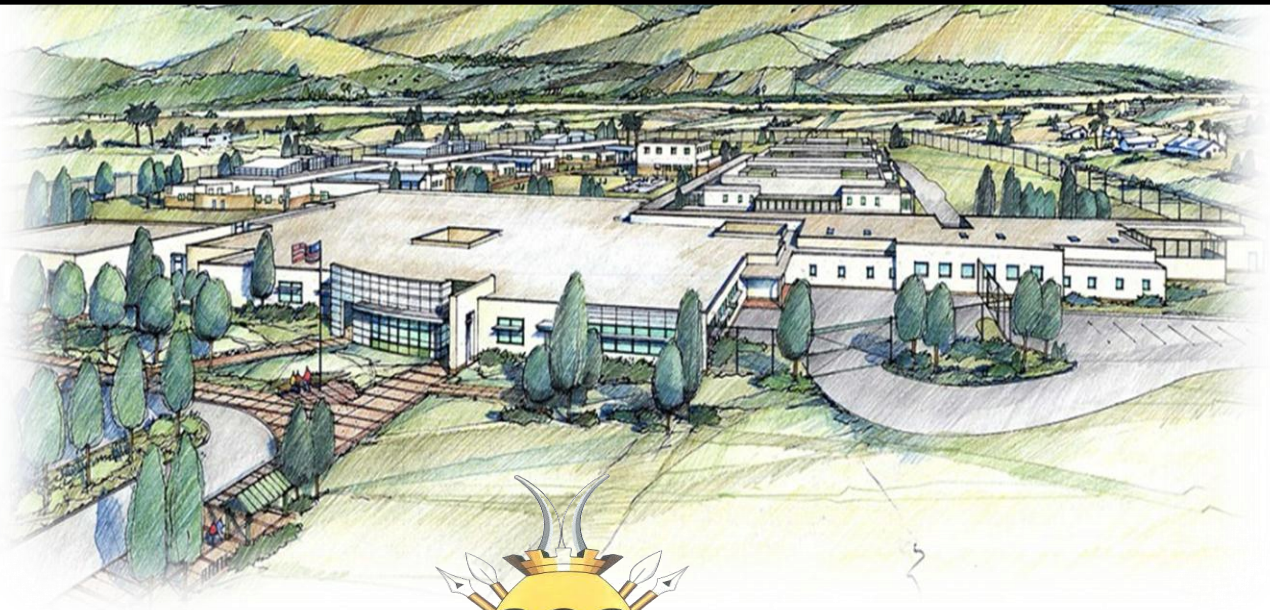


Settlement Plan and Nodal Development Plan for Buxedene and Ward 8 in Nongoma Local Municipality



NONGOMA LOCAL Municipality

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INTEGRATING SUSTAINABLE DEVELOPMENT
"not tomorrow, but now!"

1.1 Project Background and context

Somewhere in the Zululand, heightens a sight that intrigues with delight, the pride of the Zulu dynasty, the Royal seat of the Zulu Monarchy, epicenter of the Zulu arts, culture, and heritage. Incontestable noble hill elevate among its peers. A site of sight that intrigues with amusement, A place that intimidate with its isolated hills and undulating contours yet endow with spatial potential. It has been named Nongoma, a place that resonate spatial vitalities with the core idea of re-connect people with nature, indispensable to the economic, agricultural environmental and cultural vitalities of the Zululand.

Nongoma is a rural local municipality with a population of 191,348 (STATS SA, 2011), It is one of the five municipalities that constitute the Zululand District located in the east of the Zululand District Municipality (ZDM) in the KwaZulu Natal Province. Nongoma municipality is the second largest in terms of area in the ZDM, encircling 363 settlements, further delineated into 21 wards.

The SDF has identified Buxedene as a rural service center (Secondary Node) with the potential to cluster primary services and serve as first entry point to service delivery in the rural area. This is in keeping with the imperatives of the municipal strategic goals captured in the IDP, which among others, seeks to promote spatial and environmental management, create equal access to sustainable basic infrastructure and services, and to promote local economic and social development. Hence, the impetus on the municipality to formalize Ward eight and develop Buxedene as one of secondary Node of Nongoma Municipality.

This will aid to determine the development potential in the project area for the purposes of developing a sustainable human settlement, rekindle investors interested in the proposed node, protecting agricultural, cultural, and environmental resources and to guide future development, expansion, and upgrading of the area in line with the sustainable

humansettlement policy of the national government. These goals resonate with national and provisional planning priorities advocated by various documents.

1.2. Objectives of the project

The Nongoma municipality has appointed PGA Consultants to undertake this project, with the primary aim of formalizing Buxdene and the whole of Ward 8 and to introduce formal spatial planning in the area, through the preparation of layouts, general and precinct plan, to guide future development, expansion, and upgrading of the identified Buxdene secondary Node.

Formalization of the whole ward will introduce formal spatial planning order to resolve conflicts between land use and controls negative externalities among others. While the nodal development plan provides a vision and framework for coordinating and informing both public and private investment and directing the physical development and management of all initiatives to deliver a well-integrated, pedestrian-friendly, safe and attractive environment for residents, visitors, and tourists. The term of reference clearly states that the task undertaken will accomplish the following (but not limited to) objectives:

- To provide clarity on what may or may not occur on particular areas of ward eight;
- To promote the certainty for land use and management thus creating investor confidence;
- To promote amenity, efficient land use practices and reserve land for essential services;
- To resolve conflict between different land uses and to control negative externalities;
- To enable the mix of convenient land usage, efficient movement processes and promote development;
- To protect natural, cultural and religious resources, unique areas, ecosystem services, areas of archaeological and historical significance and land with agricultural potential
- To provide for sound local regulation and enforcement procedures;



- To accord recognition to indigenous and local spatial knowledge, land use practices
- To ensure the collaborative designation areas for future use; and
- To give effect to the development principles contained in the SPLUMA

1.3 The legal and policy context

A number of national and provincial legislative and policy directives governed the undertaking of the formalization of the ward and nodal development plan for the study areas, which provided guidance to processes and alignments with national spatial planning priorities in order to produce credible and realistic development direction for municipalities. The preparation of the plans has been informed by a wider range of legislations and policies relevant to spatial planning, environmental management, transportation, and infrastructure planning and social and economic development. Key legislation and policy that has been considered include inter alia the following

Table 1: legislative and policy framework

LEGAL INSTRUMENTS	RELEVANCE TO PROJECT
The Constitution of the Republic of South Africa (1996)	<ul style="list-style-type: none"> ● The constitution ensures the provision of services to communities in a sustainable manner. ● Promote social and economic development. ● Promote a safe and healthy environment
The National Development Plan: Vision for 2030 (NDP)	<ul style="list-style-type: none"> ● The NDP outlines key development areas, as transforming rural spaces, expanding infrastructure and creating jobs and livelihoods which resonates with some objectives of the project
National Spatial Development Strategy NSDS	<ul style="list-style-type: none"> ● This document Advocates that development and investment confined along sustainable locations with potential and Provision of Basic services (water, sanitation, access and energy) to all households
The Provincial Growth and Development Strategy of 2011	<ul style="list-style-type: none"> ● The PGDS advocates that Planning and development must strive to provide the highest level of accessibility to resources, services, and opportunities. The KZN PGDS advocates the principle of the densification of human settlements and systematic linkages of nodal development that leverage on

	<p>economic strategies.</p> <ul style="list-style-type: none"> Under the Municipal Systems Act, all municipalities are required under the Local Government Municipal Systems Act (Act No. 32 of 2000) to prepare Integrated Development Plans (IDPs) and to compile Spatial Development Frameworks. Pivotal to this process, is the need to address past spatial misnomers, dysfunction, and socio- economic inequalities that plague the municipal landscape.
Municipal Systems Act (Act No. 32 of 2000)	
Nongoma IDP, SDF, Spatial Planning and Land Use Management (Act No 16 of 2013 (SPLUMA)	<ul style="list-style-type: none"> The ID encapsulatesthe broadermunicipal vision. The Spatial Development Frame Work translates the vision of the nongame municipality spatially This informs all spatial developments to curtail previous spatial footprint while taking cognizance of the need to promote the development principles in preparation of all plans, SPLUMA encourages settlements along existing and identified nodes and settlement corridors to avoid sprawl. Protecting Prime and unique agricultural land, the environment and other protected lands
Spatial Planning and Land use management Act By laws	<ul style="list-style-type: none"> This document provides for the establishment of the Municipal Planning Approval Authority, Municipal Planning Appeal Authority and the Municipal Planning Enforcement Authority. To provide for the adoption and amendment of the Municipality's land use scheme, to provide for the applications for municipal planning approval; to provide for appeals against decisions of the Municipal Planning Approval Authority; provide for offences and penalties to provide for compensation and matters incidental there to.
The National Infrastructure Development Plan of 2012,	<ul style="list-style-type: none"> This Document advocates that strategic spatial development proposals should be closely associated with infrastructure development AND that there should be densification& promotion of concentration; co-ordination of development interventions; and integration of spatial planning initiatives for effective land use management
Provincial Spatial Economic Development Strategy 2007 (PSDES)	<ul style="list-style-type: none"> The Imperatives of the PSDES alludes that where low economic potential exists investments should be directed at projects and programmes to address poverty and the provision of basic services in order to address past and current social inequalities
Comprehensive Rural Development Programme (2009)	<ul style="list-style-type: none"> The CRDP has the aim of development of rural South Africa, particularly creating vibrant, sustainable, and equitable rural communities. through proactive participatory community-based planning
The National Environmental Management Act (107 of 1998 as amended)	<ul style="list-style-type: none"> It advocates the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions which is the object for formalizing Ward Eight in Nongoma Local Municipal
	<ul style="list-style-type: none"> It also gives effect to the preparation of wall-to-wall schemes in all municipalities by 2015. This therefore impacts on the spatial decisions which will have to be able to give clear strategic direction to suitable land uses in wards eight
KZN land use management system 2004	<ul style="list-style-type: none"> The document provides guideline to preparation and implementation for scheme in tribal and rural areas

*Source :
(Author,
2017)*

1.4 Strategic Context

“What are we going to do to unlock and address our key challenges?” this being a key question posed in the municipal IDP. This have oriented the municipality to identified key performance area for concentration to address, which suggest that every development initiatives should aligned to these identified performance area. This work took cognizance of the strategic goals captured in the municipal IDP. This was done to ensure that the project aligns with these goals, in doing, the development objectives, and projects forthcoming, supports the municipal vision and. spatial reflection of the vision as guided by spatial development framework. Figure 1 conceptualizes the alignment between the project and the strategic goals of the Nongoma Municipality



Figure 1: Conceptualization of linkages between the spatial development and municipal strategic goals
Source : (Author2017)

1.5 Delineation of project area

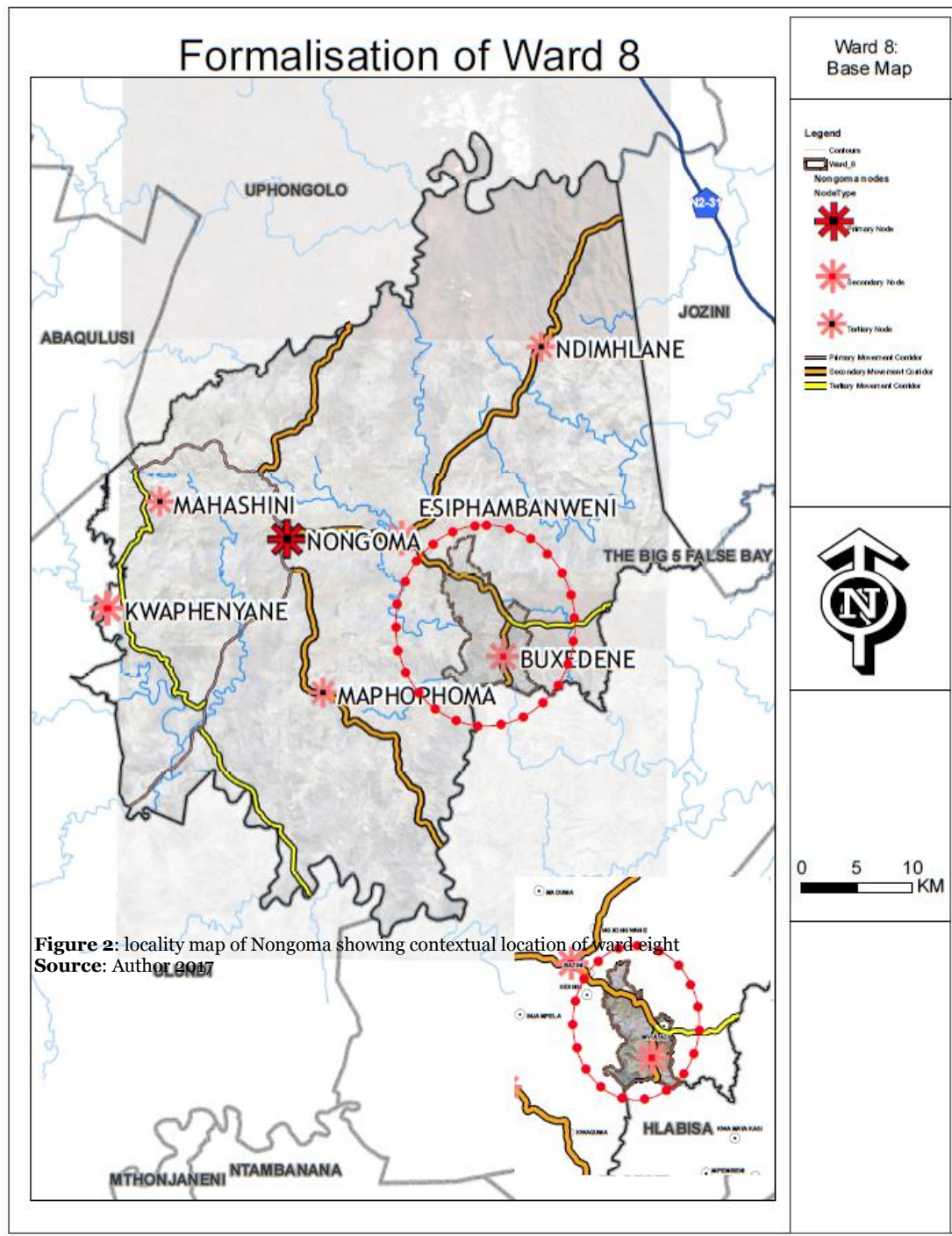
1.5.1 Ward 8

Ward Eight is located 12 km away from Nongoma city center. It is bounded on its western edge and to its extreme northern boundaries by Ward Six, and on the eastern limits by Ward Seven. The study area covers an area of approximately 161.508 hectares, encapsulating 10 rural settlements namely Bhekumteto, Buxeden, Hawini, Khenana, KwaKatsi, Ncemaneni, Nkonjeni, Okledeni, Phanyekwni, and Tshonono. Majority of the land falls under Ingonyama Trust and the Mandlakazi Traditional Authorities in the municipal area.

The settlement patterns in the study area are predominantly nucleated and linear settlement mainly along the district distributors (D1807, P450, D2030, L1602) and the access roads though; there is evidence of few linear settlements along the Regional distributors (P235-2) which traverse through the ward. Ncemaneni and Hawini are few of the dispersed settlements located away from already services areas in the ward,

The current land use model largely manifests diverse uses as residential, peasant farming mainly subsistence in nature on marginal lands with limited water supplies, animal rearing schools clinics, health etc. The IDP has identified some priorities needs of the wards as community hall, Sports field, upgrade of access roads and Low-cost housing projects. *Figure 2 and 3* shows the contextual location of the study within the municipality and the study area and

Locality Map



Study Area – Ward 8

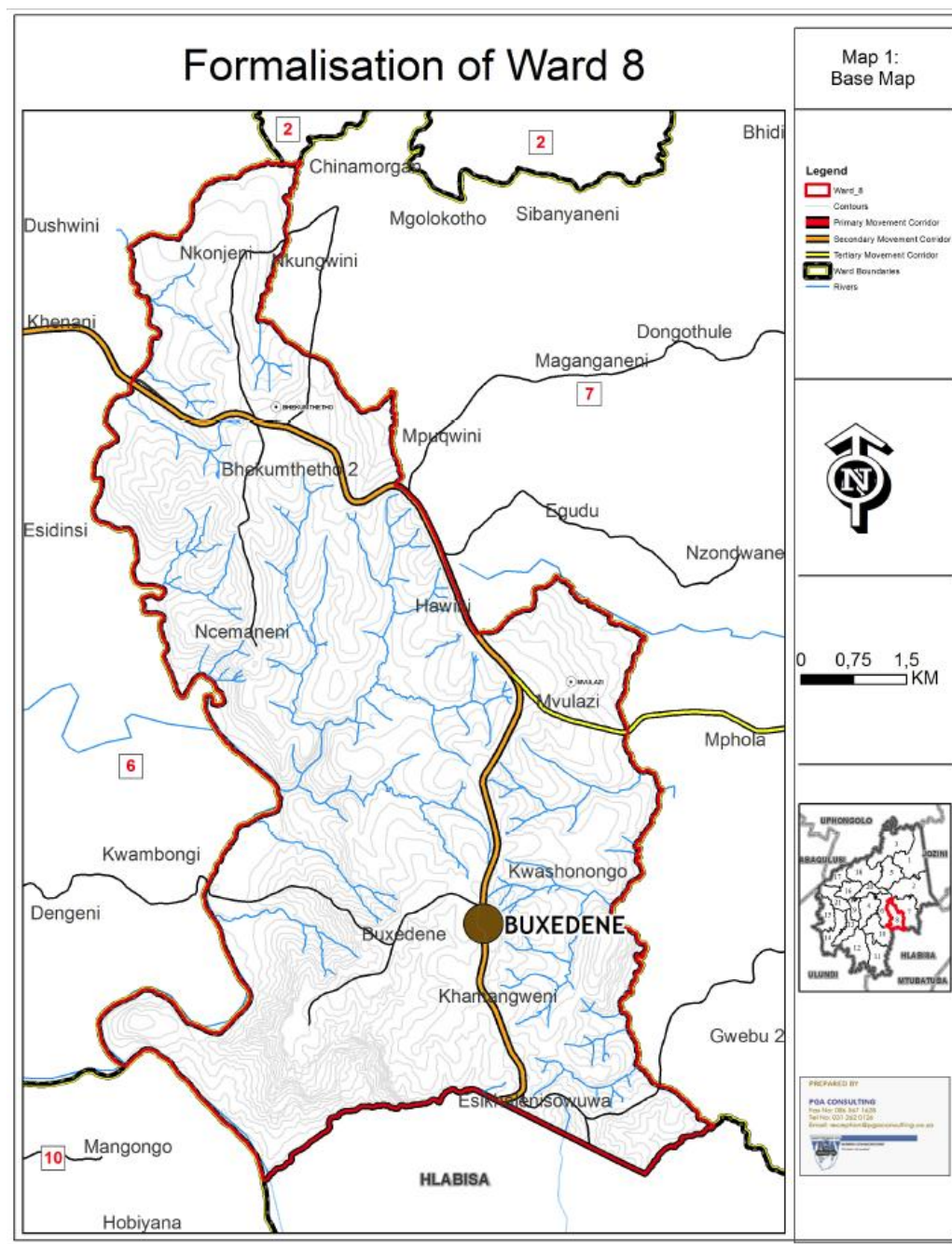


Figure 3: locality map of Nongoma showing contextual location of ward eight
Source: Author 2017

1.5.2 Demographics:

The ward has a population of 8275 and estimated household blocks of 1572 (STASSA 2011; Nongoma Local Municipality IDP Review 2015/2016,) with most of the dwell types classified under Informal, Traditional and Formal Dwelling. Approximately 35% of the people in the municipality are unemployed with only 12% of the population having completed their grade 12 educational level.

1.5.3 Buxedene Node

In terms of population, and land mass, Buxedene is the largest rural settlement within wards eight, approximately 22.21 hectares in size. It is located on the southeastern part of ward, along the P235-2 corridor about 30 Km from Nongoma town and close to Hlabisa settlement. It manifest a rural character and bordered by a Provincial Road (P235-2) which connects to district collectors, the D1855 and the D2030 forming key intersections of access routes in especially the Traditional Authority areas that leads to nucleated rural settlements close by. Buxedene is identified as a secondary node, with the potential for clustering of primary services to serve as a first entry point to services delivery in the project area and provide a plausible threshold for the clustering of groups of small, localized businesses. The nodal plan will deliver the node as a starting point for the emergence of mixed-use activity, currently the area is have a clinic, schools, community hall moreover it has received EDT funding for a poetry project and there are investors interested in building a secondary shopping Centre at the node. Figure 3 provides the contextual location of Buxedene, Node within ward eight



Contextual location of Buxedene node

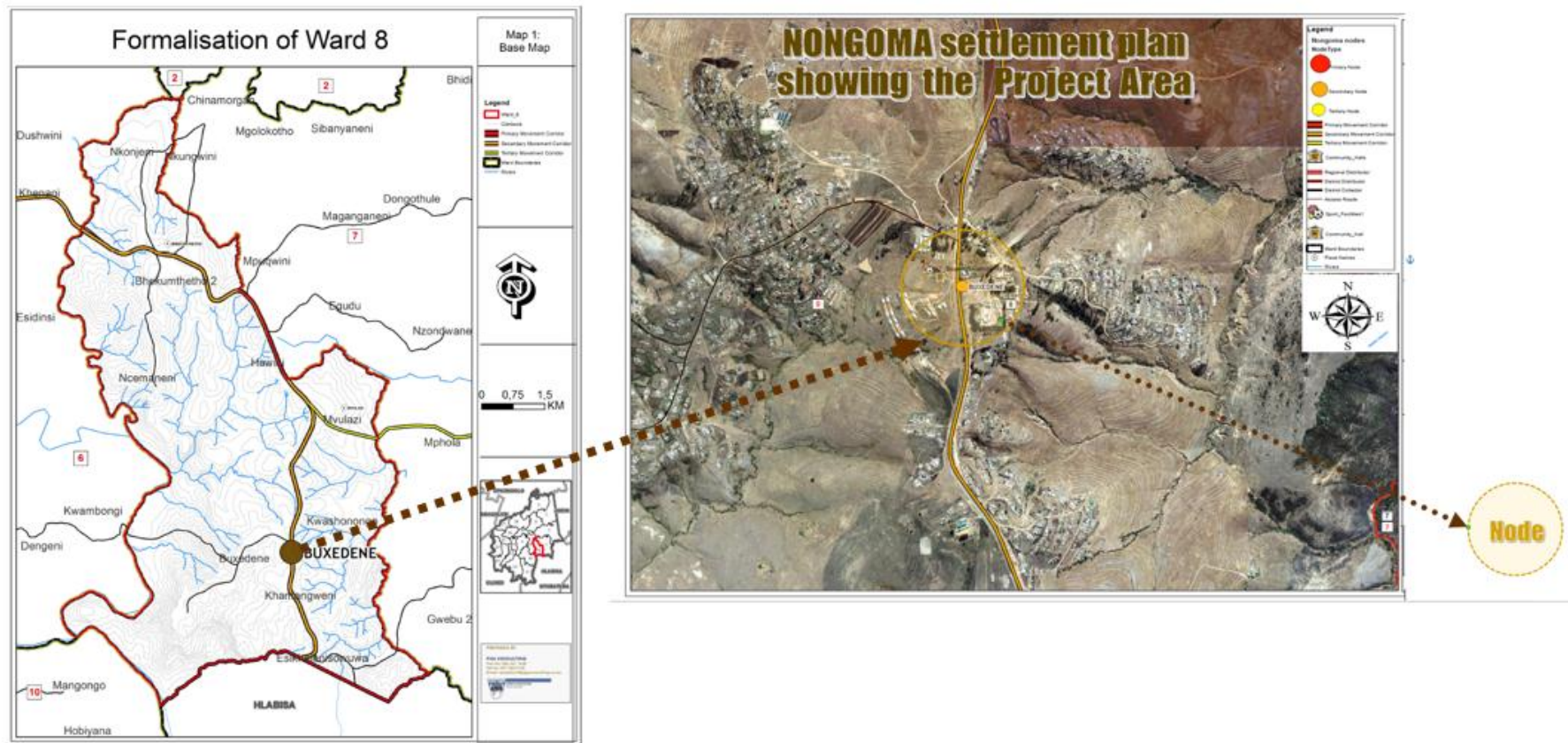


Figure 4: contextual location of Buxedene within the study area

Source: Author 2017

1.6 Planning Methodology and Process

The formalization of ward eight through the preparation of various plans: was built on solid principles extracted from previous studies, comparative research and “best practices” related to similar types of experience. It aimed to provide the basic tools and to reconcile potential differences and conflict emerging out of different stakeholders’ interests and priorities that provide a shared vision for ward eight residents, traditional leaders and local government entities.

The project has been based primarily on a desktop study that reflects the synthesis of information relevant to the planning for ward 8. The information contained in this report has been augmented by data derived from engagement with all stakeholders including, community groups, traditional leaders, and interactions with the Project Working Group and Project Steering Committee. Key data sources include:

- **Existing Policies and Documents**– existing planning policy documents, including national, provincial, and district and local policy, such as the Nongoma Integrated Development Plan (IDP) and Spatial Development Framework (SDF) PSDES, CRD, PDA, PGDS and many more
- **Strategic Assessments**– this includes site visits and situational and technical analytic assessments of key development s and sector environments, including Biophysical overview, Infrastructural /social amenities context, socio-economic/ socio spatial context Heritage and cultural resources, environmental scanning, land use, urban design, transport, , etc. undertaken by the sector specialists.
- Within the project team
- **Stakeholder Engagement**– This include workshops and interviews with key municipal officials responsible for planning, development, environmental management and service delivery; interviews with traditional leaders in the wards

focus sessions with identified private business stakeholders; and input from the community structure and stakeholder meetings through workshops.

- **Planning and GIS Data**– Geographic Information Systems (GIS) was used to overlay information and indicate existing situations. GIS was also useful in terms of capturing and evaluating biophysical data, land use and settlement models. Different data sets were used to create maps indicating, infrastructure services, environmental and other planning related issues.

The following provides an overview of the planning methodology and process adopted for the document

Phase 1 – inception report: establishing a detailed agreement on contents and process of the project, compiling the relevant inception report, establishing communication channels and establishing an appropriate project steering committee (FIRST PSC MEETING)

Phase 2 – Situational And Technical Analysis Outcome: Establishing a thorough situational and technical analysis and understanding of conditions which are likely to influence the future spatial development of the ward eight and the entire Buxedene nodal area including both onsite as well as wider off-site context, including:

- Biophysical overview,
- Infrastructural /social amenities
- socio-economic/ socio spatial context
- Heritage and cultural resources,
- environmental scanning,
- Land use overview.

Phase 3- Stakeholder’s Participation Outcomes /Strategic Thrust: Integrating stakeholders’ inputs and outcomes of the situational and technical analysis in providing a strategic thrust, which identified key performance areas for intervention to guide the preparation of the General and Layout plan

Phase 4 – Concept Plan Development / General Plan Formation: Developed a concept plan to direct the preparation of layout and general plans to resolve conflict between different land uses and to control negative externalities to guide future

development, expansion and upgrading of the area in line with the sustainable human settlement policy of the national government

Phase5 – Urban Design Framework- Provide a shared vision for Buxedene nodal area, Structuring critical elements, including appropriate mix of land use activities that provide the armature to and guide development and sustainability of the node over time. Moreover, formulating of Planning codes and design Guidelines for the, maintenance and sustaining the node

Phase 6-Implementation Plan and Management Strategy: Identified project, priority actions, tools, and key stakeholders to translating the various plans and guidelines into priority action areas and activities to ensure implementation, maintenance, and sustenance of the node plan (SECOND PSC MEETING)

Phase 7- close out report and final report: The compilation and submission formats the refined final report and a close out report to the client in hardcopies, CD and GIS as well as PowerPoint presentations as required. (THIRD PSC MEETING)

2.0 Situational and Technical Analysis Outcome

2.1 Introductions

This section of the report present outcomes from situational and technical analysis undertaken by various professionals' in establishing a thorough understanding of various environment within ward eight and conditions likely to influenced the framework that guides the areas development efforts and track future development trends and progress. Among the sector environments investigated includes inter *alia* the following

- Biophysical overview,
- Infrastructural /social amenities
- socio-economic/ socio spatial context
- Heritage and cultural resources,
- environmental scanning,
- Land use overview.

2.2 Biophysical Environment

2.2.1 Topography and slopes

The topography of the ward is mostly characterized with rolling and hills formed by granite slopes incised by small rivers and tributaries. The terrain is undulating with, deep river gouges, deep valleys, these features forms natural edges that created discontinuity and isolation of settlement patterns as Ncemaneni, thereby militating against compact settlement hence hindrance sustainable service delivery.

The terrain also affects connectivity and linkages between settlements in the study areas. For instance Ncemaneni and konjeni which isolated from other settlement and linked to the regional distributor by the graveled D1807 Road , compared to Baxedene which is easily accessible to settlements like Khamangweni Kwashonongo and Mvulazi along the P235-2 (regional distributor)

The slope analysis indicates that steeper slopes have a gradient of 1:3 mostly confined to the western boundary which has resulting in the agglomeration of most settlements within the midlands stretching to eastern boundaries with gradient between 1:6 to 1:10. These fluctuating high levels, impedes the supply of bulk infrastructural services and has resulted in scattered settlement pattern. Figure 4 provides a map showing the nature of the terrain in the study area



Slope analysis map

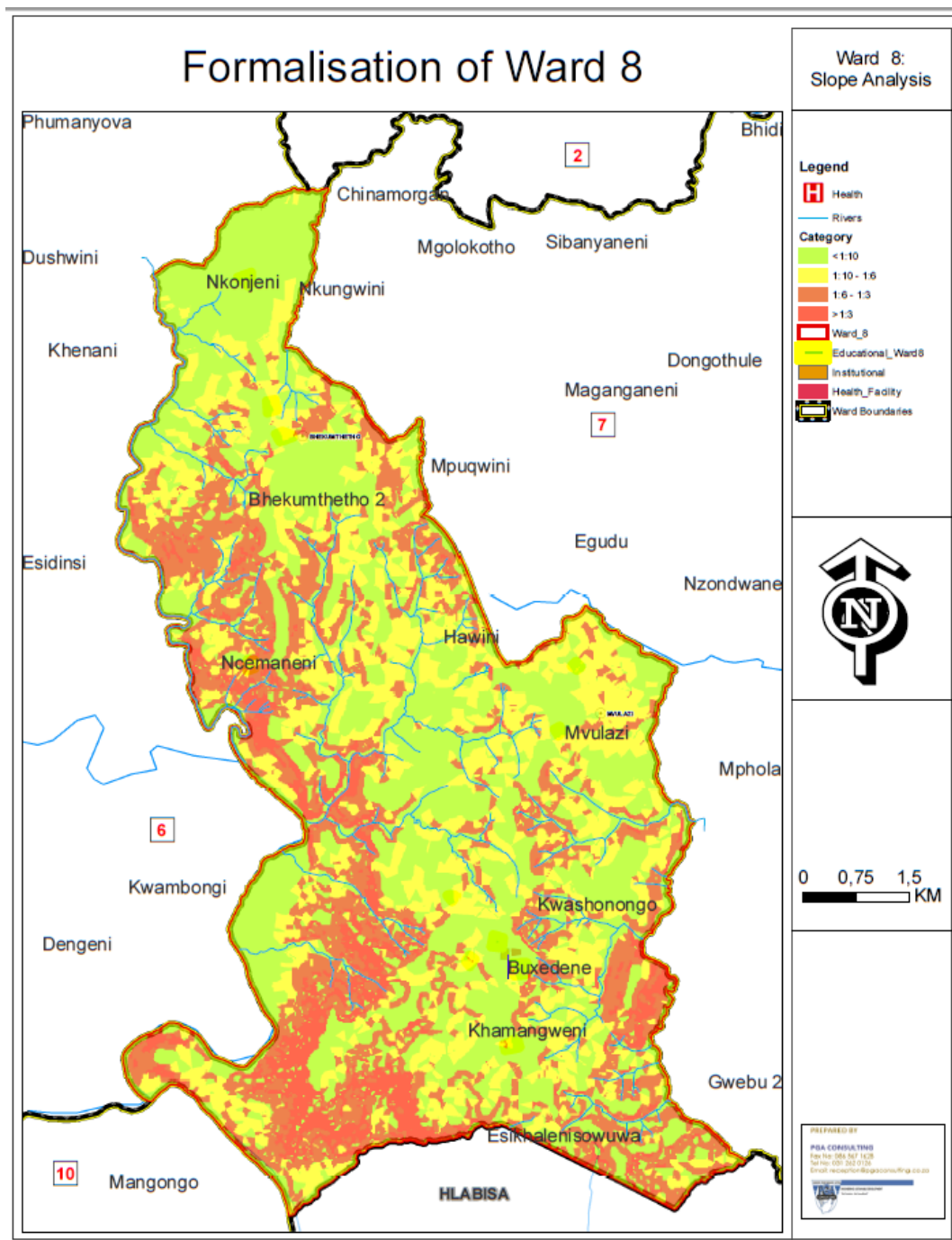


Figure 5: map showing slope analysis the study area

Source: Author 2017

2.2.3 Geology and Soils

The geological formation in ward eight manifest different rock formation as sandstone, siltstone, mudstone, shale intruded by dolerite and includes patches of letaba basalt, in the north of the ward. This lithology affects the soil quality; none of the soils in the ward is suitable for commercial farming with available water

The municipal SDF identifies most of the land in the ward as “category D” agricultural land, this being soil having a reasonably potential for subsistence community farming, this implying that it costly to make small portions of land economically viable. The land potential map in figure 5 indicates that 80% of the land is considered as secondary agriculture land with soil suitable for subsistence farming and grazing, with the remaining located on the northern boundaries around Nkonjeni considered mixed agricultural land

Soil erosion occurs in most part of the ward especially along the river banks, and the western portion of the wards with steep gradient (1:3) perhaps with Buxedene, Khamangweni and Nkoneni being the least affected area in ward eight. Over burdening of the marginally, poor soil precipitate soil degradation, erosion and leaching of soil nutrients, thus results in reduced agricultural potential. This is mostly caused by over utilization of the soil through poor farming practices, over grazing and considerably over-burnt field. Nevertheless the nature of the terrain cannot be ruled out as one of the causative factor for soil erosion,

Land potential map

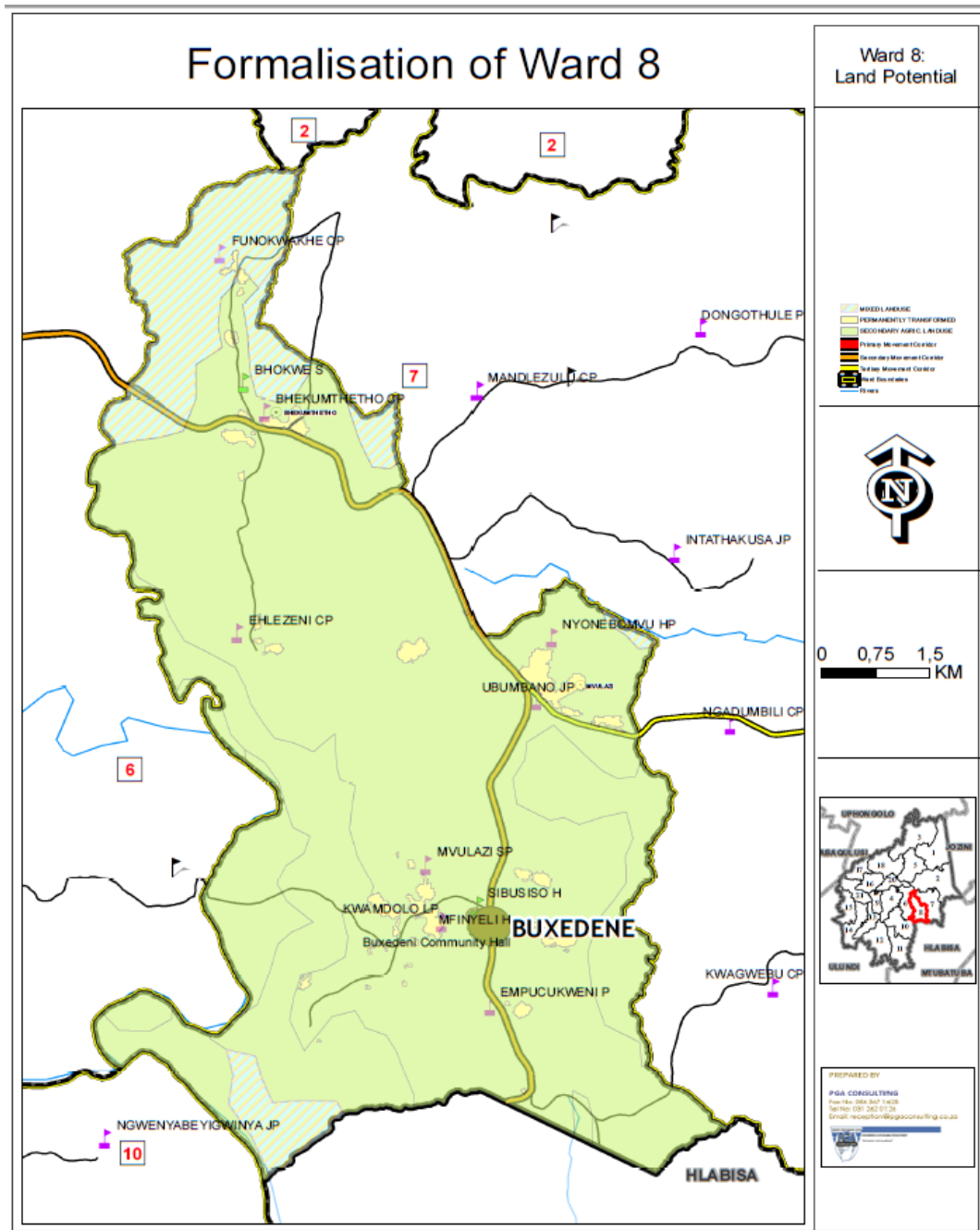


Figure 6: land potential map on the study area

Source: Author 2017

2.2.4 Hydrology (Water System)

Two river catchment areas were identified closer to Ncemaneni and Hawini settlements. Generally Important river systems in Nongoma include the Ivuna River and Black Mfolozi River as well as the Mona River, with some tributaries extending into the study area. The topography is incised by small rivers and tributaries. Most of these tributaries are intermittent streams only active in the raining seasons. The drainage system in the ward includes both rivers and dams streams and springs that carry fresh waters from the upper course downstream.

Most of the river valleys around the western boundaries have elevation between 507 to 630 meters above sea level, flowing swiftly downstream eastwards with evidence of landforms as deep valleys river gorge. Most settlements including Duxedene, Ncemaneni, Hawini, khamangweni are located closer to the lower course of river basins to leverage on the ecosystem goods and services. It should be noted that most of the activities along the river banks as farming, drawing water for household purposes, watering of cattle's and many more compromises the water quality and the ecological integrity of the river systems to accelerates erosion in the study area. The rivers provide scenic beauty and provide resources for the survival for most of the communities. Figure 7 provides a map showing river systems in the study area

2.2.5 Wetlands

Most of the wetlands are located in the lower terrain with gradient of 1:10 (10% incline) stretching from the southern portions where Khamangweni, Buxedene and Esikhalenisowuwa are located to the midlands around Hawini. The wetlands are suitable for growing indigenous plant with medicinal properties but are currently being threaten by alien plant invasion, poor catchment management, poor farming practices and high impact development along the wetlands.

This pointing out that incorrect citing of high impact developments in close proximity to wetlands, drainage lines, rivers, and dams is resulting in water pollution. The wetland also regulates the micro climate suitable for the cattle's especially in the dry season when most of the rivers and streams dries up. It was ascertained that the drying up of the rivers and stream in the study area due to climate change puts pressure on the few

existing wetland and dams on headmen seeking to water their cattle's in the dry season, which further explains the rationale behind strolling cattle's in search of water and grazing field in the dry season. Figure 7 provides map showing the location of wetland in the study area

HYDROLOGY MAP

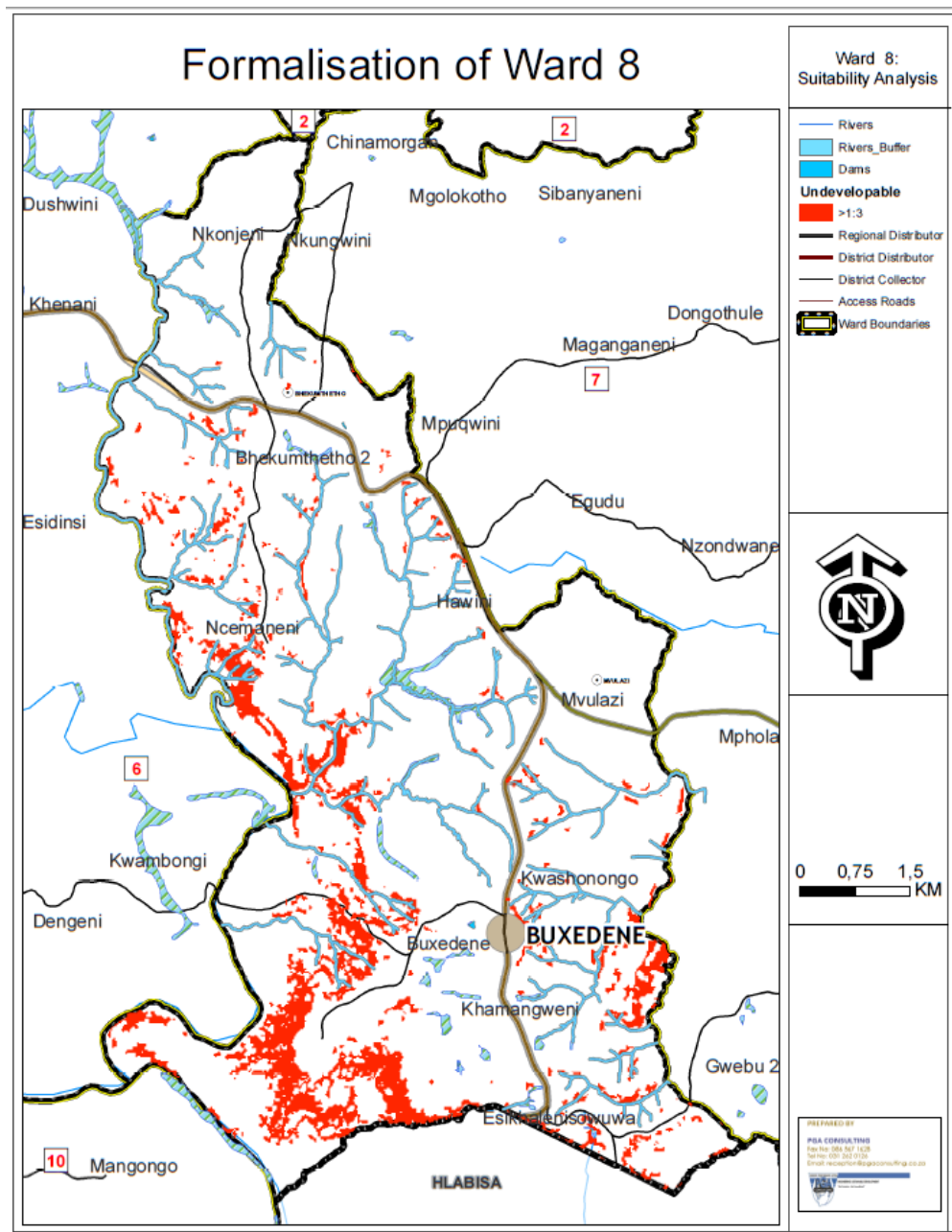


Figure 7 : hydrology map showing river systems and

Source: Author 2017

2.2.6 Biodiversity

Given the altitude and climate, dense bush, woodland and bush lands are some of the vegetation classification in ward eight at the western boundary of the ward. Vegetation types found in the wards includes Ithala Quartzite Sourveld, Northern Zululand Sourveld, Scarp Forest, Zululand Lowveld , Grasslands are a major component of the natural vegetation in the ward

The biodiversity map provided in figure 8 gives a broad classification of vegetation cover in the study area as shrub land as well as patches of thickets, bush land and bush clumps. Although biodiversity is not seriously threatened to a critical level, there is the need for development to respond to environmental vitalities and subjected to environmental management processed before and during development process. The SDF has identifies areas, 100% permanently transformed at where D2030 and D1855 gravel road intersect and around Buxedene node. Besides there is evidence of indigenous vegetation and habitat being threaten by deforestation, poor farming practices, alien plant invasion poor catchment management and Informal housing. Proliferation of alien invasive plants is evident in some settlement in the ward, especially around the watercourses, wetlands, and especially around or on the edges of forests and deforested areas.

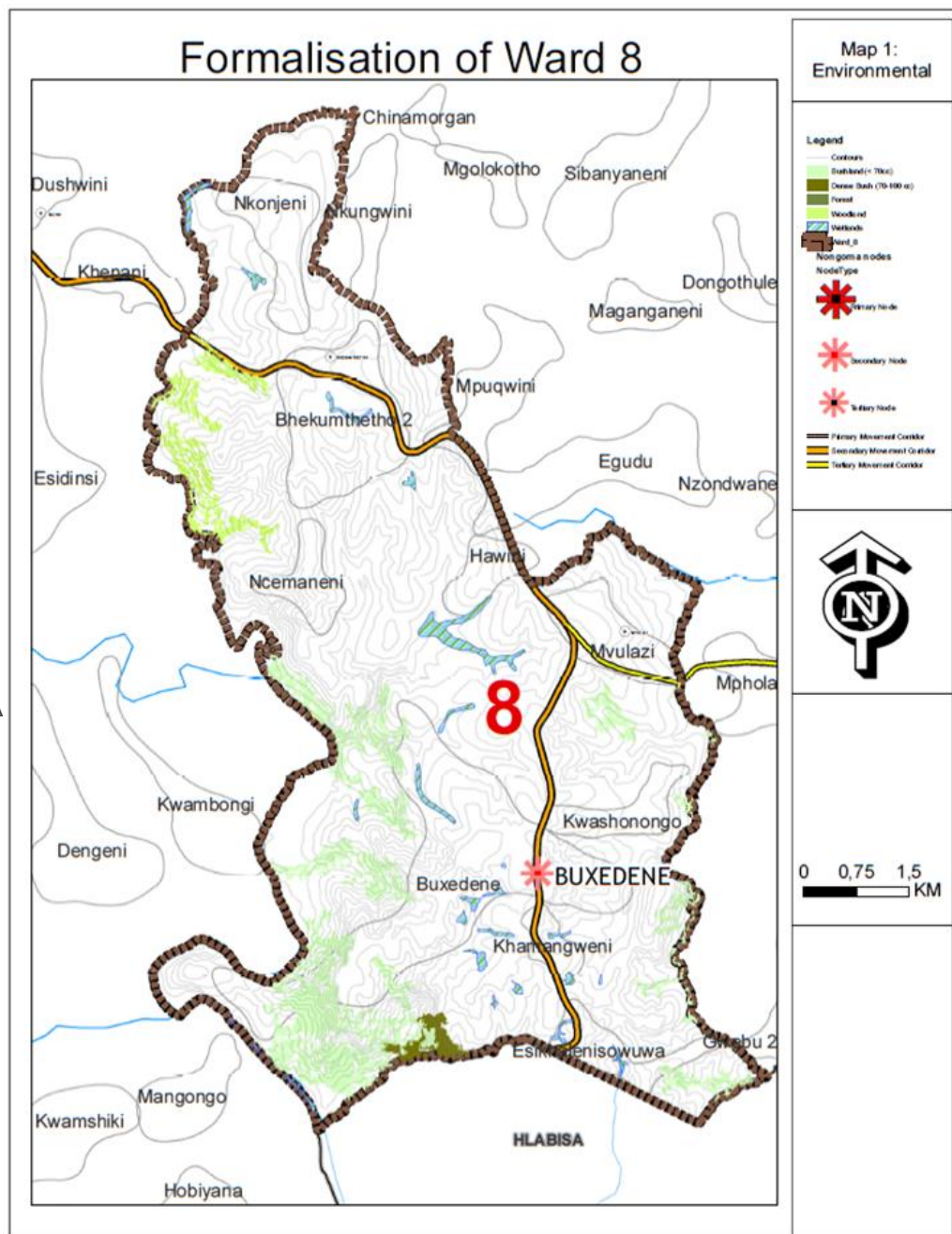


Figure 8:
Source: A

LAND COVER MAP

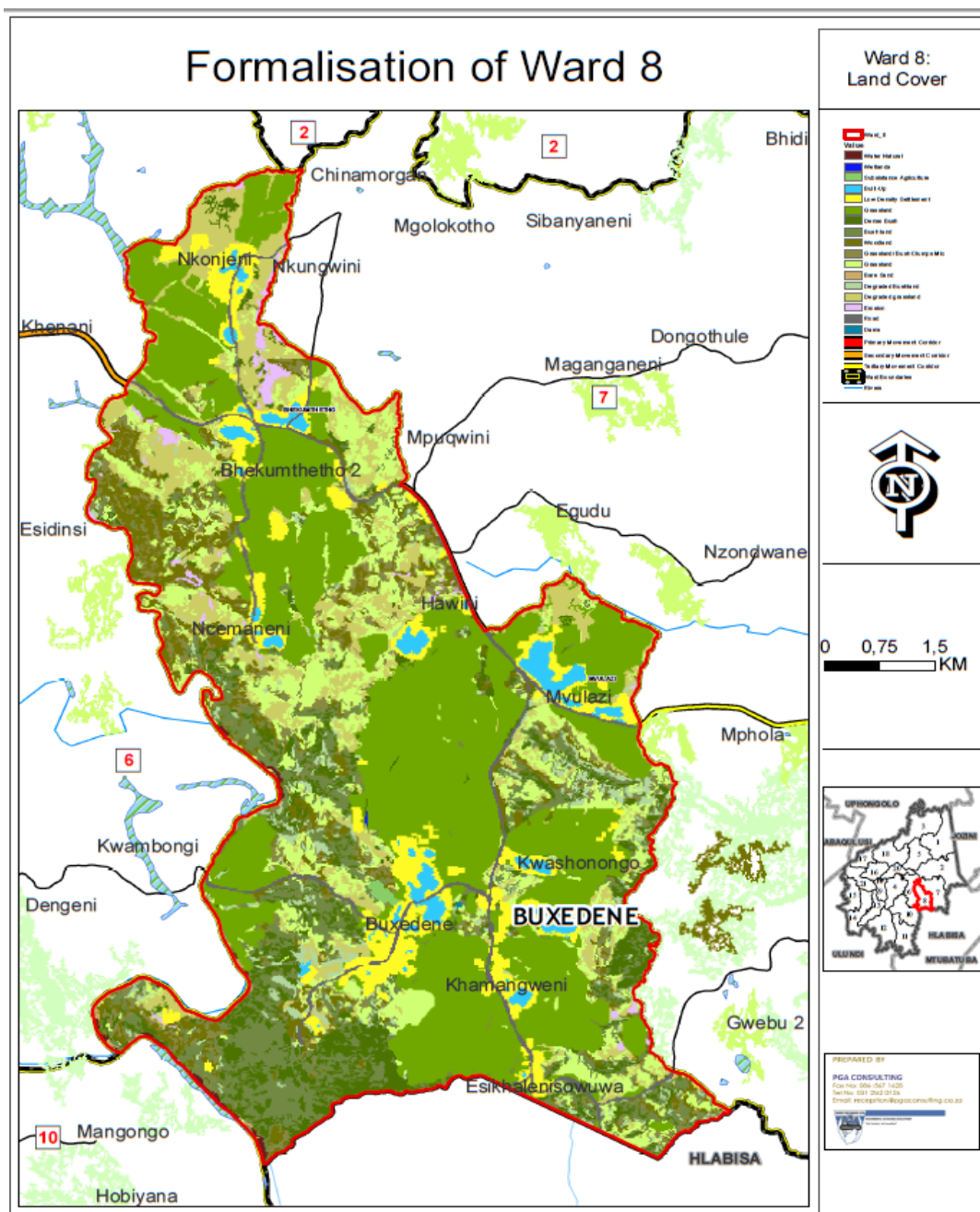


Figure 8: land cover map

Source: Author 2017

2.3 Settlements Pattern and trend

The project area covers a land extent of 6463.44 hectares, with ten rural settlements identified Bhekumteto, Buxeden, Hawini, Khenana, KwaKatsi, Ncemaneni, Nkonjeni, Okledeni, Phanyekwini, and Tshonono. Buxedene is the most populated and vibrant rural activity nodes in ward located is along R66, about 30 Km from Nongoma town. Bhekumthetho is the second largest settlement in terms of population and services however, there are other small smaller settlements as Kwashonongo, Khamangweni and Ncemaneni located in the northwestern part of the ward

These fluctuating high levels of the study area, has created scattered settlement pattern that creates discontinuity in settlement patterns without effective connectivity and linkages among settlement within the ward. Generally, the settlement patterns are partly nucleated along corridors as the regional distributor (R 618) and district collectors including the D2030 P450 and access roads. There is evidence of linear settlements as Ncemaneni along the D10807 and isolated disperse settlements located away from already services areas in the ward figure 9 provides status quo of settlements in the study area

The undulating nature of the terrain creates natural edges that isolate settlements and places limitation on settlement expansion thereby creating high cost on infrastructural and service delivery. The terrain incised by small rivers and tributaries have low-lying bridges or no bridges at all consequently making some settlements becoming inaccessible during the rainy months with torrential rainfall. This explains the presence of gravels, earthed road, and footpaths created to circumvent the hilly and natural edges in the study area. Ten rural settlements are concurring to form ward eight. In spite of the terrain, settlements within the wards have experienced consistently increase household population over the years. Figure 10 provides settlements growth trend from 2007 to 2013, while table 2 captures synopsis of settlement s profile within the study area

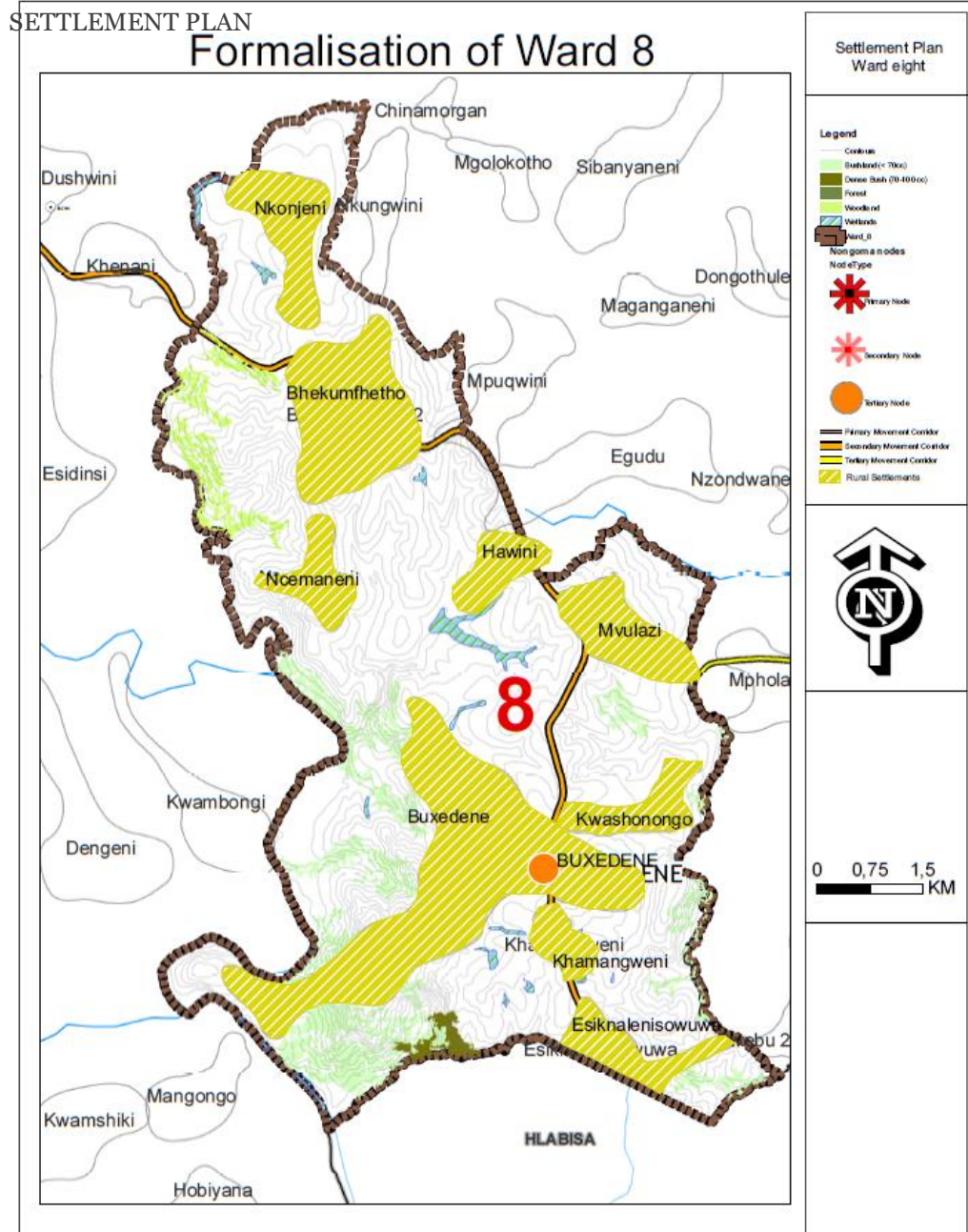


Figure 9: Settlement plan

Source: Author 2017

SETTLEMENT GROWTH TREND

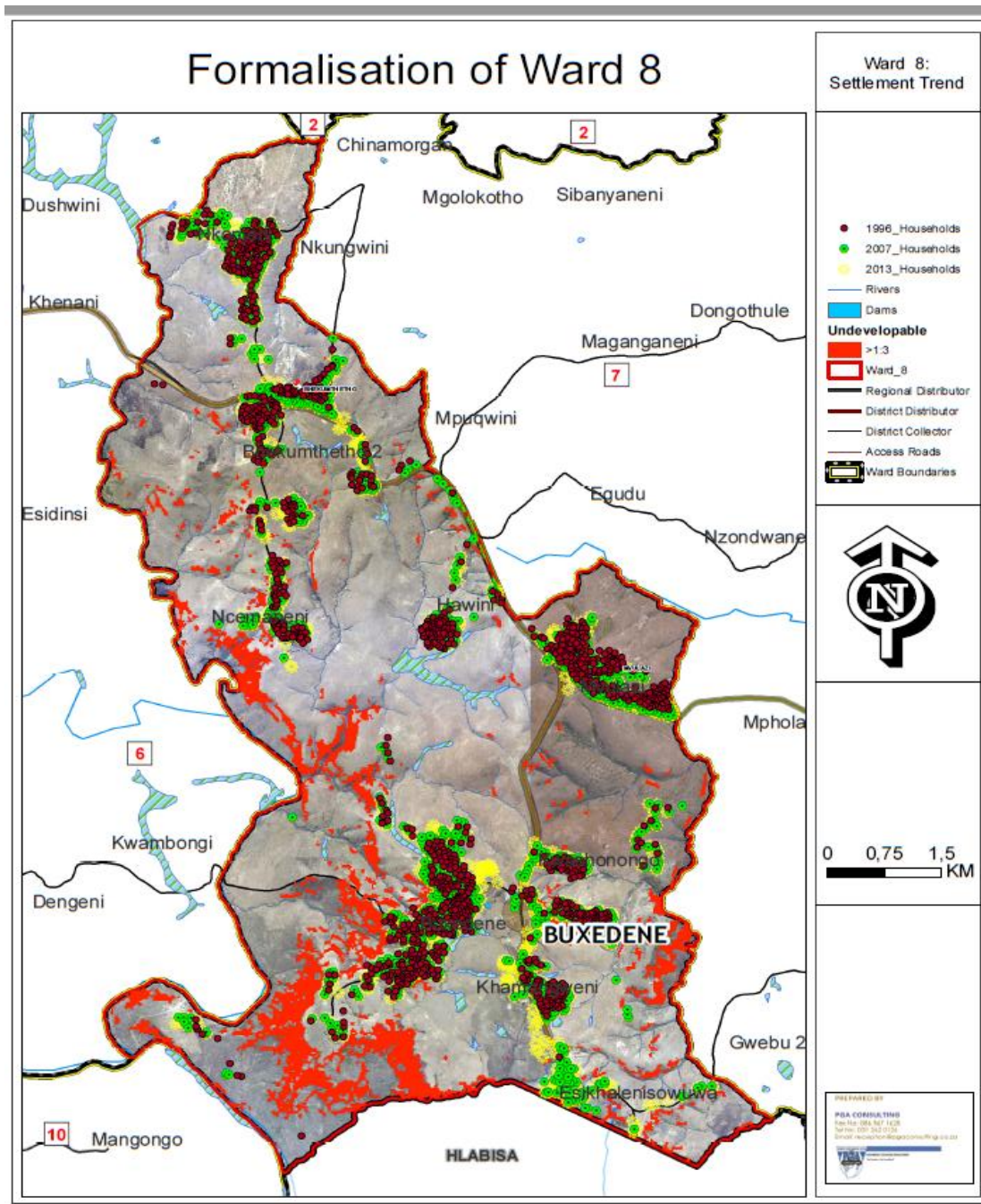


Figure 9: Settlement plan

Source: Author 2017

Table 2 – Synopsis of settlement profile in wards Eight

SETTLEMENT	INFRASTRUCTURAL SERVICES	AREA IN HEC	SETTLEMENT PATTERN	EXISTING SOCIAL FACILITIES	LEVEL OF SERVICE	GENERAL COMMENT
BHEKUMTHETO	<ul style="list-style-type: none"> Standing water Storage reservoir Hand pump Source abstraction Electricity point 		Manifest both liners and nucleated settlement pattern along the P235-2 and D1807 corridors. It is the third biggest rural settlement in the ward	<ul style="list-style-type: none"> Health facility sports field primary school crèche worship , 	Within RDP level	Strategic location to P235-2 and d1807 corridor in terms of accessibility and linkages Potential as an emerging node in future, the settlement need service
BUXEDEN	<ul style="list-style-type: none"> Standing water – communal, Storage reservoir Source abstraction Electricity point, house connections, reticulation, Complete regional bulk existing 		Identified as a secondary node in the ward, It is the prime settlement with the highest population Manifest both nucleated and liner settlement pattern along the D2030 corridor and P235-2 regional distributor which connects the node to Nongoma city centre by 12 km drive	<ul style="list-style-type: none"> Primary school Secondary School Clinic sports field crèche community hall poultry farming 	Within RDP level	In ensuring that the proposed secondary node is feasible two criterion are essential provision of adequate infrastructure and social services Requires the necessary threshold to sustained the node The propose node provides the potential to create jobs and boost the local economy
HAWINI	<ul style="list-style-type: none"> Not served 		A small nucleated settlement located south western part of Mvulazi	<ul style="list-style-type: none"> Not served 	Lacks supply of services	Discourage sprawling by encouraging, spatial continuity and fusion with nearby settlements (Mvulazi)
NKONJENI	<ul style="list-style-type: none"> Storage reservoir, stand pipe communal reticulation 		A small settlement located north of the ward sprawling along the intersection of L1602 and D1808 district collector	<ul style="list-style-type: none"> Primary school 	Rudimentary service level	Settlement ought to be contain and densify towards the direction of Bhekumthetho
NCEMANENI,	<ul style="list-style-type: none"> Stand pipe communal, hand pump reticulation 		A linear settlement sprawling along the D1807, the settlement sprawls northwards towards Bhekumthetho because of the topography which creates natural edge from other directions	<ul style="list-style-type: none"> Primary School Sports field 	Current service level is with the RDP	The settlement have the potential to sprawls along the settlement corridor that connects it to Bhekumthetho and probably fuse this two settlement together in future
KHAMANGWENI	<ul style="list-style-type: none"> Communal stand pipe, hand pump electricity point water storage reservoir existence of complete regional bulk , 		A small linear settlement sprawling along the p235-2 corridor , few kilometers away from Buxedene	<ul style="list-style-type: none"> Primary school 	current service level is within RDP level	The settlement is strategically located along regional distributor and closer to Buxedene secondary node. Khamangwen is likely to be impacted by the Buxedene nodal. The two settlements are likely to sprawl and fuse together in future
MVULAZI	<ul style="list-style-type: none"> Not served 		A small settlement sprawling along the intersection of P450 district collector and P235-2 corridor. The settlement is closer to Hawani		Not Served	Provision of services and infrastructure is paramount in this settlement Densification of settlement is recommended to achieve the

						threshold necessary for basic social and infrastructure services delivery
KWASHONONGO	● Stand pipes		A small settlement located along the district collector that leads to Mphola ,	Not served	Rudimentary service level	Close proximity to Buxedene and depends on the node for basic services
ESIKHALENISOWU WA	● Not Served		A linear settlement south of khamangweni, located at the intersection of the P235-3 movement corridor and the D2055. The settlement is gradually sprawling towards the D1889	Not served	Not Served	Close proximity to Khamangweni and the P235-2 corridor. Though served with completed, regional bulk , the settlement lacks infrastructure and social amenities due to the lack of required threshold for sustainable service delivery

2.4 Road Network

The study area has defined road hierarchy system, with regional distributor, district distributor, and access roads; however, there is no relatively well-upgraded road network in the study area except the P235-2 corridor that traverses through the wards, the undulating topography has profound impact of the road network distribution, which has in turn affected the settlement pattern in the municipality.

The P235-2 performs a crucial function as the main movement corridor within the study area; it is a regional distributor, which traverse through the ward, and connects directly into Nongoma town in the north. As a movement corridor, it has attracted clustering of isolated rural settlements as Esikhalenisowuwa, Khamangweni and Bhekumthetho along, to leverage on its potentials. The identified Buxedene node on the P235-2 owes its potential as first entry point to service delivery and a plausible threshold for the clustering of groups of small, localized businesses to this corridor. The corridor has the potential to evolve other nodes along its path in future

The D2030, D1807, D1808, and D2055 corridors, which are settlement corridors in the study area, carry traffic from the P235-2 to the isolated rural settlement inland. Most of these corridors have linear settlements dotted along them, it is recommended that

densification be encourage along this corridors to promote functional and integrated settlement patterns to facilitate cost effective supply of services to enhance sustainable communal use of resources. It is recommended that the settlement corridors be upgraded to function effectively. Already the municipal capital investment framework has identified the upgrading of Hawini, Mwalazi, Buxedeni gravel road as priority projects to be undertaken.

2.4.1 Public and private Transport

Access roads are identified within the ward, they absorb traffic from the settlement corridors into various households (erfs), this is predominantly in settlement as Buxedene, Mvulazi and Hawini, and underscore the vehicular ownership in some of the rural settlements. The access road are (earthed) and in terrible condition, they services as linkages and pathways within the rural neighborhood, though the predominated mode of commuting within these rural neighborhoods is through pathways There is some level of dependency on taxi-based transport for commuters; however, there was no evidence of rail or public bus transport network in the ward. Taxis ply the P235-2 regional distributor and the graveled settlement corridor, which needs an upgrade to avoid transport casualty. Currently taxi industry uses an open space at the Buxedene node as their station. Figure 10 provides a map showing the structural elements in the study area

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Formalisation of Ward 8

Ward 8:
Movement Corridors

SURFACE

- Backtop
- Gravel
- Earth
- Footpath

Ward 8

- Primary Movement Corridor
- Secondary Movement Corridor
- Tertiary Movement Corridor

Ward Boundaries

Rivers

2.5 Land Use Overview

A detailed land use map for the ward is non-existence except settlement plan and area imagery, which thus not give true representation of the current statuesque. This has proven important biases for preparation of the conceptual and detailed layout plan proposal contained in this document, for examining how this relates to existing and potential land use management provisions within the study area. Ward 8 provides various land use functions, which represents the needs, traditions and cultural vitalities of the people.

The land potential map in figure 11 indicates that over 80% of the land is considered secondary agriculture land with soil only suitable for subsistence farming, hence farming is thus predominant, where farmers often farm on marginal poor lands with limited water supplies, which often leads to degradation and soil erosion

Key land use patterns evident from the land use map in figure 12 and observation include;

- **Residential** -rural dwellings, formal dwelling, informal dwelling traditional dwelling
- **Health**-clinics,
- **Open Spaces** - grave yard, Plantation, dams, Smallholdings grassland, Subsistence Farming land, animal rearing grazing lands, sports field
- **Social Activities** -Community hall, worship, tribal office
- **Educational**- crèche primary and secondary school
- **Commercial**- tuck shops, poultry farming

Land potential map

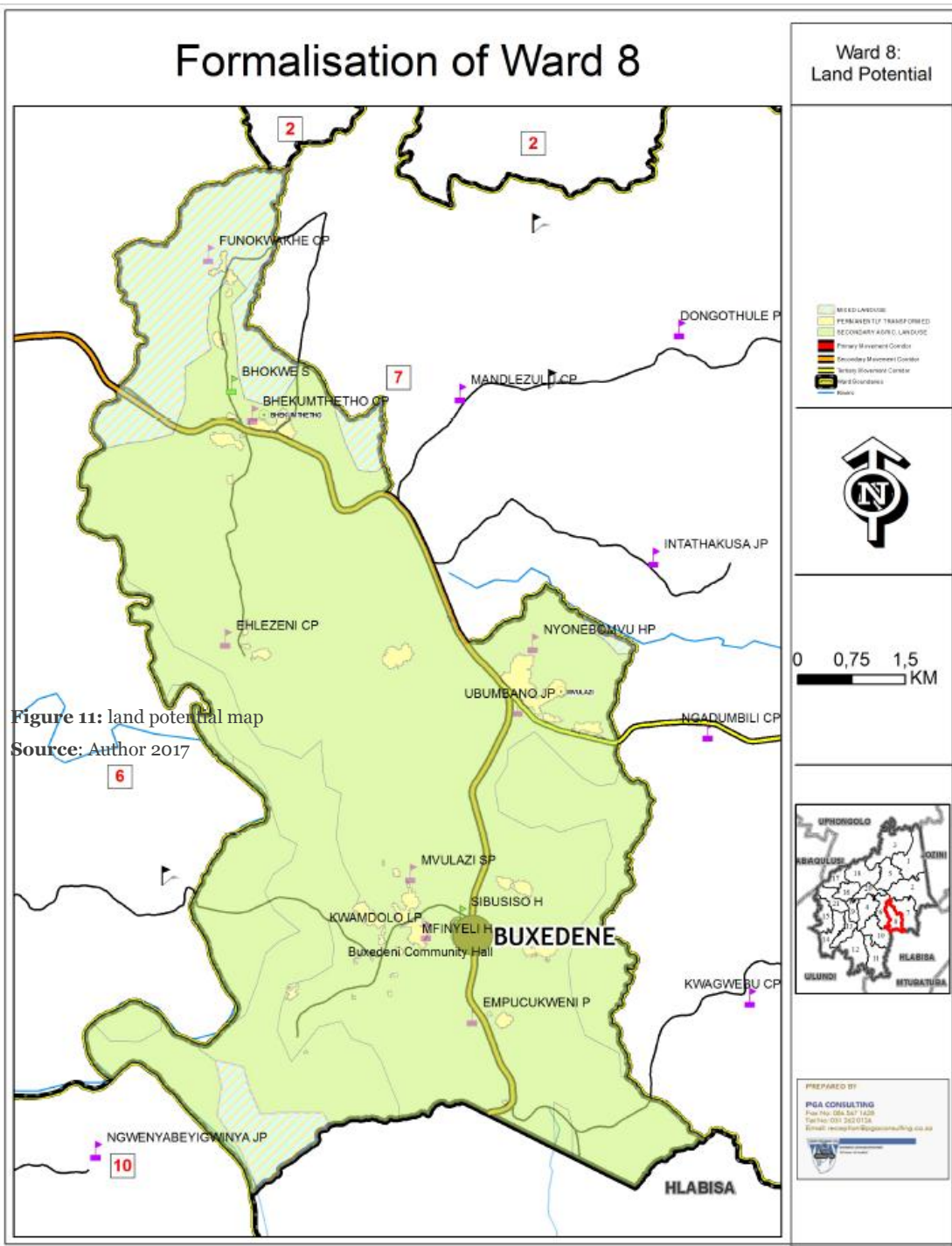
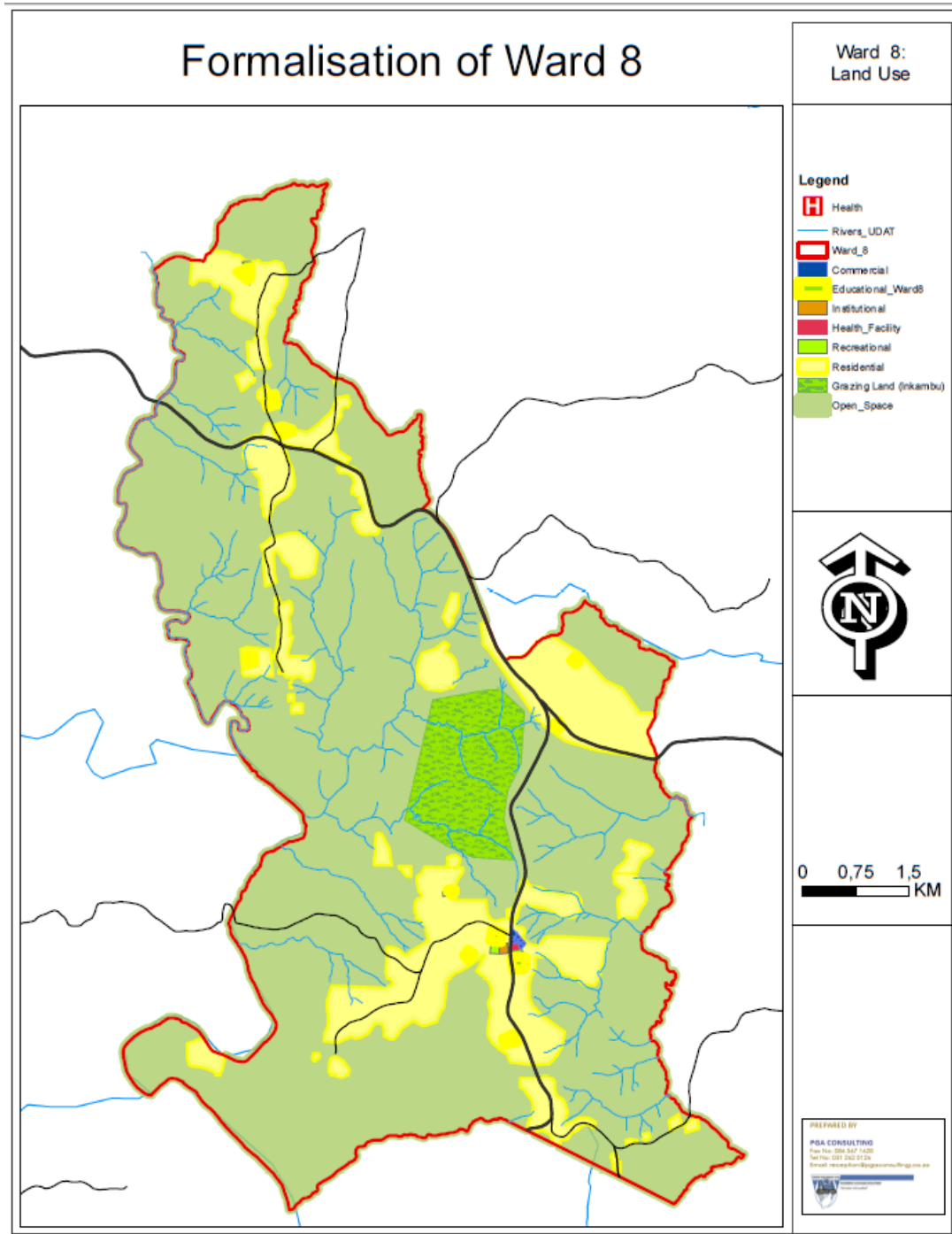


Figure 11: land potential map

Source: Author 2017

LAND USE MAP



2.6 Infrastructural /Social Amenities Context

Figure 12 provides an overview of the level of infrastructural and social services available to the each settlement within the study area. By far Buxedene is the most served rural settlement in the ward most likely because of its share size and proximity to the P235-2. This is followed by Bhukumthetho, Khamangweni, and Cemaneni, the levels of services exiting in these settlements are within the RDP level. The southern part of the ward is far more resources with infrastructural service and completed regional bulk pipes with numerous communal Standpipes

Settlements along the P235-2 movement corridors appear to enjoy much better services. Esikhalenisowuwa and Hawini are settlements, which are list served with any social services most likely because of their location, which makes them, lack the threshold to sustain certain levels of service. There are evidences of smaller deprived settlements in the wards who depending on nearby settlement for services. Kwashonongo and Nkonjeni settlements have Rudimentary level of services provision. Overall, none of the settlements has a level of services above RDP.

Thresholds and location are vital to facilitate sustainable and cost effective supply of services in the study area. In lieu, it is advocated that compact, dense, and nucleated settlements be encourage along settlements corridors. The municipal IDP has identified priorities needs of the wards, which is likely to impact future land use patterns in the ward, table 3&4 provides identified projects and priority projects in the study area. Moreover, the housing plan has identified housing as a critical asset for the poor and can cushion them against the impact of poverty.

INFRASTRUCTURE AND SOCIAL SERVICE MAP

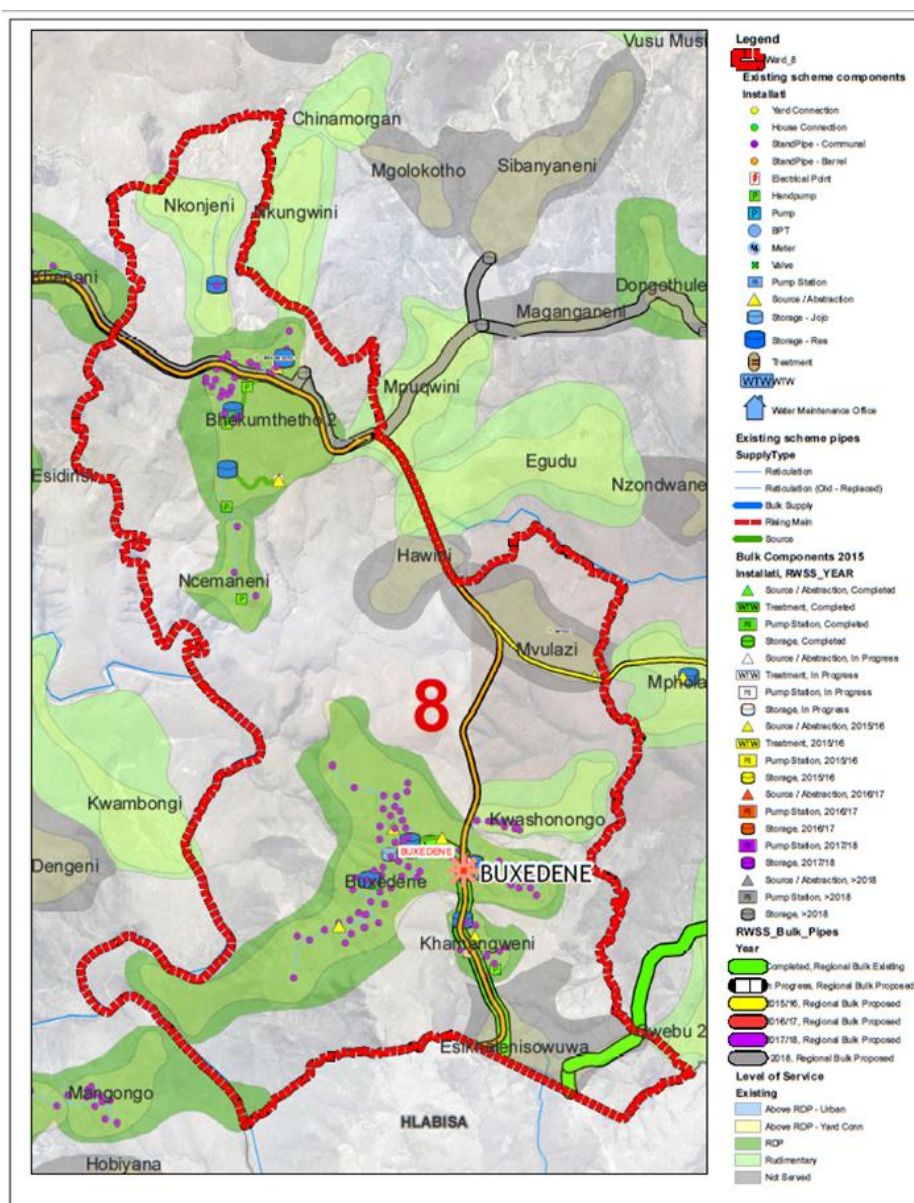


Figure 11: Water Infrastructure

Source: Author 2017

Table2: Identified Projects for 2015/2016 in ward 8 Funded by Sector Departments

PROJECT NAME	PROJECT REFERENCE NO	FUNDING SOURCE	PROJECT BUDGET
Buhlebuyeza Creche	040-181	DSD	R 186 120.00
Masiqhubeke Creche	050-205	DSD	R 181 632.00
Phaphamani Creche	040-188	DSD	R 198 000.00
Sukumani Creche	083-971	DSD	R 116 688.00
Vukukhanyise Creche	044-699	DSD	R 223 872.00

Source: Nongoma IDP (2016)

Table 3 Priority projects of the ward identified

DISCRIPTION	QUANTITY
Community hall	1
Sports field	1
Access road	Upgrade of Hawini, Mwalazi, Buxedeni Gravel Road
Low cost housing	616 backlog
Clinic with maternity facility / mobile	1
Crèche	2

Source: Nongoma Municipality IDP (2016)

Generally, Nongoma has vast challenges in terms of infrastructure due to the historical neglect by the apartheid régime; this has resulted in infrastructure backlogs (roads, water, sanitation, electricity, housing, health, education, telecommunications etc.) Current data regarding the level of infrastructures service as sanitation refuse electric and water call for a great concern.

Sanitation- Nongoma IDP estimates the sanitation backlogs at 26% mainly concentrated in the rural areas of the municipality, statistics indicates that 93 % of the population in wards 8% use pit latrine either with or without ventilation, with only 1% using sewerage and additional 1% using septic tank. This raises environmental and public health concern which deserves attention in the formalization process.

Water Source -There is an estimate water backlog of 53% in the Nongoma municipality, though the priority areas identified in the SDF excludes settlements within the study area. Only 26% of the population in the study areas depends on treated water scheme, the rest

uses natural sources including rivers, streams springs, dams, stagnant water, borehole etc. River systems in the wards are natural asset that that residence depends on, these requires that any propose rural scheme have to protect this systems. Moreover, 50% of the residences do not have access to pipe water on their residence only 2% have pipe water in their dwelling leaving the rest of the population to feed on communal water supply.

Refuse collection – Perhaps this is one of the services vehemently required by the ward 12, currently 95%, of the population have their own dumping strategy in the wards. This raises concern regarding how this currently affects the environment since dumping is likely to occur at the wrong site. Only 1% of the population in the wards enjoys the local authority refuse collection for more than once a week, additional 1% enjoys the local authority refuse collection for less than once a week , while the remaining 1% of the population use a communal dumping ground

Electricity-The supply of electricity within Nongoma has positively increased over the years. Majority of the nodal areas have access to electricity. However, few backlogs need to be address especially with remote settlements within the ward. Nearly 84% of the residence depends on electricity for light. However only 59% depend on electricity for cooking, this indicates an overall improvement in electricity supply to the ward. This report is informed by the proposals to deliver infrastructure such as 88/22 KV sub stations and conversions in nearby wards. These will assist in resourcing the strained network.

2.7 Housing

The study area has divers' rural dwellings including formal dwelling, informal dwelling, traditional dwelling, and misfit structures. Most of the existing typical low-cost housing lacks building services. Typical low cost housing related problems identified includes subsidence, sewage problems, and collapse due to bad constructions. Moreover, some of the houses are located within environmental sensitive areas thus putting the life of residence at risk during flooding. It was identified that housing in the study area not only provides shelter and space for human development in the study area, it defines their origin and may be used as a base for home enterprise, Ward eight have 1572 household with a housing backlog of 616 units.

2.8 Demographics and social economic overview

The study area has a population of around 8275, with 98% of the residence being of African descent and the remaining 2% consisting of other racial groups. The ward records a high dependency ratio with the workforce making up to 29% of the total population in a place with low per capital income.

Most of the people may be considered as indigents with skill shortage and object. 12% of the population having completed grade, 12.37% of the population are inactive only 7% of the population is employed in various employment sectors, which includes taxi industry, educators, farming, commercial sector mainly retailing, government institutions and casual labors for infrastructure projects being undertaken in the municipality. Unemployment is a challenge in the ward.

Subsistence agriculture is the common for consumption and sales, close to 3164 people in the ward have no source of monthly income, while only 3192 people earn a monthly income of less than 400 Rands. this is trend that like have an explosive socio economic implication as juvenile delinquency on a ward with greater percentage of the population being youth (20% age 10-19, 16% age 20-19, 20% age 0-9). It is thus required that proposed land uses meets daily needs of residents and the local workforce

2.9 Environmental Scanning

The ward contains substantial amounts of open spaces that inhabits natural resources and perform significant ecological functions; farming, grazing rearing of live stock These open space assets are not only important locally but are also significant at a municipal, level. Habitats within the study area are important to the ward, biodiversity and heritage assets are important at a municipal though only one heritage site was identified. Agricultural assets, the landscape and sense of place in the area, are important at a local scale.

Major open space assets include the river corridors, streams, dam springs and habitats associated with the main river and its tributaries and the grassland areas concentrated in the study area. The Rivers are important structuring elements, which provide important

spatial units for understanding ecological connectivity in the area and the potential for development impacts.

The open space assets within the study area provide goods (such as water for consumption) or services to the ward and are known as ecosystem goods and services, The biodiversity of the area presents opportunities in terms of eco-tourism and conservation activities which can stimulate further economic growth and social enhancement. These revenue-generating activities can contribute significantly to the value attached to the natural resource and, if managed appropriately to continue render ecological goods and services.

The study area has been substantially transformed by agricultural and settlement/development uses and there is the need to develop appropriate responses to conserve and manage the remaining open space assets so that they can continue to function ecologically and provide ecosystem goods and services.

Important elements recommended is establishment of an integrated open space system that provides for spatial and ecological connectivity, appropriate conservation approaches for the management of the open space assets and the sustainable management of land use and infrastructure development to avoid, minimize and mitigate environmental impacts.

2.9 Summary of Local Issues Identified and Key Proposal

The situational and technical analysis of various environments within the study area have elucidated key issues that informs the formulation of the plans on the basis of synthesizing various outcomes from the analysis. Table 5 provides summary of issues identified and key proposal.

Figure 3 Key Observation and Proposals

KEY PROPOSAL IN VARIOUS AREAS OF INTERVENTION	
Key Proposal Topographic Consideration	
<ul style="list-style-type: none"> ● The scattered and discontinuity in settlement pattern cause by the terrain requires that isolates settlement beyond the range of the proposed Baxedene node be sustained with lower level infrastructure and social amenities. ● An approach of systematic densification of existing sparsely populated settlements should be encouraged in agreement with traditional leaders. This enquires that few grazing land and farm area land closer to such settlement be realize for development to avoid sprawling. 	

<p>Key Proposal Soil Protection</p> <ul style="list-style-type: none"> ● reasonably potential land should be protected and utilized for d agricultural within the municipality ● Agricultural practices harmful to the soil integrity could be replaced with approve methods that sustains the fertility of the soil, moreover any practices that compromise the fertility of the soils should be discourage ● Implementation of appropriated land use management scheme e.g. Land Use (Planning) Schemes to protect manage and sustains v land uses as Dams, farming grazing, Plantation, Rural dwellings Smallholdings - grassland
<p>key proposal water resources</p> <ul style="list-style-type: none"> ● The presence of a large number of rivers and high volumes of water implies that safety of settlement located closer to the river valleys needs to be considered ● Future land use for settlements should be located outside possible flood line areas. Delineation of flood lines and buffer zones alone river valleys is essential to identify households within the floodplains. ● Relocating household within flood lines and buffer zones where needed. It is crucial to incorporate this observation into the formalization process since it is identified in the SDF and likely to affect future land uses pattern. ● Attention should be given to erosion and the pollution of rivers and streams there is a need to protect water resources as a means to prevent waterborne diseases and ensure adequate supply of quality water for household consumption. ● A clearly defined municipal open space system is recommended to protect wetlands, associated rivers, streams, catchments, and areas of natural beauty. They provides ecosystem good and services to sustain life
<p>Key proposal- biodiversity</p> <ul style="list-style-type: none"> ● Manage pressures on biodiversity active protection of valuable environmental resources is regarded as critical (wetlands, indigenous forests, grasslands). ● Retention of the integrity of rural landscapes, Development footprint should will be kept as low as possible ● Other developments including rural housing projects should encourage an approach to Land subdivision, which supports but not jeopardize the agricultural viability and potential future farming operations.
<p>Key proposal - settlement patterns</p> <ul style="list-style-type: none"> ● Propose bridges across rivers and stream that isolate settlements from other settlements ● discourage sprawl by encouraging spatial continuity, compact settlements ● Development direction should promote fusion of isolated settlements, which are close closer. ● promote sustainable functional and integrated settlement patterns through compact settlement and infill developments to generate social and economic opportunities for people; and promote easy access to opportunities
<p>Key proposal- structural elements</p>

- It is recommended that the settlement corridors as (D2030, P450, D10807) be upgraded
- densification should be encouraged along the tertiary movement corridor (District Distributor) especially where there are evidence of dotted linear settlement along the path to promote sustainable functional and integrated settlement patterns and to facilitate cost effective bulk services supply

Key proposal- land use overview

- Facilitate training on agricultural land use to protect the land from degradation
- Promotion of proper land use and environmental protection to create equal social and economic opportunities for the people
- Consolidated the local market through agricultural Co-operatives to promote outputs and markets for produce.
- From this perspective, it is also important to develop necessary management controls for rural land use within the traditional settlements. Further to this, awareness campaigns that seek to educate communities about better agricultural practices and environmental issues would go a long way towards local production and better livelihoods

Key proposal- infrastructure and services / housing

- Adopt strategy aimed at giving all settlements access to a permanent residential structure with secure tenure and adequate water, sanitation, waste disposal and electricity services especial around the proposed node. Developing a layout plan will facilitate this proposal
- Address waste disposal issues - solid waste management is a critical issue to be addressed with formalization of the ward to comply with the legal requirements related to waste management.
- Amenity is required by various settlements within the ward. This will improve the quality of life for all residents; improve the environmental responsiveness of the settlements as well as enhancing the natural environment, to attract tourists and business to the node.
- There is a shortfall in the provision of social facilities to meet the demands of the existing population in the study area, including schools, sports fields, parks, clinics, etc.
- There is a need for additional housing to be provided to address backlogs and to meet the current demand

Key proposal- socio economic overview

- The high levels of unemployment affect families and communities and constrain the social and economic development of the area.
- Intended strategy to development the ward eight economies with a specific view to enhance income circulation, through a series of strategic interventions, Subsistence farming which could be expanded to increase productivity
- proposed land uses should meet daily needs of residents and the local workforce

3.0 Stakeholder Participation Outcomes

3.1 Introduction

The preparation of the general plan, layout plan and the nodal plan has also been informed by a stakeholder engagement process to assist with the gathering of relevant information, obtaining the views of the public, local community and a range of public and private stakeholders, testing conceptual proposals and developing layout and nodal plan that is responsive to local needs.

There has also been regular interaction between the consultant team and Nongoma Municipality, principally through the Project Steering Committee and engagements at each phase of the project preparation process.

Three public meetings have been held thus far for preparation of the general plan and layout map and the nodal plan. Below is a summary of issues put forward by the various stakeholders at meetings held with Ward Councilors and traditional leaders, key developers and the public

3.2 Outcomes of meeting with Committee Chairs

- The formalization of the ward was a brilliant idea long overdue and critical to the ward
- The project should identify the social and infrastructure needs required by the ward for effective performance of the settlements
- Need to protect natural assets that e.g. rivers lakes and wetland, a backbone that sustains the community
- The project should enhance the living condition of the people through job creation.
- Ensure early buy in of traditional leaders for effective implementation of the plan
- There is a need for a holistic view of the precinct

3.3 Outcomes of meeting with traditional leaders and a ward Council

- The overall project was well welcomed and there was an indication that the mall project is long overdue.
- The need to have traditional leaders and community buy in any development in the area from the early stage was highlighted as a crucial exercise.
- It was indicated that no objections in terms of land accessibility but compensation might be required for land that is already being leased for other land uses.
- Proper procedures and channels should be followed for land acquisition.
- A request for a gym and conference center to be part of the nodal plan or a mall project
- Air pollution should be assessed for any development in the area
- It was highlighted that one clinic in the area was enough
- There was a proposal that a public park to be used as a sports field.
- involve the traditional leaders in implementation of the plan
- A need for a plan that will oversee the sustainability of the project and its deliverables.
- First priority should be given to the local people when it comes to job creation.
- The following things were requested to be included in the plan:
 - A library with an internet café
 - Water purification center
 - Satellite police station

3.2 Outcomes of meeting with Principals within the municipality

- The overall project was well welcomed
- The following amendments were made:
 - A proposed clinic should be removed since current clinic may be extended to accommodate future urban growth.
 - The location of the taxi rank should be well assessed since it is located within the area where there existing land uses.

4.0 The Strategic Thrust

4.1 Development direction

The spatial development direction that informs this plans were formulated on the basis of synthesizing various outcomes from the situation and technical analysis and stakeholder participation processes with all stakeholders discussions and further considerations related to rural development policies. The strategic thrust is the optimization of the settlements economically, environmentally, socially, and physically. This thrust is defined by various development strategy aligns with 5 key components deduces from outcomes on public participation and technical analytic processes. These components also set up the background to comments and recommendations regarding the proposed formalization to the ward-planning scheme discussed in detail below.

4.1.2 PROTECTION -Discourage sprawling

Contain and prevent sprawl from eroding the wards agricultural and environmental asset base located along the river corridors and the ward as a whole

Protect and where possible enhance and expand the natural asset base contained in the, river systems to protect biodiversity and ecological functioning, environmental services provision and to support climate change mitigation initiatives. The optimization of the ward economically, environmentally, socially, and physically will requires eliminating sprawling of linear settlement along the movement corridor, and the springing of isolated disperse settlements away from service point. In South Africa, the SPLUMA discourages sprawl by encouraging settlement at existing and proposed nodes and settlement corridors, unarguably this principle will

- Arrest settlement defragmentation perpetuated by sprawling
- Protect the encroachment of agricultural land and environmental sensitive areas which requires protection
- Eliminate high cost in provision of bulk services and social amenities to dispersed settlements

4.1.2 CONSOLIDATION -Promote compact and nucleated rural settlement along settlements corridors

Consolidation, expansion, and enhancement of the existing areas of the ward, this requires systematic densification of compact settlement along settlement corridors in the study area to promote development and investment at locations that are sustainable In terms of thresholds. The major movement corridor identified in the ward was the P235-2 regional distributor. Besides Five settlement corridors were identified in ward 8, which may further be categorized under primary and secondary settlement corridors depending on the density of settlement located along these corridors

- **Primary Settlement Corridors** : D1807, 12030M serving denser settlements as Nkonjeni, Buxedene, Ncemaneni, Nhekumthetho,
- **Secondary Settlement Corridors**: P450,D2055, D1808 serving smaller settlement including Mvulazi, Eslkhalanisowewa

4.1.3 EXPANSION- Upgrade settlement corridors to enhance settlement performance

Promote the development of nodes along the P235-2 regional distributor and for a mix of uses appropriate to the character and potential of the proposed node to accommodate the expansion of residential areas and associated economic activity.

Densification along settlements corridors which further require upgrades of corridor to promote economic development opportunities while enhancing living and settlement standards, This can be complement with land uses that meet daily needs of residents and the local workforce, currently these corridors are graveled and unsuitable for the proposed development direction

4.1.4 RATIONAL DEVELOPMENT -Direction of spatial development towards logical areas

Development in ward eight should be within limited resources (financial, institutional, and physical). Development must optimize the use of existing resources and infrastructure in a sustainable manner. Three major scenarios on spatial development directions are recommended

- **Scenario one** - Green field -Negotiating with traditional leaders to realize Greenfield closer to settlements for development, this will promote compact and densification.
- **Scenario Two** -Encouraging a spatial development growth direction that fuse smaller settlements closer together
- **Scenario Three**- Encouraging infilling within existing settlements to promote densification

4.1.4 SPATIAL SUSTAINABILITY- transparent Layout developments

Addressing Haphazard land allocation, which flout the principle of spatial sustainability and creates dysfunction, lacks of transparency and low degree of congruence between abstractions of place with abstraction of function? It requires that land use management processes accommodate access to secure tenure. Besides, the degree of fitness between the physical statements (form) and the way people recognize is essential. Proposed layout and subdivision should facilitate the supply of services to various households.

4.1.5 CREATION -Provision of basic infrastructure, social amenities, and housing backlog

Basic services (water, sanitation, and access and energy refuse collection) must be provided to all households to sustain the formalization process. In localities with low demonstrated economic potential, development / investment must concentrate primarily on human capital development by providing education and training, social transfers and poverty-relief programmes. Currently the supply services is either nonexistence or within RDP and rudimental levels which is wholly insufficient to sustain place like the identified Budexne nodal areas,

Flexibility in in promote higher net and a wider mix of housing types that cater for a mix of income groups and lifestyle options

4.1.6 Protection ecosystem goods and services

Protecting natural assets and Managing pressures on Biodiversity, active protection of valuable environmental resources is regarded as critical (wetlands, indigenous forests, grasslands, and bush veld). Protection of few valuable potential agricultural lands and the optimal use of resources are imperative. A clearly defined municipal open space system is suggested to protect wetlands, associated rivers, streams, catchments, and areas of natural beauty. Creation of flood line and buffer zones alone water bodies to identify all households within the floodplains



5.0 Conceptual Formation And fundamental Principles

5.1 Vision

The concept formation for the layout plan is essential in ensuring the conversion of the vision and objectives of the municipality into guiding design concepts and identification of the principles for spatial relationships based on the guideline of human settlement and design. Furthermore, it is meant to ensure that the layout and general plan articulates the outcomes from the strategic thrust in a structured, organized and sustainability manner, while embracing all development concepts that facilitates a place making, and foster a sense of place.

On this assertion, the vision developed for the formalization of the entire ward 8 is guided by the following key principles as;

- Applying the concepts of flexibility and sustainability in environmental, economic and social terms.
- Responding to the outputs from the situational and technical analysis and stakeholder engagement process
- Identifying y the wide ranging needs, varied potential of the area, and developing an integrated vision that balances competing needs and development potentials.
- Working with existing community, institutional, environmental, land and infrastructural resources and capacity to develop an optimum outcome for the area
- Adopting spatial development concepts an integrated approach to the development and management of the ward while employing novel spatial planning and design concepts

Based on the above the following vision has been developed for the Mpumalanga study area:

5.2 Development Concepts

Ward 8 will provide a quality sustainable living environment that support the rural lifestyle option with supporting infrastructural services, facilities and amenities and protection of environmental resources for communal benefits. While providing poverty relief initiatives through human capital development, jobs creation

There a number of existing, emerging, and potential development concepts and guidelines that is currently shaping the development in rural settlement and can be

considered for guiding future development of the study area. This phase focuses on developing a concept plan informed by all inputs in previous phases including the broader development vision of the Nongoma local municipality. The Conceptual Plan Formation will ultimately aid the preparation of the General map and Layout map. Key development concept discussed below informed the development. In this regard, this portion of the report details development concept adopted to drive the design of the layout. This will be informed by the policy guidelines, standards Nongoma IDP and the Spatial development framework.

5.3 Development edge

The term “development edge” as used in this rural context is synonymous to ‘Urban Edge’, ‘Urban Growth Boundary’ (UGB), Urban Development Line’ (UDL) and ‘Development Phasing Line’ (DPL) are used in various contexts to refer to a desired boundary or management for urban development. An ‘Urban Edge’ or ‘Urban Development Line’ typically refers to a distinct and fixed line beyond which development may not occur. Development edge or ‘Urban Phasing Line’ generally refers to an area that is large enough to absorb anticipated growth for a particular period and is subject to revision from time to time in response to development needs and/or infrastructure capacity.

In this context preventing sprawl and encouraging more compact, orderly development through the use of an ‘development edge and ‘Development Phasing Line’ is crucial, since it avoids the loss of high value agricultural land, existing natural resources, specifically open spaces and scenic qualities. It ensures that development is serviced with infrastructure that is adequate, cost-effective and sustainable

5.4 Local Area Character and Development

As much as the formalization aims to create a responsive environment responding, it is required that the rural footprints of the study area be maintained. This rural area has an identity. The identity of the study area resonates with the pride of the Zulu dynasty, and the Royal seat of the Zulu monarchy. Identity is the characteristic that allows us to differentiate one space from another. It is the character and spatial attributes of the place that enhance the ability of recognizing and identifying an environment, those attributes of the object make it distinct, ultimately unique and easily separable, then it stands for individuality or oneness

5.4 Nodes and Corridors

The concept of activity nodes and creation of settlement corridors, also referred to as development or investment nodes and corridors has become an increasingly prevalent feature at all levels of spatial planning. It was observed that the intersection of the regional distributors and district collectors are potential nodal hubs. Besides the Buxedene node are located at the intersection of the D2030 and the P235-2 corridors , other potential tertiary nodal areas identified include intersection of the P235-2 and the D2055, P450, L1602.

Activity corridors and nodes are those lines and points (typically movement routes and intersections) that have high levels of accessibility and that attract intensive human activities such as commercial developments, community facilities, transport hubs and higher density settlements.

This important concept has been adopted in the planning of the study area but will need to be applied carefully to avoid potential adverse outcomes. these outcomes includes competing nodes, dissipation of agglomeration benefits due to the designation of corridors that are too lengthy or too wide and the undermining of regional mobility functions on higher order roads due to increasing local traffic functions. Potential tertiary node includes Bhekumthetho on D1087 Mvulazialong p450 and Hawini. A critical component for the formalization is the utilization of intersection of P235-2and District Collector as an integrator and linkage to the wider opportunities.

5.6 New Ruralism

The relevance of this concept to the project stems from the realization that farming is a major livelihood of majority the people in ward eight. Moreover, most of them engage in subsistence farming for personal consumption and sales, which require that opportunities, be created to focus on local specificities as a means of generating new competitive advantages, such as farming (environmental or cultural) or local products (traditional or labelled). This then calls for a shift from an approach based on subsidising declining sectors to one based on strategic investments to develop the area's most productive activities; Agriculture is not the

only identified means of livelihood , the ward and Nongoma as a whole is rich in cultural vitalities which the project explores to harnesses for its advantage. New Ruralism concepts will used in rural areas to promote sustainable development

6.0. Conceptual Proposals

The spatial development concept for the ward 8 study area is focused around the following five pillars:

6.1. Develop Ward into a Viable and Balanced Settlement

Develop Buxedene from a secondary node to a balanced and viable peri-urban node that provides a quality peri-urban living environment for its residents and which forms an important municipal wide development node in the polycentric spatial potential of the node. This will require the

development of a more established range of urban functions mixed with the rural elements of Nongoma within ward 8 and Buxedene, including increased employment opportunities, additional social facilities, upgraded infrastructure, a greater mix of housing typologies and choices, a more urban structure and an improved public realm. Key aspects include:

- Developing the regional centre into the social and economic heart of ward 8 and surrounding settlements through improved connectivity and public transport access, intensification of residential, community and commercial uses and through responsive building and public space design.
- Developing and intensifying local activity nodes and spines through the densification of development, the clustering of social facilities, local shops and services, etc.
- Addressing basic needs and backlogs in terms of access to adequate housing, facilities and services, including the provision and upgrading of social facilities and environmental improvements, etc.
- Improving the integration between ward 8 and Municipal wide movement, urban and economic systems.
- Clustering and linking residential settlements towards Buxedene node and providing an appropriate mix of land uses and housing types, support infrastructure and facilities, urban structure and public spaces, etc.

6.2. Intensification Corridors and Linkages

Principles:

Sensitive infill and redevelopment of major arterial axis in clearly defined precincts; Corridors to concentrate activities and support its speedy initiation especially in around Buxedene should be delineated to include the land parcels adjacent to the either side of the identified street, otherwise called the spine of the corridor. Improve the connectivity between ward 8 and the surrounding settlements and neighboring Hlabisa municipality. Strengthen and extend local linkages within the ward 8 and Buxedene areas to improve internal connectivity and access to public transport hubs, local community facilities, employment opportunities, etc. Key aspects include:

- Improving connectivity and access to to the Nongoma-Hlabisa Corridor and surrounding settlements and Nodes including areas of Esiphambanweni, Bhekunthetho and Mvulazi among others.
- Upgrading the condition of local access roads to provide improved connectivity to the settlements, nodees and for public and private transport.
- Improving local linkages between ward 8 and adjoining areas, including strengthening connectivity and road linkages to Maphophoma and Buxedene area via D1855 and to Hluhluwe via the P450 link road.
- Improving local connectivity and access within the settlements in ward 8, including between Ncemaneni, Hawini towards Buxedene node.
- Enhancing the street experience through landscaping and guiding the architecture of new developments;



- Encourage a multiple level of entry into the economic market and enhance job creation, the intensification corridors should be limited to residential, office and retail uses and only compatible light industrial uses, e.g. non-nuisance manufacturing or craft activities that may require a retail outlet on the same premises;
- Define a single uniting structure of intensification corridors, nodes and linkages between the node and the settlements
- Encourage supporting densification pattern and infrastructure provision.

6.3. Develop a Network of Economic and Social Activities

The intensification areas are seen as the prime instruments for promoting integration between the areas of development potential and scattered rural settlements. Develop a more intensive and accessible network of economic and social activities concentrated into activity nodes, corridors, spines and economic investment areas in ward 8. The key principles that will aid successful implementation include:

- Locate most frequented activities in the most central / accessible localities, e.g. industrial and commercial;
- As a general rule Human Settlement schemes should not be targeted at a single income group exclusively, various housing typologies and schemes should be proposed adjacent to residential areas.

- The arrangement of the housing for the various income groups should be according to the principle of the socio-economic gradient with the higher end of the market closest to the main thoroughfare,

- Use all well located vacant land, i.e. within 1 to 2kms of Buxedene node; and,

Encouraging the establishment of a densified along the Nongoma-Hlabisa (P235) corridor with a mix of land uses and a local character appropriate to each settlement. This includes the proposed local convenience activities, the proposed activities in ward 8 which Include:

- ✚ the proposed mall,
- ✚ a taxi rank that includes market stalls,
- ✚ a skills development centre and multi-purpose community centre
- ✚ expansion of the existing health facility,
- ✚ mobile clinic & police station
- ✚ Ibhodwe Poultry and Agriprocessing centre,
- ✚ Petrol filling station

Encouraging the intensification of development along existing development spines in ward 8 and near the Buxedene Node.

6.4. Support Strategic Development and Investment

Move from a limited rural based economic base to a strategic economic development and investment area that provides a significant level of employment opportunities for its residents

and that supports the economic development of the Nongoma Municipality and the objectives for Nongoma-Hlabisa corridor. Key aspects include:



- Supporting the development of the Buxedene node and associated infrastructural improvements and agricultural initiatives, including densification along the corridor and near the node, providing for a range of housing options and facilitation of major investments in economic development and strategic infrastructure in the Cato Ridge and northern Mpumalanga areas.
- Utilising the proposed mall development and investment to boost investment opportunities, land availability and job creation for the entire municipal area, to provide local employment opportunities for ward 8 residents and as a means to integrate Buxedene Node with the Nongoma-Hlabisa Corridor.
- Reserving strategically located lands for future economic activities with associated land uses, support facilities and infrastructure.
- Retaining an agricultural interface/strategic reserve area for enhancing the agricultural potential of ward 8 and help develop catalytic initiatives that will strengthen the agricultural potential of Nongoma.
- Developing a Skills Centre
 - Central Place Theory- Buxedene is along the Nongoma Hlabisa corridor which can be accessed from the North and South. It is easily accessed from the N2 and services rural areas also to the North of Nongoma. Given the shortage of tertiary education facilities in the neighbouring towns and

municipality development of a skills development facility can offer great prosperous opportunities for the municipality as a whole.

- An educational facility in the area is needed to service the young prospective working age population of the municipality. Also opening a skills development centre would increase skills learnt by secondary school graduates in the area. Enabling youth with skills which will help self-determination and given the opportunities that will be offered by development in the node which will require skilled people, the local youth must be equipped to benefit from the development of this node.
- There is a huge population of young especially located in ward 8 Node and this educational facility will allow them to embark on tertiary education, It will also reduce illiteracy among the poor and increase the demand for youth in the area to pass matric as the skills centre would motivate and inspire youth to further their education within this facility

7.0. Buxedene Nodal Plan and Design Framework

7.1. Introduction

This section, Urban Design Proposals, provides practical details on how to achieve the precinct plan policies and projects contained in section 6. First, attention has been given to making the most of Buxedene's inherent and unique spatial economic opportunities where these exist. Spatial economic opportunities are fixed, They cannot be transferred, taken advantage of elsewhere, and, if developed for non-economic purposes, will be destroyed at considerable opportunity cost.

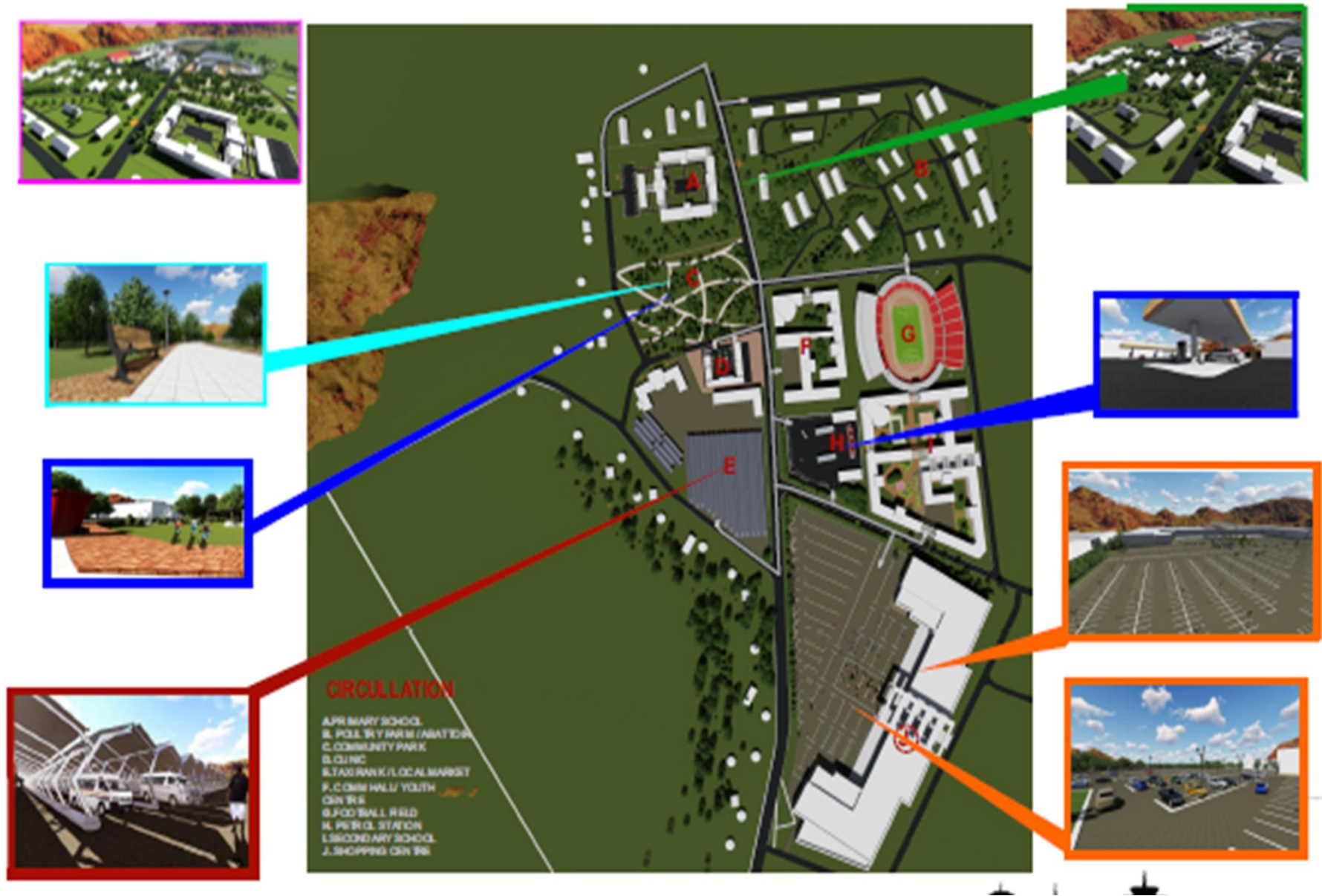
Buxedene's spatial opportunities and advantages include:

- Direct access to a municipal development corridor, the main transport arterial connecting Nongoma to the N2 and western town which include Hlabisa, Mtubatuba, Hluhluwe and Richardsbay.
- Its frontage along the P235 (Nongoma-Hlabisa corridor) which gives it some of the best exposure to high volumes of passing traffic. Such locations are highly sought after by investors developers due to the excellent business opportunities they create, These opportunities should be made available to local Buxedene and ward 8 business people to the greatest extent possible
- There is a very good clustering of services along the node which includes a taxi rank, educational facilities, a resort, convenience shop, health facility, sports field, community hall, poultry farming project and a proposed mall.

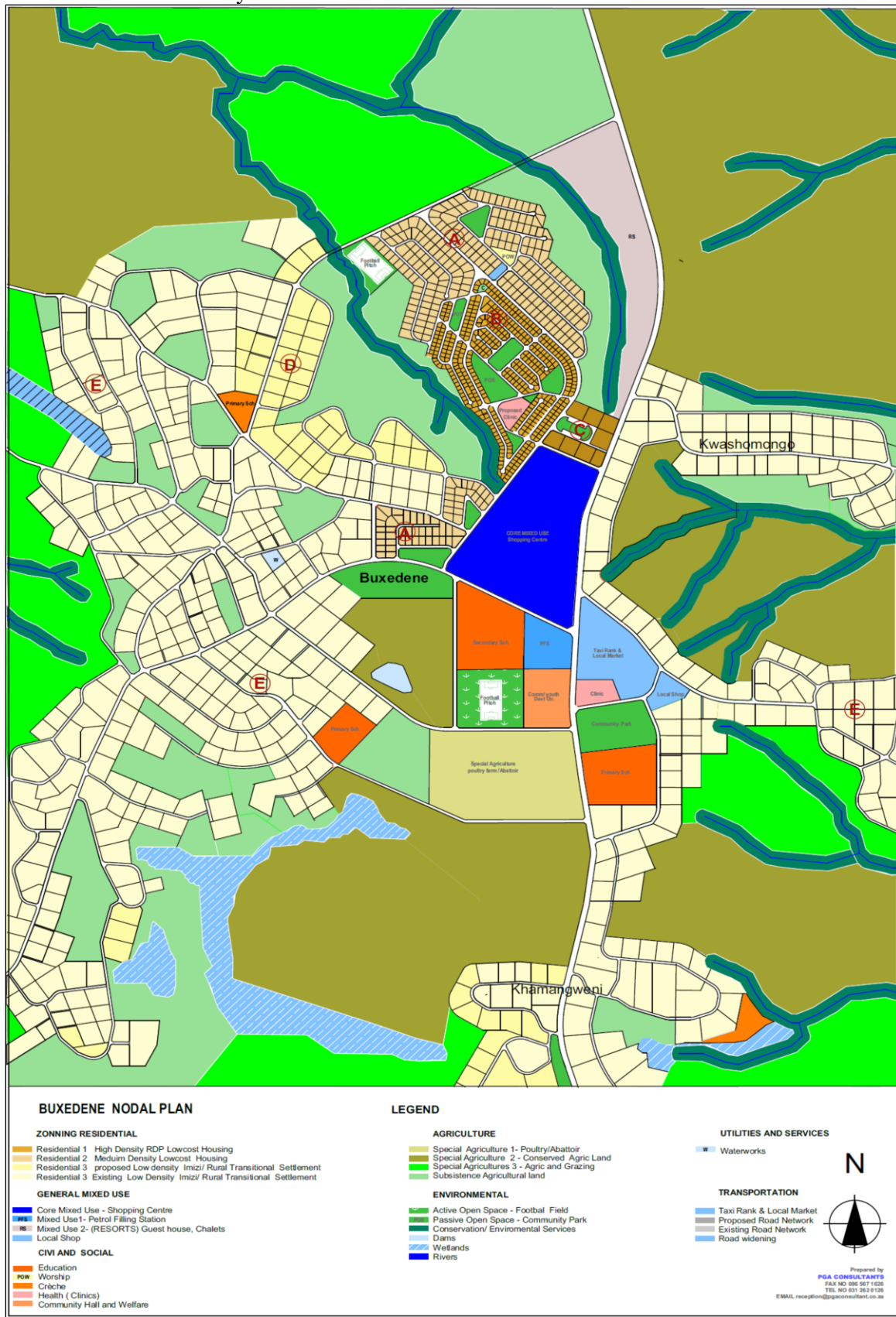
Not using these opportunities and advantages to their highest and best use will create a significant opportunity cost to the Buxedene community and Nongoma as a whole.



BUXEDENE NODAL PLAN



Buxedene Node Layout Plan



7.2. Layout and Character

Buxedene should be designed and developed as “village centres” which display an integrated and cohesive character including a “high street”, public squares and spaces, fine grain block and subdivision pattern, fine grain building scale, identifiable townscape/landscape character, extensive tree planting, high levels of pedestrian orientation, mixes of building type and activity, including residential, and provision for public transport. The character should reflect its role in the municipal area and/or the surrounding settlement, i.e. urban, local, etc.

- The node gateways/entrances should be clearly visible and celebrated through the use of landmark landscaping elements (planting or structural) and/or through the appropriate siting of buildings.
- Node edges should include interfaces that are integrated with and sympathetic to surrounding residential areas in terms of access and movement, scale of built form, scale and type of landscaping.
- Edges and interfaces with limited access roads should be landscaped and/or architecturally treated to contribute to the experience of the road users. No service areas should face on to these roads unless adequately and appropriately screened.
- Service areas should be hidden from view and should not impact on public spaces or on adjacent development or roads by way of noise, visual intrusion, smell, etc.

- Views lines in and out of the node onto landmark features or of special features/viewsheds of the node or of its surroundings should be accommodated in the layout of the node so as to encourage integration with the surroundings.
- Land use mixes should reflect the role and hierarchy of the node.
- Wherever possible existing vegetation or distinctive site features should be incorporated into the layout of the node. Landscaping should be indigenous in keeping with the sub-tropical character of the area.



Buxedene Node:

-This is a major commercial node in ward 8, is an activity node with a taxi rank, commercial activities, Has a direct access to the Nongoma Hlabisa corridor.

-It occupies only two sides of highly accessible intersection – the other two are “wasted”. The north-western quadrant has extensive strategically located vacant land;

-Access to the spatial economic opportunities of this intersection should be broadened to benefit local SMMEs and create jobs.

-Informal traders are best placed to take advantage of these Opportunities, proper spatial and transportation policy should be put in-place to take advantage of these opportunities.





Buxedene Mall:

- The Shopping centre will play an anchor role to the prosperity of Buxedene Node.
- The earmarked for a shopping centre currently is largely vacant. Occupied only by church.
- It is likely to develop in importance, particularly if the well located vacant land around this point is used for medium and high density development.
- Maximise economic opportunities by encouraging mixed-use activities within the Mall.





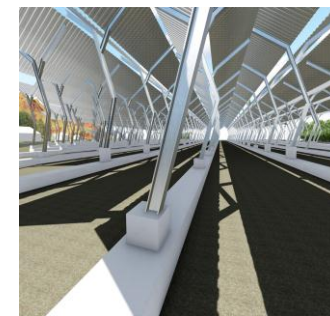
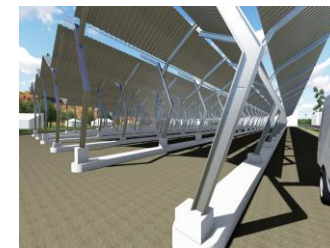
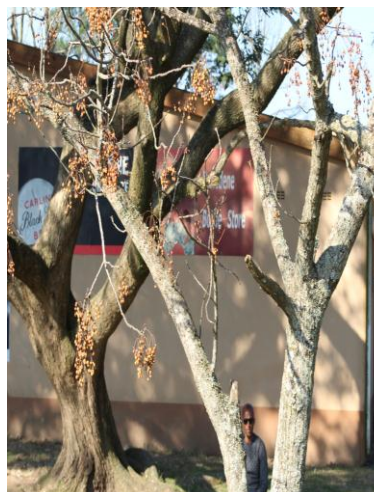
Taxi Rank and Market:

-The strategic location of the land which is at the centre of the intersection cannot be missed.

- The opportunities presented by this intersection cannot be transferred, taken advantage of elsewhere, and, if developed for non-economic purposes, will be destroyed at considerable opportunity cost.

- The area earmarked for a taxi rank is likely to develop in importance, given the complimentary use of the rank and the proposed adjacent land uses.

-Maximise economic opportunities by encouraging informal trading activities within the proposed market i& the rank.



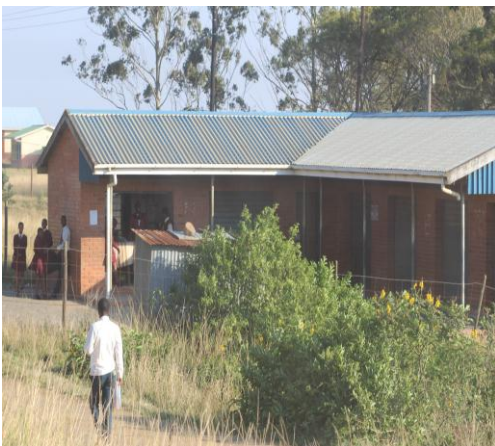
Petrol filling station:

-The immediate need for clustering of activities will require a nearby petrol filling station.

- The petrol filling station is strategically located along the Nongoma-Hlabisa corridor, which daily has large amounts of traffic passing by. .

- The petrol filling station should be structured in such a way that it has two exits, its location gives it the perfect opportunity to meet such. Its location at the corner of the intersections also allows it not to cause traffic congestion along the main road rather pulls away traffic from the main road internally.

-The petrol filling station will act as a 24 hour activity node. That provides employment opportunities for the inhabitants of ward eight. .





Multipurpose centre and skills development centre:

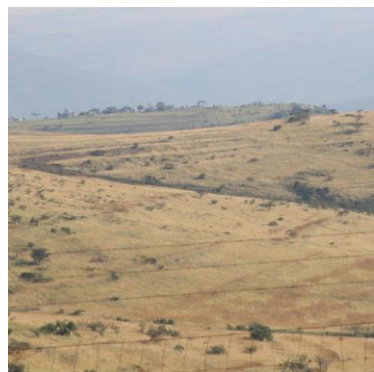
-The Land is currently occupied by a community hall, crèche and open space.

-The area can be utilised to build a multipurpose centre which can cater for the existing uses and other opportunistic uses for the benefit of the community. .

- The area can be rebuilt and enlarged to also cater for a skills development centre, which will be to the benefit for the whole of Nongoma.

-Opening a skills development centre which can equip the youth of Nongoma with the basic skills to be able to benefit from the opportunities that will be presented by the development of this Node & Nongoma as a whole.





Land for Middle and Low Income Housing:

—The success of commercial nodes lies in it having a sufficient market and densities in close proximity to support the services offered.

—Investigate the feasibility of utilizing the land identified on the Precinct Plan for urban development as this is land close to the existing core of the settlement starting where possible preferably within the 1km walking distance radius otherwise within the 2km radius of the Node.

— A number of documented benefits for developing small sites at higher residential densities within walking distance to transport, facilities, employment and business opportunities..

— Periphery housing is better suited for middle to high income households who do not have the burden of overcoming large distances by foot to reach the services they require the development of this Node & Nongoma as a whole.



8.o. Implementation Framework

8.1 Introduction

A consultative public participation meeting was held on the 20th of November 2014 with the Buxedene community to introduce the draft concept report (phase 4) and to seek a mandate for the completion of the project. The outcome was the endorsement of the draft proposals and an agreement that a consultative process would be undertaken with the relevant government sector departments to see how the Buxedene formalization plan could be implemented.

The purpose for the consultative engagements was to:

- 1.To solicit comments on the draft proposals of the Buxeden Nodal Plan.
- 2.To understand the sector department's future plans for ward 8

8.2 Catalytic Projects

The Development Plan is translated into specifically defined actions which are required to assist the Municipality in initiating the development process in Ward 8. These actions take the form of Catalytic Projects, so named because they are designed to stimulate further public and private sector investment thereby building a self-sustaining regeneration momentum. This is evidence since the project demonstrates the commitment of the Municipality to Town and boosting public confidence in it.

The objectives of implementing the Catalytic Projects are ultimately the economic and social upliftment of the people of Nongoma and its hinterland. The physical improvements brought about from the Catalytic Projects however are intended to create an environment that is more conducive to doing business, attracting investment and visitors and encouraging residents to spend more leisure time in the area. A number of catalytic projects have been identified that will initiate the regeneration process. These projects can be implemented in any order as and when funding is secured, land acquisition processes completed and legal procedures finalised. By their nature they are independent projects and do not rely on the completion of others before they can be started.

8.3 Project Types

In order to define the specific role of the Municipality in the design and implementation of each project, three categories of action have been defined. These are for the Municipality to:

- design and deliver;
- plan and promote; or
- Illustrate and facilitate.

These projects are those that are not necessarily directly funded or implemented by the Municipality but are to be planned and promoted to secure external funding. The Municipal role is also to ensure that these projects are implemented in accordance with the approved Development Plan

These are projects that the Municipality need to initiate

- Development of shopping mall.




- Improved pedestrianisation along all main circulation routes with urban greening, sidewalks and lighting.
- Improved pedestrian crossings at public transport hubs, schools, commercial centres and at social facilities.
- Higher Density Public Housing Development.
- Provision of health center(s).
- Provision of Sport Facility
- Provision of Public parking
- Provision of informal trader facilities at Taxi Rank
- Provision of good road infrastructure that links the settlements and the economic node
- Creation and enforcement of buffer zones

It should be noted that although the above priority projects have been identified others may be added over time and some may change to different categories.

8.4 Implementation Strategy

To realise the vision of the Development Plan the Municipality needs to only initiate the implementation process. The overall implementation process consists of six steps but because it is recognised that the municipality has limited resources to undertake the entire process itself a strategy has been devised that requires the Municipality to undertake only the first steps. Thereafter the remaining steps will be taken by agencies supporting the Municipality. The Municipality's role during these steps is to oversee and coordinate the process to ensure that implementation takes place in accordance with its own policies and plans, national and provincial guidelines and frameworks and the approved Development Plan. This reduces the burden on the Municipality as the only resources required by it. The process after Step 1 will be to allocate time to officials to host and manage the Development Coordination Forum.

Table : Implementation Summary

STEP	ACTION	TIMING	RESPONSIBILITY
1.	Establish a Buxedene Development Coordination Forum.	Immediate.	Nongoma Municipality
2.	Prepare and adopt appropriate development control policies	Immediate.	Nongoma Municipality
3.	Prepare and adopt:  a Management Plan;  a Financial Plan; and  a Communication Plan	Immediate.	Nongoma Municipality.

4.	Establish a Technical Task Team	Short term.	Development Coordination Forum.
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8.5 The Financial Plan

The Financial Plan establishes the feasibility and procedures for managing and implementing the Buxedene Development Plan. This Plan should include:

- the legislative framework;
- income (grants, subsidies, tariffs, service charges etc);
- expenditure (operating and capital);
- investments, loans and losses;
- assets and liabilities;
- costs of services;
- potential sources of income;
- potential risks;
- potential benefits;
- a capital investment programme; and
- Business plans for specific projects.

The components of the Financial Plan should be packaged in such a way that they can be seamlessly incorporated into the Municipal IDP and budget.

