

NQUTU LOCAL MUNICIPALITY

JAMA RURAL HOUSING PROJECT

**ENVIRONMENT REPORT
FOR
JAMA (WARD 3, 4 & 5) RURAL AREAS**

JULY 2016

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1 INTRODUCTION

Nqutu Local Municipality is investigating the feasibility of undertaking a rural housing development in Wards 3, 4, and 5 of the municipality. This project involves the construction of 1000 housing units for qualifying beneficiaries in the area. This project is referred to as Jama Rural Housing Project.

In order to ensure a holistic approach to the planning process of project, NDG-Africa was requested to investigate and make environmental management recommendations into the planning process of the proposed project as presented in this report.

The principal objective of this environmental investigation is to identify any sensitive environments (biophysical, economic or socio-cultural) within the project area and advice on the implications that these may have for the proposed development. The results of this environmental analysis are to provide:

- Clear indications of whether or not there are significant physical, socio-cultural and legal barriers that will merit a no development option;
- Clear indications of any significant issues relating to the project and whether or not any further studies are recommended and what such studies should entail;
- Whether any identified environmental limitations can be mitigated and what the mitigation recommendations are.
- Whether there are any environmental triggers under the requirements of the National Environmental Management Act 107 of 1998 in terms of GNR 38282 of December 2014.

1.1 Location and Settlement Pattern of Nqutu Wards 3, 4, and 5

Nqutu Wards 3, 4, and 5 is located within the rural environments of the Nqutu Local Municipality. Nqutu Wards 3, 4, and 5 is a typically rural area characterised by homestead settlement pattern. Each homestead consists of a cluster of houses often accommodating more than one family. Homesteads are widely dispersed creating a typically scattered settlement pattern interspersed by large spaces of vegetation. Each homestead is

surrounded by agricultural land where crops are cultivated and some domestic animals are kept. The vast expanse of open vegetation between the homesteads is often used for communal grazing.

1.2 Nature of this Development

Rural housing development is government's housing initiative to provide decent accommodation for needy rural households. All rural housing developments involve low income houses structures constructed within the compound of each qualified beneficiary and in some cases, the provision of VIP toilets. Often, one house is built per household. Rural housing projects do not include any infrastructure development such as road construction.

Nqutu Wards 3, 4, and 5 Rural Housing Project is one of the many rural housing projects described above. In the case of Nqutu Wards 3, 4, and 5 the development involves the construction of 1000 low cost houses only. At this stage no addition settlement infrastructure such as roads will be developed. Like in all rural housing developments, the Nqutu Wards 3, 4, and 5 housing project is not expected to follow a formal settlement layout plan. Instead, houses will be constructed within existing homesteads where invariably, significant disturbances to vegetation in particular had already occurred. It is anticipated that one house will constructed per household.

1.3 Environmental Requirements

Rural Housing Projects by their very nature are low impact projects since they are undertaken within existing homesteads with no infrastructure development. Thus rural housing projects are not listed activities under the National Environmental Management Act 1998 (Act 107 of 1998). These projects do not require authorisation from the KZN Department of Economic Development Tourism and Environmental Affairs.

Although the National Environmental Management Act does not literally encompass the proposed development, since it involves an 'insitu upgrade' without large scale residential infrastructure development such as roads, consideration of possible adverse impacts and

mitigation would be an advantage to both the receiving environment and the beneficiaries. This report has thus been prepared in respect of the principles of due diligence required under the National Environmental Act and the principles of Integrated Environmental management. It is also a requirement of the Department of Human Settlement for this assessment to be undertaken so as to ensure that precautionary measures where necessary, are taken into consideration during the project planning stages to ensure the safety of both the environment and the beneficiaries.

1.4 General Principles Governing the Implementation of Rural Housing Projects

Rural housing projects by their very nature are low impact developments especially on biodiversity and hydrology, for the reasons that they do not involve any other infrastructure development, and that they are undertaken within existing homesteads where land transformation has already largely occurred. The following key development considerations are made in all rural housing planning processes including the development under consideration:

- No development occurs outside of an existing Umuzi (household compound)
- No development occurs on land steeper than the prescribed 1:3 slope
- No development occurs within the 1:100 years floodline
- Most developments already have VIP toilets since the provision of sanitation is a District function. Where VIP is provided as part of a housing project, it is invariably a replacement of an existing pit latrine, with a better sanitation facility, at a more suitable location where necessary;
- No access roads are constructed since each target Umuzi, invariably already has access.

Given these principles, rural housing is largely a low impact development.

2 ENVIRONMENTAL ISSUES ASSOCIATED WITH THE PROPOSED PROJECT

2.1 Topography

The project area is very rugged in the central to southern portions with general slope estimated at between 1:2 and 1:5 but more gentle to the north where slope is estimated to be between 1:3 and 1:10. This topographical has given rise to a series of elongated ridges and narrow plateaus in a generally east – westerly direction. This rugged terrain has had major influence on the following situations:

2.1.1 Settlement Pattern

The project area is generally rugged and hilly with communities strategically aligned to the flatter areas along the top of ridges and in the more gentle rolling areas. This valley systems and flood plains have been avoided largely due to difficult accessibility, and probably due to experiences of the harshness of such environments. The existing settlement pattern is most probably established intuitively, by households being attracted to flatter terrain and infrastructure corridors (services and facilities) which in the case of the Wards 3, 4, and 5 is roads.

2.1.2 Drainage Lines and Wetlands and their Proximity to Settlement

The rugged terrain has given rise to deeply incised landscape with steep slopes and deep valley systems. This has consequently resulted in varied degree of drainage lines some significant and major contributors to drainage in the area and some acting as collectors during periods of rainfall only.

The results of the rugged terrain in relation to hydrology in the project area are as follows:

- The area is generally well drained with wetlands confined to the valley bottoms far removed from the settlements which are invariably located at the top of ridges and plateaus in the area.
- Rivers and streams are confined to the valley bottoms far removed from settlement areas.

- It is unlikely that any of the households in the project area will fall within the 1:100 years floodline of any of the rivers or water in the area.
- It is confirmed through site assessment that none of the households is located within wetlands.
- Households are confined to the gentle sloping areas mostly at the northern section of the project area but also along the top of ridges and plateaus. It appears that most households are located within acceptable developable limits of 1:3 for settlements.

Implications Relating to Topography for the proposed Development

Implications in relation to topography

- *This assessment indicates that households are located along the gentle sloping terrain of the area mostly along roads. Although the general topography is difficult, it is unlikely that the character of the topography will be a significant limitation to the project.*
- *The Development will be undertaken within existing homesteads which are located on fairly accessible areas and thus the creation of new access roads will not be required. It is thus unlikely that accessibility will be a significant limitation to the implementation of the project.*
- *Since the homesteads are currently located on relatively gentle slopes, the likelihood of significant earth works is low and therefore the project is not likely to significantly impact on the landscape of the area.*

Implications in relation to proximity to drainage lines and wetlands

- *The deeply incised general character of the terrain makes the estimated lateral distance between the rivers, streams and wetlands and the households (located at the top of ridges) range between an estimated 70 m to 120 m. This distance consists of steep slopes and largely inaccessible terrain.*
- *It is unlikely that any of the homesteads will fall within the exclusion buffers of wetlands or within the 1:100*
- *It is unlikely that the development will impact significantly on the rivers are wetlands of the area.*

- *It is unlikely that households will be at any flood risks should the development be implemented in the existing households according to the general principles of rural housing project implementation.*

2.2 Level of Sanitation

The provision of sanitation services to municipalities is the function of district municipalities in terms of the Local Government Act. Inspection of some of the toilets shows that the majorities of the toilets are pit latrines fully functional and could be kept in operation over a long period of time. It was also observed that the toilets and surroundings are kept in acceptable environmental state. It was also observed that the toilets are located in environmentally suitable areas (they are not located in wetlands, flood plains and steep slopes).

Domestic waste appears to be generated in very small quantities largely due to the relatively low settlement density. Heaps of refuse that characterise dense settlements were not observed in the area. Furthermore, commercial and industrial activities which are major generators of refuse are almost no-existent in the area. The project area is generally a clean environment with no significant issues relating to sanitation and waste.

Implications for the proposed Development

The proposed development involves the construction of houses only and does not include the provision of any sanitation infrastructure. At this stage it does not appear that the proposed development will significantly alter the population density of the area and thus current sanitation and waste situation in the area is not likely to change significantly. The proposed development is therefore not likely to impact significantly on the sanitation and waste condition of the project area.

2.3 Proximity to Major Hazardous Installation

From visual survey of the area, there is no major hazardous installation currently within or in close proximity to the project area. Furthermore, there are no known current or future programmes aimed at development installations that will constitute major hazards to the communities within or neighbouring the project area.

2.4 Current Zoning of the Land and Landuses

The project area is a typically rural settlement, out-side of any town planning scheme of the Nqutu Municipality. The area is tribal land and in terms of current use classification systems, it is considered agricultural land. Poor soils especially and low rainfall makes agricultural potential rather very low. Furthermore the rugged nature of the terrain is likely to be a severe limitation to local agriculture potential. Grazing occurs on the extensive open spaces of grassland that separate homesteads and clusters of homesteads. Site assessment of the project area indicates that the transformed land relative to the untransformed is small.

Implications for the Proposed Development

- *The proposed development is a compatible activity with the existing landuse (settlement), and is not likely to significantly alter landuse in the area.*
- *The development is not likely to significantly diminish the current landuse types especially subsistence agriculture and grazing*
- *The proposed development is not likely to impact significantly on the agricultural potential of the area.*

2.5 Ecological Characteristics

2.5.1 Vegetation

There are four broad vegetation types within the project area. These are:

- KwaZulu Natal Highland Thornveld (mainly in Ward 4 and 5)

- Northern KwaZulu Natal Moist Grassland (Ward 3 and 4)
- Northern Zululand Sourveld (Ward 4) and
- Income Sandy Grassland (Ward 5)

Implications for the proposed Housing Development

A significant ecological consideration as far as vegetation is concerned is that, the Northern KwaZulu Natal Moist Grasslands are said to be endemic to KZN which implies that this vegetation type in South Africa is found only in KZN. It is also noted that there is a protected area along the eastern boundary of Ward 4. Care need to be taken during implementation so that vegetation is not unnecessarily.

2.6 Existing Significant Archaeological, Historical, and Cultural Sites

Site assessment did not show that there are many materials of archaeological importance in the area. However, it is a known traditional practice that rural communities bury their dead within the confines of the homestead. Given the project will target spaces within the homestead, this development could impact on the cultural resources (graves in the area).

Implications for the proposed development

It is unlikely that the development will impact on the old building since the development will not occur in the vicinity of the building. However, if the development is not undertaken in close participation of the beneficiary households, graves may be disturbed which may cause significant social upheavals. The mitigation for such impact is to undertake the project with the full participation of household heads.

2.7 Existing Infrastructure and Services

2.7.1 Residential structures

The community has poor residential structures some constructed with conventional building materials but the majority with mud bricks and others made of local natural resources such

as mud and grass. The poor housing structures emphasize the need for the community to be provided with improved housing. Roads are few and are gravel in nature. The roads are generally situated at the flatter parts of the terrain which invariably are the apices of the ridges in the area.

2.8 Social and Economic Impact on Community

The project area is an established rural settlement with many of the houses informally constructed. This development is likely to have a positive impact on the community as the provision of houses would improve upon the self-esteem and worth of the beneficiary households. Temporary jobs that may be created during implementation could be an economic benefit for the community.

2.9 Risks or hazards to the environment posed by the development

There are no significant environmental impacts that were identified during this assessment. Provided that an environmental management plan is prepared and implemented during construction, the impact of the development on the environment is expected to be negligible.

2.10 Health and safety of the public

The proposed development is a low impact development which does not involve the establishment of major infrastructure. The development is not located close to any installation that would negatively affect the community. Thus the proposed development is not likely to negatively affect the health and safety of the community.

2.11 Social cost of the development

The social cost of this development is low as the development is likely to improve upon the social conditions of the people. The development would be favoured by the fact that it aims to provide a liveable environment for the beneficiaries.

2.12 Effect of the development on different age groups

This development is likely to be beneficial as children would tend to have a more suitable environment to be nurtured in, the young and economically active group would have temporary employment, and the adults would have a more permanent structure that would not require frequent re-construction as happens with informal structures.

2.13 Medium and long term sustainability of development

This project is likely to be sustainable in the medium to long term as individuals would take ownership of the dwellings, and be responsible for its maintenance and renovations. However, the maintenance of the facilities and services would depend on how affordable the services that are provided are.

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

This environmental analysis is expected to provide the following answers:

- Clear indications of whether or not there are significant physical, socio-cultural and legal barriers that will merit a no development option;
- Clear indications of any significant issues relating to the project and whether or not any further studies are recommended and what such studies should entail;
- Whether any identified environmental limitations can be mitigated and what the mitigation recommendations are.
- Whether there are any environmental triggers under the National Environmental Management Act 107 of 1998

The environmental investigations conclude as follows:

- Are there any significant biophysical, socio-cultural and legal barriers that will merit a no development option;

On the above subject, this environmental assessment concludes that there are no significant biophysical social or cultural issues that would merit a no development option.

- Are there any significant environmental issues relating to the project

On the basis of this investigation, it is concluded that there are no significant environmental issues related to the proposed development. However, the following integral issues need to be considered:

- Graves are normally located in households and therefore the location of the new houses should be identified with full participation of delegated households members
- The grassland in the area is considered endangered due to transformation for settlement, agriculture, and other development purposes. The

development need to ensure that no grassland is unnecessarily damaged at any of the development sites

- Are there any further studies recommended and what such studies should entail

This assessment did not indicate that any specialist environmental studies are necessary for the area.

- Are the identified environmental limitations readily resolvable

The environmental issues identified relate to cultural effects (graves) and potential impact on grassland. However, by the nature of this development the potential impacts are likely to be insignificant. The mitigation proposed for these is sufficient to eliminate the impact totally or reduce them to an insignificant level.

- Are there any legal barriers to the proposed development

The proposed development is not triggered by any of the items contained the listing notices under the regulations GNR 38282 of December 2014 of the National Environmental Management Act 1998. It implies that the proposed development does not require authorization from the KZN Department of Economic Development Tourism and Environmental Affairs.

3.2 Recommendations

It is recommended that the project should be approved and that planning processes should proceed as there are no significant environmental limitations relating to the project.