed³²</i>
Annoyance	<i>When there are floods I feel annoyed because rain get into my mud houses</i>
Scared	<i>I felt too scared because of the occurrence of floods</i> <i>I was very scared that flood will destroy my house too, every time it rains the channel keeps on increasing. I think we were coping but it is difficult to explain how we coped to the situation. We just adapted the situation. I felt very bad about it</i>
Sad	<i>When government do not come during floods we feel neglected and during droughts we feel sad</i> <i>I felt sad during flood because it has destroyed my relative’s house</i> <i>I felt very sad about it. I felt very bad about the situation, it was painful situation during drought, and I do not think I was coping during drought event. I was just used to the situation. I eventually adapted to the situation</i> <i>I felt sad, government did not help us at all, and I wish they could do something about it</i>
Powerless	<i>See ‘worry’ in row 2</i> <i>I felt very upset and powerless because I could not help when my neighbour house’s get destroyed</i>
Not okay	<i>When there are floods they destroy crops and I do not feel okay</i> <i>The flood event was not good. I hate the times of flood because we suffer a lot. The times of flood our houses, roads, bridges, and pipelines were destroyed</i>
Helpless	<i>I felt helpless and defenseless</i>

Those residing in Lambani do not live in isolation but are intertwined with the social, political, and economic systems that themselves are porous and fluid. The capability to achieve human well-being depends on a range of resources, many of which need

to be supplied by the state or society in general but are also provided for by the women and men who reside in Lambani, building huts, nurturing daughters, collecting food and so forth. Material structures (soil, geography, infrastructure), social systems (age, education, income generation) and emotional life (experiential reality) as well as the enabling policy environment (international and national policy) are

32 Seventy of men are worried that they might loose their culture but 83% of women are. Put differently, only 17% of women say that they are not worried about loosing their culture whereas 30% of men are not worried

neither separate from each other nor are they separate from the residents whose lives are entangled with multiplex aspects of climate change. Betwixt and between structures and systems that together make up the environments within and around, which Lambani residents lodge are layered with affect and emotion.

Louise Vincent's (2004) article 'What's love got to do with it? The effect of affect in the academy' is indicative of the way in which academic excellence assumes the exclusion and repression of emotion. In our paper, we have chosen to bring out passion and to be as true to the lived experiences as we can be. The dominant view, according to Vincent (2004), is that 'strong emotions are quite out of place in academy, belonging as they do to the realm of the intensely private.' Vincent goes on to argue that this view has become so dominant that it has managed to cast itself as common sense and that, she asserts, speaks loudly of the prevailing power relations (*ibid.*). By choosing to work with tools such as emoticons, we bring affect to the forecourt where we are better able to consider the puzzling contortions that appear at the intersection of the human and non-human (people and climate).

Conclusion

Musemwa (2011) reminds us that climate change is no longer a mere buzzword as it is part of a new language and discourse that has arisen and its effects are increasingly visible, posing a severe threat to human survival globally. As climate impacts mount, so does the urgency of resolving this challenge. Those least responsible for climate change (see our extracts above) are often the most vulnerable to changes in weather patterns, sea level rise, and other impacts, further exacerbating existing inequities. Meanwhile, actions - both to address climate impacts and to reduce emissions - are intertwined with broader equity issues involving livelihoods, health, food security, and energy access. This paper proposes a new approach to climate change challenges by expanding the narrative for climate equity and evoking emotions that are expressed around climate change - bringing to the fore the idea of equity and social justice (Klinsky et al 2014) as the voices of rural men and women in Lambani reverberate. It is helpful to introduce ideas

of diffraction, entanglement and possibility into the climate change debate thus making a concerted effort to reframe women as being alive to experience, capable of change, entangled with men, entangled through the multiplicity of their roles as mothers, sisters, leaders, daughters and wives and through the events themselves and entangled too with the non-human that is enmeshed within and around them.

The emoticon chart is a participatory action tool and the process itself of populating an emoticon chart is dynamic and interactive. There are often fuzzy or puzzling distortions less welcome in the ordered universe of 'science.' It is particularly relevant when working with the feminine and subjective aspects of human well-being and it is within this liminal space where the voices and actions of women are often the loudest when the 'fuzzy', the uncertain, the tentative and the intangible are allowed to be. Women are not always heard in the formal and the formed but rather in these 'unformed' and informal betwixt and between spaces that are promoted through participatory practices (e.g. transect walks, emoticons)

According to Sen (1999), the five instrumental freedoms that should be present and that women should have access to are: political freedom, economic facilities, social opportunities, transparency guarantees and protective security. Access to these is necessary for women to gain a better quality of life and to acquire the capabilities they need to act as their own agents of change. Many of these freedoms are absent in our site of investigation.

Our study has focused on gender disparities and this means not only a focus on women but on all who feel the brunt of extreme weather conditions in Lambani. Men, boys, people with disabilities etc. are all vulnerable. Despite sameness in some dimensions, our empirical data reflects that it is old women, young women and the girl child who are the most vulnerable to effects of climate change such as droughts, floods and extreme heat and cold. The application of a new approach in dealing with climate change might offer new answers because it will have as its central focus people and their perceptions of climate change rather

than technology or scientific ‘facts’ which tend to dominate the realm of climate change discourse.

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