The Politics of Digitised Boundaries in Vhembe District Municipality of South Africa

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1 ABSTRACT

The advent of the fourth industrial revolution witnessed the introduction of digitised boundaries in local municipalities of South Africa. Digitised boundaries are simply imagined lines between spaces. In many rural local municipalities of South Africa, digitised boundaries define territorial bounds as well as people's identities within the bounded spaces. Several villages in Vhembe District Municipality experienced spatial changes as a result of the introduction of digitised boundaries as recommended by the National Demarcation Board. The introduction of these digitised boundaries engendered widespread protests as community residents raised their dissatisfaction with the new development. In their minds, the 'new' Boundaries (digitised) undermined their social base through exclusion from access to services from 'their' local municipalities, and thus infringed their rights to belonging. The aim of this paper unravels the politics of digitised boundaries using a case study of Vuwani Village in Vhembe District Municipality of South Africa. The paper (1) highlights the perceptions of community residents of digitised boundaries; (2) characterises the impact(s) of digitised boundaries on community residents; (3) proposes sustainable strategies for managing complexities from digitisation of boundaries in villages from below. This research adopted the mixed methods approach that enables layering methods and methodologies in data collection and analysis. A critical case study design was chosen to extract meaning from the experiences of community residents of Vuwani Village with regards to the politics of digitisation of boundaries vis-à-vis insurgence of protests in this community. Vuwani Village, and the community residents were purposefully selected to participate in this research. A total of 185 questionnaires were distributed to community residents layered as heads of households, youths, and community leaders - while observing social constructs such as gender, age, and language. In addition, 15 spatial planners from three local municipalities under Vhembe District Municipality were interviewed using the Delphi Technique (serious brainstorming with experts). Data collection also involved extensive desktop review of pertinent literature on related theories, concepts, and policies. Quantitative analysis of data from questionnaires was aided by SPSS. Whereas, text analysis was applied to qualitative data from interviews. Lefebvre's theory on the production of space; and Hirschman's exit, voice, and loyalty model were adopted as modes of analysis through which descriptions from struggles in contested spaces, and people's responses to 'new' circumstances (digitised boundaries) were enunciated. Community residents of Vuwani Village, and the digitised boundaries were the unit(s) of analysis that provided a unique case of the struggles flowing from politics of digitised boundaries, and spatial thinking. In Vuwani Village, the 'new' digitised boundaries engendered violent protests including arson, shutdowns of institutions and disruption of services. These contestations are on-going. Community residents of Vuwani Village and spatial planners from the local municipalities are in disagreement on where exactly the digital 'line' (boundary) must fall. Community residents want social digitised boundaries that define community identity and belonging, whereas municipal planners want digitised boundaries that simply separate spaces. Exit, voice, and loyalty responses are clearly apparent in Vuwani Village as community residents react differently to the spatial representations from digitizsd boundaries. This paper proposes prioritisation of social boundaries as key to dealing with politics flowing from digitised boundaries - from below. Strategies that serve as platforms for rethinking the implementation of digitised boundaries in local rural municipalities of South Africa and elsewhere are clearly needed.

Keywords: Digitized boundaries, municipality, protest, social, space

2 INTRODUCTION

The advent of the fourth industrial revolution (4IR) witnessed the introduction of digitised boundaries in local municipalities of South Africa. The 4IR involves technological development that enhances and improves human lives. Technological advancement through the 4IR in the South African context is seen as a

form of transformation from the usual approaches of 'doing things'. While in spatial planning and space production discourses, the advent of technological advancement saw the introduction of digitised boundaries as a way of separating and demarcating spaces. Hence digitised boundaries are computerised imagined lines that separate spaces, and regulate movement and activities of people between and within spaces. Digitised boundaries also divide spaces thereby creating different territories and identities of the people therein. As such, these digitised boundaries seek to create confined and bounded spaces where people live. For example, in many rural local municipalities of South Africa, digitised boundaries define territorial bounds, as well as people's identities within the bounded spaces. As these boundaries shift, the inhabitants of the affected spaces react variously to such change.

Globally, boundaries of any form are artificial lines represented on paper, and physically depicted on space through physical structures. Boundaries thus mark where occupied spaces begin, and end without necessarily confining activities and people. Under these circumstances, boundary (lines) are prone to contestations and conflict as people interact and make meaning of the spaces they occupy through activities of the everyday. This paper unravels the politics of digitised boundaries using a case study of Vuwani Village in Vhembe District Municipality of South Africa. The paper (1) highlights the perceptions of community residents on digitised boundaries; (2) characterises the impact(s) of digitised boundaries on community residents; (3) proposes sustainable strategies for managing complexities from digitisation of boundaries in villages from below. From Hay (2010)'s perspective, the politics of digitised boundaries can be conceptualised as an art and a combination of processes characterising the behaviour of agents affected by digitised boundaries including spatial planners, local community residents; as well as the structures that regulate boundaries in South Africa.

This research took place in Vuwani Village situated in Vhembe District in one of the rural provinces of South Africa – Limpopo - where the politics of digitised boundaries has been on the increase. According to Statistics South Africa (2011) Vuwani has 2791 people from 710 households. The introduction of the new digitised boundaries by the National Demarcation Board in 2015 impacted many villages of Vhembe District in Limpopo Province of South Africa leading to conflict. Several villages in Vhembe District Municipality experienced spatial changes as a result of the introduction of digitised boundaries as recommended by the National Demarcation Board. This change in boundaries sparked tension between local municipalities and the residents. This paper highlights the politics of digitised boundaries on the residents of Vuwani Village. The introduction of digitised boundaries engendered widespread protests as community residents raised their dissatisfaction to the 'new' development. In their minds, the 'new' 'boundaries (digitised) undermined their social base through exclusion from access to services from 'their' local municipalities, and thus infringed their rights to belonging.

3 CONCEPTUAL FRAMEWORK: INTERROGATING THE CONCEPT OF SOCIAL DIGITZED BOUNDARIES

The concept of boundaries is normative, and covers a wide variety of issues as depicted in the boundaries themselves. As such, it is important to conceptualise boundaries within the spaces they bound. Usually, boundaries are marked by beacons, monuments, fences and walls (Anebo, 2016). These boundaries serve to separate spaces on the physical landscape. Clearly, boundaries can be characterised by physical phenomena, as well as abstract lines drawn by experts in physical planning. As such, boundaries as imagined lines by physical planners can be difficult to notice on the ground unless aided by physical attributes or objects on the ground. This creates confusion and misunderstandings between the community residents bounded by such boundaries. In this paper, makes reference to both imaginary and physical lines in conceptualising digitised boundaries.

Since digitised boundaries are understood from the perspective of the contained spaces, social aspects that give meaning to spaces largely prevail in conceptualisation of digitised boundaries. Whether digitised or not, boundaries remain critical in defining interaction and belonging of the bounded communities. It is therefore critical for any process related to creating, modifying and digitising boundaries to consider the activities, needs, interests and experiences of communities in the bounded spaces. This clearly demonstrates the boundlessness of digitised boundaries since they are further understood in many forms including physical, symbolic, and social terms.

Social digitizsd boundaries can therefore be conceptualised as technological lines or points that denote territorial bounds of spaces; that seek to preserve and protect the history, identity, belonging and interests of the inhabitants in bounded spaces, as well as representations of these elements through imaginary lines. As such, social digitised boundaries remain computerised lines that seek to guide territorial limits. This enables communities to claim and sustainably manage common property rights. Spatial planners as agents of the state, and the affected communities are therefore key players in creating digitised boundaries while reflecting on local social experiences. Social digitised boundaries remain abstract representations of lines drawn on paper by spatial planning experts through community participation. Often, experts from the local municipalities lack local historical knowledge which the community residents possess. Changes or shifts in social boundaries impacts community residents in many ways.

4 METHODOLODY

This research adopted the mixed methods approach that enables layering of methods and methodologies in data collection and analysis. A critical case study design was chosen to extract meaning from the experiences of community residents of Vuwani Village with regards to the politics of digitisation of boundaries vis-à-vis insurgence of protests in this community. Vuwani is located in Vhembe District of Limpopo Province in South Africa. Limpopo Province is one of the rural provinces of South Africa situated in the northern tip of the country bordering Botswana, Zimbabwe and Mozambique. Vuwani and the community residents were purposefully selected to participate in this research due to incessant and recurring boundary protests in this village. A total of 185 questionnaires were distributed to community residents of Vuwani layered as heads of households, youths, and community leaders - while observing social constructs such as gender, age, and language. In addition, 15 spatial planners from three local municipalities under Vhembe District Municipality were interviewed using the Delphi Technique (serious brainstorming with experts). Data collection also involved extensive desktop review of pertinent literature on related theories, concepts, and policies. Quantitative analysis of data from questionnaires was aided by SPSS. Whereas, text analysis was applied to qualitative data from interviews. Community residents of Vuwani Village, and the digitised boundaries were the unit(s) of analysis that provided a unique case of the struggles flowing from politics of digitised boundaries, and spatial thinking. The deferential outcomes from these contestations thus explain the 'politics' of digitised boundaries (see Hay, 2010).

Lefebvre's theory on the production of space; and Hirschman's exit, voice, and loyalty model were adopted as modes of analysis through which intense descriptions from struggles in contested spaces, and people's responses to 'new' circumstances (digitized boundaries) were enunciated. From Lefebvre (1991)'s perspective, the production of space through digitised boundaries sets new directions on how people perceive spaces they inhabit. In this regard, spaces as determined by boundaries define the relationships of people as they interact in their lives of the everyday. Thus, boundaries in any form enhance or enable people to contest spaces for different reasons. These struggles are therefore shrouded by the politics of space production. In this regard, the 'politics' of digitiaed boundaries explain the urgency employed by the agents to claim spaces produced by digitiaed boundaries to make the local communities liveable. According to Lefebvre (1991), space is the ultimate locus and medium of struggle, and therefore a crucial political issue. Space is therefore not just a place of conflict, but an object of struggle in a politically contested arena (Hay, 2010). Thus, Lefebvre's theory of production of space enables the understanding and analysis of spatial processes experienced in spaces bounded with digitised boundaries at village level. On the other hand, Hirschman's (1971)'s exit, voice, and loyalty model explains human perceptions in response to change in spaces they live. According to Hirschman (1971), when people are faced with a dissatisfying situation in their surroundings they choose among three options which are exit, voice or loyalty. With regards to introduction of digitised boundaries, community residents can move from undesired to desired spaces, voice their concerns to whoever cares to listen to express dissatisfaction, or stay put and try to challenge the situation from within. These modes of analysis from Lefebvre (1991) and Hirschman (1970) describe what happened in Vuwani Village with regards to the introduction of digitised boundaries and the reactions of people to the key aspects of decision making by their local municipality.

5 FINDINGS

5.1 The nature of boundary changes in Vuwani From 2015 to 2017

The digitised boundaries of Vuwani were introduced by the Municipal Demarcation Board of South Africa in 2015 through mapping using spatial planning computer software packages including Geographical Information System (ArcGIS software), and satellite imagery from Remote Sensing. Through decision making processes of the Municipal Demarcation Board of South Africa, the boundaries that define Vuwani Village as a space have been changing since 2015 in both conceptual and physical terms. According to the spatial planners interviewed, the changes in boundaries of Vuwani were a result of the dissolution of the former Mutale Local Municipality in Vhembe District, and the creation of the new Collince Chabane Local Municipality in the same district.

The introduction of digitised boundaries shifted the existing history of boundaries of Vuwani Village. Long back, natural features such as riverbanks and mountains were used to separate Vuwani Village from its neighbouring communities of Masia, Nesengani, Tshimbupfe Ngwekhulu and Doli. With the new digitised boundaries, Vuwani is not only separated further from other spaces, but shrunk in terms of the village territorial bounds. The physical features that used to mark Vuwani Village historically also changed over time through natural environmental processes. As such, digitised boundaries are the officially recognised boundaries in existence, and are reproduced overtime. These 'new' boundaries remain important to the residents of Vuwani as they define community belonging and existence. The historical context engenders the politics surrounding the digitised boundaries introduced by the South African Municipal Demarcation Board in 2015. Consideration of the historical boundaries of Vuwani could have prevented the fragmentations and contestations from this community. Figure 1 is a sketch from one of the community residents illustrating the original boundaries of Vuwani Village from a historical perspective.
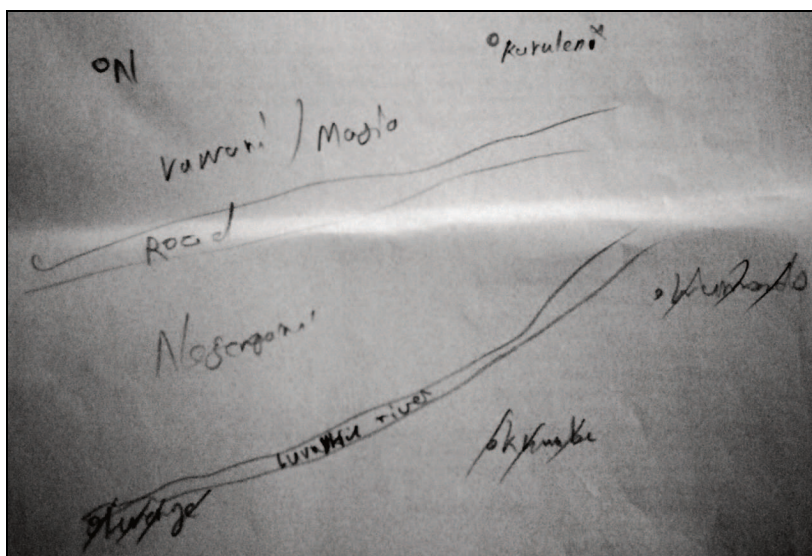

Figure 1: A sketch showing original boundaries of the community of Vuwani (Source: Fieldwork, 2018)

According to narratives from the local residents, Vuwani is currently located on an ERF that used to be a farm called Schuunshoogt. The farm had four pegs located on mountain and river flood line. As such, these features marked the natural boundaries as shown in Figure 1. Over time, this area was then divided into villages where the Masia, Tshimbupfe and Nesengani people lived. As time went by, these villages formed a bond, and identified themselves as one big community that lived harmoniously with each other. These villages as well as the farm fell under Makhado Local Municipality.

After the introduction of digitised boundaries in 2015, the villages were separated into two municipalities. The Masia Village fell under Makhado Local Municipality, and the other part fell onto Collince Chabane Local Municipality. The same happened to Vuwani Village which was cut into two communities with one half belonging to Makhado Local Municipality, and the other to Collince Chabane Local Municipality. This scenario generated confusion for the traditional leaders such as chiefs in terms of the areas of their jurisdiction, authority, status, as well as the community residents in terms of belonging. This emerges as a major source of conflict in Vuwani Villages. Clearly, introduction of digitised boundaries needs a lot of

consultation on the ground in order to capture the needs of the local residents. Figure 2 shows the boundaries of the local communities before digitisation in 2015.
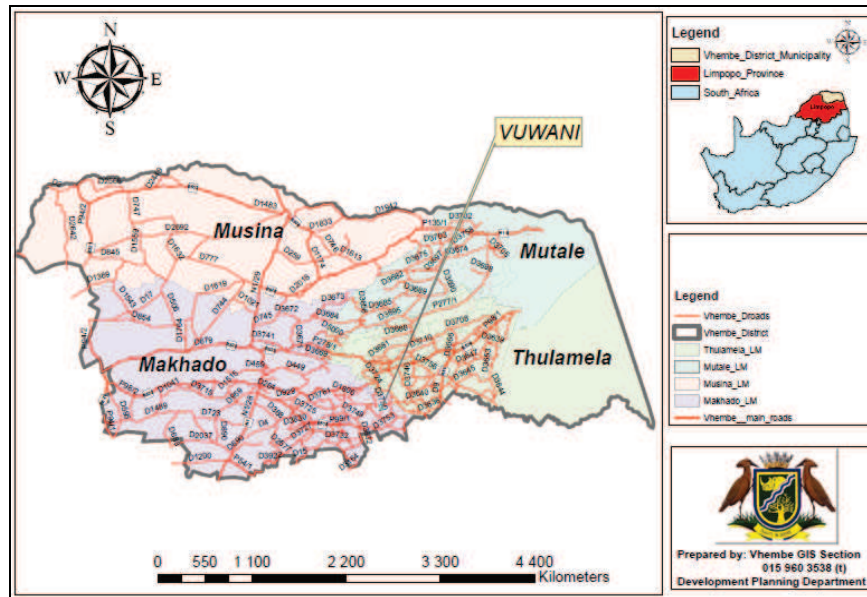

Figure 2: Map of old municipal boundaries before 2015 (Source: Adopted from Vhembe District Municipality GIS UNIT 2018)

The municipal officials were not aware of the historical boundaries, and did not have a clear map depicting the historical and current boundaries of Vuwani Village. This situation clearly shows the differential outcomes not only from the boundary redetermination process, but also the digitised boundaries themselves as lines drawn by experts to depict local physical realities. From Lefebvre (1968)'s perspective, such opposing views often generate conflict as agents try to produce and reproduce space. Thus, in this case boundaries simply depict imaginary lines that exist in the minds of those affected by conflict. Yet, community residents and municipal experts believe that the purpose of the new digitised boundaries of Vuwani was to ensure effective and efficient service delivery by the local municipality as its mandate. According to the Municipal Systems Services Act 32 of 2000 of South Africa, local municipalities are obligated to provide adequate services and infrastructure to local communities under their jurisdiction. However, from the perspective of political leadership such as the Ward Councillor and some spatial planners (as politicians), these boundaries are there to manage, and make political control of the area. In this case, boundaries play the gerrymandering role for these politicians. Digitised boundaries are used by political parties to have control over spaces and to have power over government affairs (Chang, 2010). Yet from community leaders' perspective, boundaries are simply there to separate communities and grouping people with collective interests, and traditions under the same leadership. Clearly, boundaries serve different interests to different categories of people in space and time. From Lefebvre (1968)'s perspective, space is produced by the communities through social interaction.

5.2 Impact of the digitised boundaries in Vuwani village

The introduction of digitised boundaries in Vuwani Village was determined by economic viability, social struggles, political and historical issues. The establishment of the newly formed Collince Chabane Local Municipality triggered changes in boundaries of Vuwani Village because of the recommendations of the Municipal Demarcation Board. The Municipal Demarcation Board recommended that the demarcation changes on the state of boundaries be relaxed to incorporate the newly formed Collince Chabane Local Municipality, and to accommodate areas that belonged to the old Mutale Local Municipality. As people who were accommodated by the Collince Chabane Local Municipality were mainly Vha-Venda, the response by the Vha-Tsonga in the same community was rather indifferent. The Vha-Tsonga called for a new municipality of their own – Malamulele Local Municipality. Thus, the digitised boundaries came because of the establishment of the new local municipalities, and the dissolution of the old Mutale Local Municipality. Mutale Local Municipality was experiencing financial difficulties and was failing to meet its budgetary obligations. When Mutale Local Municipality was dissolved, some of its parts were moved to Collince Chabane, Mussina, Makhado and Thulamela Local Municipalities. In the process Vuwani Village was

dissected with its parts falling in the jurisdiction of Collince Chabane, Makhado, Thulamela, and Collince Chabane local municipalities. Under these circumstances, 75% of the heads of household sampled in this study believed that the main cause of the boundary change was made by the government as a response to the Malamulele community call, and not necessarily the spatial thinking of experts. However, municipal planners felt that these changes were simply made in accordance with the Municipal Demarcation Act 27 of 1998 of South Africa, and that technical issues do not necessarily require consensus and input from lower level structures. According to Lefebvre (1968), the creation of spaces as new political arenas must be historically guided, or else such spaces are bound to be contested through other action. Yet, political power was key in making this decision. The collapse of Mutale Local Municipality saw the need to create a new municipality that would give the politicians an opportunity to 'shine'. By creating a new municipality to serve the Malamulele community, new political positions were also created to replace those that were lost when Mutale Local Municipality was dissolved. This is part of gerrymandering.

Over the past few years, the boundaries of Vuwani experienced drastic change for different reasons. Some of the sampled household heads indicated that the only change in boundaries they experienced was the transition from the Republic of Venda to be a part of the Republic of South Africa under the Limpopo Province. About 72% of the heads of households witnessed this transition. Whereas 28% experienced change of boundaries for the first time. These findings show differential outcomes from the processes of boundary redetermination not only in Vuwani, but Limpopo Province more generally. Community residents of Vuwani that witnessed the transition of the Republic of Venda to be part of the South Africa stated that the exercise was done in a smooth, fair, and clear way without complaints or complications. As such, the current scenario and experience of the digitised boundaries was rather unfair as it depicts a downfall of their tribal ways of life and status. According to Lefebvre (1968) space is a fundamental aspect and has meaning for the society. As such, society should have the opportunity to design space in its own way. However, municipal officials indicated that municipal boundaries are rather porous and are always changing in line with the provisions of their work, and that they expect these changes at any point although Vuwani was their first case in Vhembe District.

For the newly created Collince Chabane Local Municipality, the concept of digitised boundaries is still a new phenomenon. As a result, there conflict is apparent in this municipality in terms of where the boundary line falls. As such, Collince Chabane Local Municipality expects more changes of municipal boundaries sooner or later. Most household heads (92%) stated that they were never consulted on the change of boundaries. These findings indicate the level of participation in the changes of such boundaries. The household heads and traditional leaders that participated in this study also stated that there were no maps shown to them to illustrate the current and the proposed boundaries. One of the heads of households indicated that they were deceived when municipal officials came to her house with the mandate of boundary change. These officials indicated that they wanted to check the level of service residents were receiving from the municipality. The municipal officials requested a woman to fill a document in the name of upgrading municipal services. This woman only realised later that she signed a consent form for the new demarcation of the Vuwani Village. In addition, the traditional authorities also stated that they had no knowledge of the demarcation because they did not receive any notice from any municipal official informing them of the change. Yet, officials from the local municipality stated that they are not sure what form of consultation was used, but that the issue was announced on the radio and through newspapers before the actual change was enacted. Municipal officials distanced themselves from the issue of public consultation as they stated that they only attended a meeting with officials from the Municipal Demarcation Board in response to a call for a meeting by Malamulele Community. The sampled household heads stated that they were not satisfied at all with the current digitised boundaries.

5.3 Contestations from the current state of boundaries

The decision by the Municipal Demarcation Board of South Africa to introduce new boundaries in Vuwani made a few changes to the map of the Vhembe District. However, the newly created Collince Chabane Municipality occupies more space than the older existing municipalities of Thulamela and Musina. The Collince Chabane Local Municipality absorbed parts of the old former Mutale Local Municipality. These new boundaries are still being challenged by the people of Vuwani who stated that that they want to belong

to Makhado Local Municipality. On the other hand, some community members of Vuwani Viallge of the Tsonga decent want to belong to Malamulele community. Figure 3 depicts these boundaries.
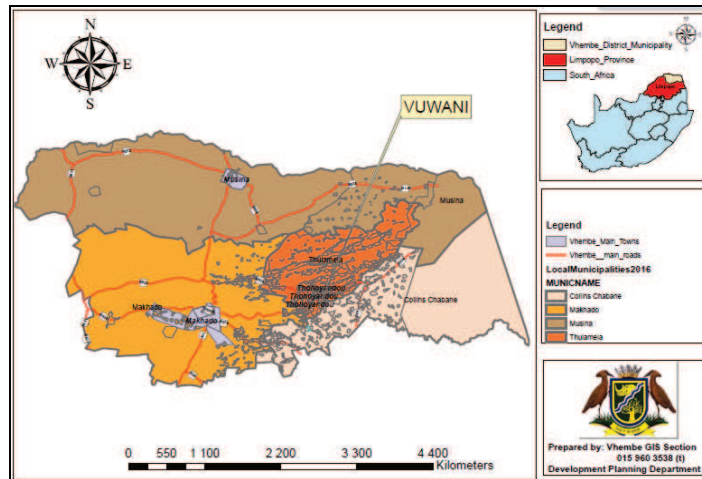

Figure 3: The current state of boundaries in Vuwani (Source: Adopted from Vhembe District Municipality GIS UNIT 2018)

5.4 Perceptions of community residents of Vuwani of the boundary charges

This section highlights the perceptions of the community residents on the boundary change. Hirschman (1970)'s exit, voice and loyalty model was used to highlight how new boundaries were perceived in Vuwani Village. This section also assesses the behavioural patterns of the community residents in response to the change in boundaries. According to Hirschman (1970), when a community is faced with a challenge there are three options in respect to the behavioural patterns namely exit voice and loyalty. In order to understand the people's views in relation to Hirschman theory, the sampled households were asked a few basic questions to explain their reactions to the change. When the community residents of Vuwani were asked to respond to whether the change from the municipal boundaries was positive, 95% of the sampled heads of households stated that the change was negative. These findings show that the community residents of Vuwani were not satisfied with the change in boundaries. This could be because Vuwani is their homeland, and thus they have sentimental and social ties to it. In any case, more than half of the sampled household heads were born and bred in Vuwani.

5.5 Use of voice strategy

Hirschman (1970) describes voice not only as a word of mouth, but also as an action taken in response to a dissatisfying situation. As such, community residents of Vuwani Village voiced their concerns on boundary redetermination through both action and word of mouth. They raised their concerns to the Municipal Demarcation Board requesting the courts of law to find a sustainable solution to the impasse. They also denied the Independent Electoral Commission of South Africa to operate in Vuwani Village. The community members removed all notices and equipment prepared for municipal election scheduled in Vuwani in August 2016. Photograph 1 below shows one of the community residents of Vuwani pulling down election notices put up by the Independent Electoral Commission of South Africa.

Photograph 1: Residents removing IEC posters July 2016 (Source: Adopted form www.enc.com)

The community residents of Vuwani Village also voiced their concerns through street protests. They blocked roads, damaged infrastructure, burning schools, and private buildings to frustrate municipal service provision efforts from the local municipality. The extreme dynamics of voice were also visible through arson. Clearly, the community residents of Vuwani were not happy with the introduction of new digitised boundaries. In some cases, the community residents also burnt car tyres on roads to demonstrate their anger. Below is Photograph 2 illustrating the impact that of community action in Vuwani.

Photograph 2: Police trying to contain the situation (Source: Fieldwork, 2018)

The local muncipality tried to silence the voice of the people of Vuwani by seeking intervention from the South African Police Service. This did not silence the residents of Vuwani because the proposed boundaries threatened the social cohesion shared by this community. Below is Photograph 3 showing the South African Police Service blocking protesters from other surrounding communities such as Vye Boom, Ekuruleni, Tshimbupfe, Nesengani, Tshivhazwaulu from entering Vuwani. These communities were not directly affected by the boundary redetermination process per se, but joined the protests in solidarity with their kith and kin. These protesters blocked roads thereby disrupting connectivity. Clearly, the politics of change in boundaries had an impact beyond the bounded spaces of Vuwani Village. This shows that voice as a strategy that brings commmunity concerns together, and can be an effective tool to seek redress.

Photograph 4:Police presence during a protest in Vuwani Village (Source: Fieldwork, 2018)

The findings also show that more than 50% of the community residents of Vuwani decided to join the protests in the hope that their concerns be heard. In this case, they were also asked what they would do if the situation does not change. People chose to use their voice as a community to demonstrate their disagreement with the municipal proposal since their expectations were not met. The decision by the Municipal Demarcation Board to change community boundaries was made without their consent.

5.6 Use of the exit strategy

According to Hirschman (1970), exit is not only used as a form of abandoning one's position or state, but also as a way of distancing oneself from a deteriorating situation such as conflict. From the sampled heads of households 8% left the community of Vuwani and sought refuge outside their community including urban areas in other provinces. However, 92% stated that they never thought of leaving but stayed in Vuwani because they had a history and social ties with the community of Vuwani.

5.7 Use of the loyalty strategy

Hirschman (1970) describes loyalty as comfortability and the action of obedience to change. However, this does not mean that the people of Vuwani were comfortable with the changes. The people of Vuwani that demonstrated loyalty were simply not interested in joining the protest. About 40% of the heads of households indicated that if the situation continues, they would rather do nothing. This shows the loyalty strategy. In this case, loyalty means remaining faithful to the decisions taken by the Municipal Demarcation Board, as well as sticking to their social space and social ties developed over the years. It also means being loyal to their former municipality and their traditional homeland. In some cases, loyalty meant that the community residents rather accepted the change in boundaries, and thus were doing nothing about the change. In any case, when the heads of households were asked to respond on what they would do if the voice and exist strategies do not yield the desired scenarios, they indicated that they would continue to protest. Clearly, the community residents of Vuwani believed in remaining loyal to the status quo rather than exiting because they regard Vuwani as 'their' social space.

5.8 Challenges from the digitised boundaries of Vuwani Village

Some of the villages of Vhembe District Municipality including Vuwani Village were split as a result of the introduction of 'new' boundaries. The digitised boundaries split the social space of community residents in many ways. For example, the administrative structures fell under more than a single local municipality. This means that the village head to report to different municipalities. Under these circumstances, the community residents preferred to identify themselves with a local municipality that offered better services, and not necessarily their tribal roots. This created tribal biases and confusion, as well as weakening social ties. Split village spaces through digitised boundaries make it difficult for traditional leaders to exert control and to rule their subjects belonging to different administrative structures. According to the traditional leaders, splitting leads to loss of territorial space that the digitised boundaries seek to define.

5.9 The proposed strategies for managing complexities from digitisation of boundaries

The Demarcation Board of South Africa should digitise social boundaries by recognising social space inhabited by villagers to avoid disrupting the social organisation of communal space. This can be achieved through community participation in digitising boundaries, and implementation of new computer technologies, approaches and tools to map such as Participatory Geographic Information System. The local municipality must strengthen the role of community awareness in boundary redetermination. Changes of existing boundaries and the introduction of new digitised boundaries should be a response to the requests of the local residents. In addition, spatial planners should create access to information on boundary redetermination through grassroots consultation. Figure 5 shows a proposed concept map for the Vuwani Village. The map illustrates the proposed new boundaries that include social space and the the expectations pf the community residents. In any case, Lefebvre (1974) argues that boundaries as perceived spaces determine who we are through our relation to our environment. The red dotted lines show the social space that needs to be recognised by the digitised boundaries. A change of demarcation lines is therefore needed. Ultimately, boundaries are created by human interaction (Lefebvre, 1974).
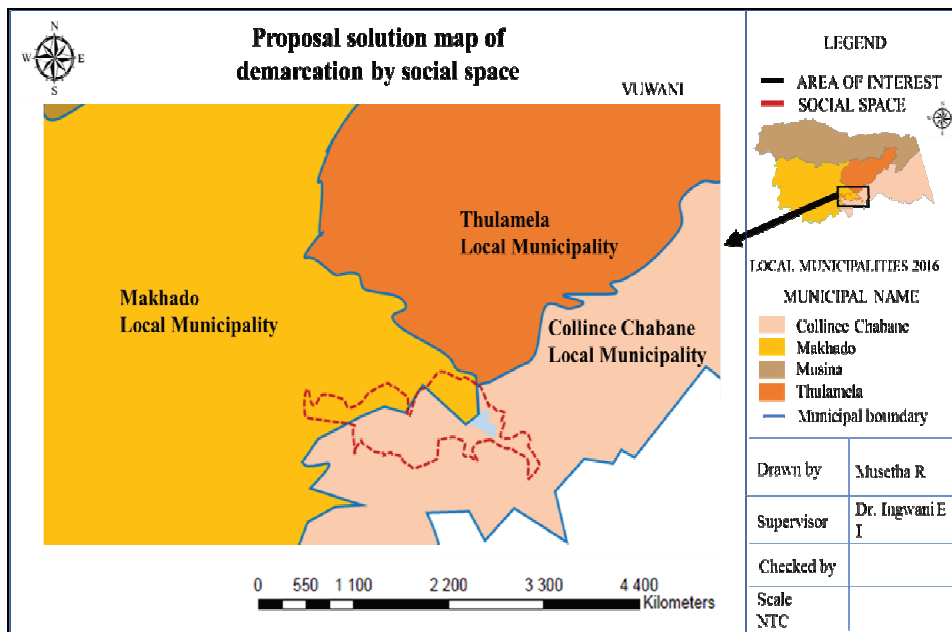
Figure 5: A concept map showing the proposed social digitised boundaries in Vuwani Village (Source: Fieldwork, 2018)

6 CONCLUSION

The people of Vuwani Village perceived the changes pf boundaries through digitisation as interferring with their way of life. Changes in social space create huge impacts on community perceptions. The reaction of community residents of Vuwani was a result of a lack of community engagement programmes for decision making in relation to this new municipal digitised boundary. Thus, people adopted voice, exit and loyalty strategies to get recognition from their local municipality. In Vuwani Village, the 'new' digitised boundaries engendered violent protests including arson, shutdowns of institutions and disruption of services. These contestations are on-going. Community residents of Vuwani Village and spatial planners from the local municipalities are in disagreement on where exactly the digital 'line' (boundary) must fall. Community residents want social digitised boundaries that define community identity and belonging, whereas municipal planners want digitised boundaries that simply separate spaces. Exit, voice, and loyalty responses are clearly apparent in Vuwani Village as community residents react differently to the spatial representations of digitised boundaries. This paper proposes prioritisation of social boundaries as key to dealing with politics flowing from digitised boundaries - from below. Strategies that serve as platforms for rethinking the implementation of digitised boundaries in local rural municipalities of South Africa and elsewhere are clearly needed.

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