

STANDBY PAPER 1

THE FARM VILLAGE – A CONCEPT FOR SUSTAINABLE RURAL LIVING

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ABSTRACT

Over the past quarter of a century there has been a steady migration of farm dwellers from commercial farms to formal townships in rural areas. This trend, which is due to a combination of political, social and economic factors, has resulted in ever expanding rural townships, with families from an agricultural background needing to adjust to township life. For an outside observer the results seem to be unsatisfactory, especially in areas where municipal service delivery is non-existent or of a low standard.

The possibility of reversing current migration patterns in rural areas and creating more sustainable human settlements need to be considered. This paper discusses the merits of the so-called farm village, where people employed in the agricultural sector can continue to enjoy the virtues of a rural lifestyle. The intention is to provide an alternative to living in a 40 m² RDP-type dwelling on a 200 m² township erf for families who have the ability and desire to supplement their income through small scale farming.

The envisaged farm village will typically consist of about 20 to 50 free standing dwellings, with sufficient land available to provide grazing for stock animals and for growing crops. The ultimate aim is to create an opportunity for people employed in the agricultural sector to supplement their income by practising small scale farming, in addition to owning their own property. The settlement (farm village) needs to have its own secure water supply and water treatment facility, as well as a waterborne sewerage system draining to a small wastewater treatment works. The property owners will need to take full responsibility for operating and maintaining their own services infrastructure to further develop a sense of accountability, self-sufficiency and ownership. The town planning layout and landscaping should enhance the sense of security and well-being for the residents. The intention is to arrange the houses in a semi-circle around a green commonage which is to be used for recreational activities and social events and will incorporate a secure playground for children. In essence - the focus should be on a rural lifestyle which adheres to the basic principles of sustainable development.

HYPOTHESIS

Since the 1990s there has been a steady resettlement of farm dwellers from commercial farms to formal townships in rural areas. This trend is due to a combination of factors, including economic, political and social forces. The hypothesis is that:

1. conditions in a typical RDP-type high density development, where the average residential erf is only about 200 m² in size, are not ideal for people who are more accustomed to a farm lifestyle, and
 2. an alternative development model (or models) should be considered.
- It must be stated however that the statements and presumptions made in this paper are not based on in-depth research or on an extensive literature review, but on observations made by the author in the field whilst working in and near townships in the Langkloof, a rural farming area in the western regions of the Eastern Cape. It must further be emphasised that intensive investigate work by a multi-disciplinary professional team will be necessary before the ideas offered in this article can be applied in

practise with any level of confidence.

BACKGROUND TO THIS STUDY

The South African Government's National Planning Objectives for the agricultural sector include:

- The creation of one million additional jobs by the year 2030 and an additional one million hectares under production (as per the National Development Plan);
- The creation of 145 000 new jobs in agricultural processing by the year 2020 and 300 000 new smallholders (as per the New Growth Path); and
- One million new jobs in the rural economy by the year 2030 and reduction of rural unemployment from 49% to less than 40% by 2030 (as per the Medium Term Strategic Framework).

The above initiatives will result in a steep increase in the demand for housing in rural areas. Also, with the current political focus on land redistribution and land reform, it may be an opportune time to consider more sustainable alternatives to current human settlement patterns in rural areas.

The relocation of farm workers and farm dwellers from agricultural land to the nearest township is not necessarily the most desirable option from a social, an economical and an ecological perspective, as illustrated with some basic case studies in the following section.

What is required is that those involved in the agricultural sector need to work together towards creating more sustainable living conditions for employees and their families, preferably on or near the farming enterprise or agricultural processing industry where they are employed. To ensure that there is no uncertainty about land tenure, the individual must be given the opportunity to fully own his/her housing unit as well as co-own communal property within the settlement.

TOWNSHIP LIFE IN THE LANGKLOOF

Law abiding township residents in the Langkloof are confronted with multiple challenges in their everyday lives, which are mostly related to unresolved socio-economic issues. This includes:

- Poor municipal service delivery, including water, sanitation and solid waste removal services;
- Lack of strategic planning at municipal and district level, resulting in reactive rather than pro-active infrastructure development;
- An Integrated Development Plan (IDP) which is from time to time politically driven, instead of being services- and community orientated;
- Abnormally high levels of drug and alcohol abuse and a resultant high crime rate;
- Limited work opportunities in the formal economy, with ensuing high unemployment levels;
- An influx of migrants from other African countries who then compete with locals in a limited job market;
- A high reliance on Government's social grant system, which (in the author's opinion) promotes a dependency culture (an attitude of Government shall and must provide!) and inhibits entrepreneurship;
- Wanton destruction of services infrastructure and public amenities;
- Theft of municipal property (electrical cables, manhole covers, borehole pumps, etc.) which often result in prolonged interruptions in water supply or major sewer spillages; and
- A lack of available surface water sources prevents the expansion of existing townships. The nett effect is that new migrants are forced to erect shacks on the outskirts of existing townships where they have limited or no access to water and sanitation services. This adds to the feeling of neglect, despondency and lawlessness within the township.

To highlight some of the current unsavoury conditions in Langkloof townships, a few case studies are cited below.

Misgund

An architect-designed ultramodern multi-purpose community centre was completed in Misgund in 2015. According to Misgund residents, the facility is seldom used. The sad state of affairs is that, due to poor planning and misplaced priorities, municipal water supply to the 404 households in Misgund is currently limited to only two hours per day.

The municipality abstracts water from three production boreholes located near the township. Misgund's water crisis is further exacerbated by the fact that municipal staff are struggling to keep these boreholes operational as cable theft has become an almost daily occurrence in this area.

Louterwater

The sports facility in Louterwater, which was completely refurbished and recommissioned in 2016 as a MIG-funded project, has since been completely vandalised, to such an extent that it can no longer be used for sporting events. The buildings on site have become a safety hazard and an eyesore – see Figure 1 below.

It simply defies logic as to why township residents would go to such extremes to destroy their own public amenities in such a short time span. It is however an indication that there are some major social issues which need to be resolved to improve the sense of wellbeing, the sense of belonging and the sense of ownership within this community.

During recent (August 2017) civil disturbances some community members visibly demonstrated their state of discontent by attacking the police officers sent to maintain law and order. In the ensuing chaos some police vehicles were badly damaged, which unfortunately further hampers efforts by the South African Police Service to protect residents against criminal elements operating in the township.



Figure 1: The interior of the main building at the Louterwater sports facility, which has been subjected to systematic and deliberate destruction by vandals. The ceiling has been removed as well as large sections of the roof trusses. It is just a matter of time before the entire roof collapses – with risk of fatal injuries to children playing inside.

Ravinia

A number of residents in Ravinia own cattle, pigs and goats. These animals are kept on the outskirts of the township on land owned by the municipality. The stock fences along the road reserves are in a state of disrepair with much uncertainty as to who is responsible for their upkeep. The result is that the animals can often be found in the adjacent road reserves where they become a safety hazard to motorists, especially at night.

The risk of a fatal road accident along the nearby R62 remains extremely high, yet the authorities are conveniently ignoring the issue.



Figure 2: Stock animals in the road reserve just outside Ravinia.

ADJUSTING TO TOWNSHIP LIFE

The author interviewed a retired farm worker, John, who now resides in Ravinia Township, to gain some insight into the challenges experienced in adjusting to township life (Figure 3).



Figure 3: John, his family and their RDP house in Ravinia Township. The dwelling has an inside toilet, but no bathroom. Grey water is disposed of through the township's stormwater system.

John was born on a farm in the Baviaanskloof and has spent most of his life working on a farm. In his vocation as a farm worker he has accumulated a wealth of experience in agriculture and has acquired a many skills, including sheep shearing, repairing of stock fencing and growing of crops.

John explained that it is simply not practical to keep life stock in a semi-urban environment due to space limitations, the non-availability of suitable grazing and (obviously) for health reasons. For a while John kept a few chickens on his property and tried to sell eggs to supplement his pension. However, he was forced to abandon this venture because of theft.

As in John's case, the family moving from a farm to a township house need to get rid of their farm animals. Where animals are kept on open land adjacent to townships, they become a hazard to motorists travelling along Route 62, especially at night when it's near impossible to spot a dark-coloured animal grazing within the road reserve.

For farm dwellers it is quite common to grow fruit and vegetables for own use. However, the 200 m² residential erven in townships are simply too small for the planting of vegetables and fruit trees. In addition, water (supplied by the municipality) is often in short supply.

In John's case it is thus obvious that, despite his knowledge, experience and skills in agriculture, his options to improve his standard of living whilst residing in a township are rather limited. The question needs to be asked if there is not a more suitable human settlement model to accommodate ex-farm dwellers like John.

EX FORESTRY VILLAGES IN THE TSITSIKAMMA

There are several villages in the nearby Tsitsikamma area which were originally constructed to accommodate employees of the Department of Forestry and their families. The houses are all identical, relatively compact and constructed of timber (Figure 4). Nowadays they are in private ownership and, despite their age, are kept in good condition.

Each village has its own water supply and waterborne sewerage system which drains to a small sewerage treatment works. In some villages the "bulk" water and sanitation services are operated and maintained by the Department of Public Works. In others the local municipality has taken over this responsibility.



Figure 4: De Blaar – a tranquil settlement in the Tsitsikamma. The timber houses, despite their age, are still in good condition.

The author has visited a number of these villages and has observed that:

- There is no litter in the streets;
- There is no sign of vandalism;
- There are no unsightly backyard shacks;
- Most properties are well maintained, including the gardens;
- The services infrastructure (water and sanitation) is in working order; and
- There is a general sense of wellbeing.

Based on the above (admittedly fleeting) observations, the question needs to be asked if it not possible to resettle ex-farm dwellers in low density farm-style villages, rather than in high-density rural townships. This concept and the viability thereof are dealt with in the following sections.

THE FARM VILLAGE CONCEPT – A FEW HIGH-LEVEL CASE STUDIES

The existing ex-forestry villages in the Tsitsikamma were not built with sustainability as the main driving force. The intention was simply to provide affordable accommodation to Department of Forestry employees, using locally available material (timber) for construction. These settlements are thus not suitable examples for benchmarking of the farm village concept, especially as individual villages are not self-sustaining, but remain fully reliant on the authorities (the local municipality or the Department of Public Works) for service delivery.

The concept of a farm settlement per se, where income is generated through agriculture, is not a novel idea. A cursory Internet search revealed some noteworthy case studies which are briefly discussed below.

Crossways Country Estate, a new residential development located near the N2 about midway between Jeffrey's Bay and the outskirts of Port Elizabeth, is fully independent from local municipal services. In addition, the concept of sustainable development has been core in the design of the housing estate and its commercial farming component. Residents are co-owners of the farming enterprise and the income is used to lower the services costs payable by individual property owners. What needs to be understood, however, is that Crossways caters for high-income groups, while the farm village development concept discussed in this article is intended for low to middle

income families. It must be added that development at Crossways has been extremely slow, which indicates that an innovative development model is not necessarily a guarantee for commercial success.

Probably the best-known example of cohabitation on agricultural land is the so-called kibbutz system in Israel. Kibbutzum initially developed because individual Jews who emigrated from Europe lacked the financial resources to start their own farming enterprises. A secondary reason was that a communal settlement provided better protection against raiding Arab nomads (Source: Wikipedia). What needs to be highlighted, however, is that in modern times the traditional kibbutz started disappearing because of the preference for individual ownership rather than collective ownership.

During the twentieth century collective farming was introduced, mostly in a forceful manner, in countries where Communist Governments came into power. In the process the concept of a farming enterprise in private ownership was abolished and in most instances the immediate impact was a drastic drop in agricultural production and resultant famine and death due to starvation. The lesson to be learnt from this is that full private ownership and freedom of choice and association remain key drivers for the social and economic wellbeing of a settlement and/or agricultural endeavour. The forced settlement model as per Communist ideology is simply not a workable option.

There have been recent attempts in South Africa to develop farm villages in KwaZulu-Natal and in the Free State. A research report compiled by the Provincial Department of Human Settlements in KwaZulu-Natal, dated 2 April 2012, highlights some of the lessons learnt with the establishment of so-called agri-villages in rural parts of the province. The primary intention with this particular agri-village concept is to provide farm workers with (1) security of tenure and (2) the opportunity to own their own houses.

The report states that the lack of success in most of these ventures could be attributed to the following factors:

- The agricultural component failed because of a lack of support from the Department of Agriculture and other (unnamed) stakeholders;
- The challenge of providing bulk services (water, sanitation, etc.) to these villages, including lack of funding for such services; and
- Resistance from farm workers concerned about losing their existing privileges in terms of land tenure, grazing rights, etc.

The common denominator in the above examples is that, where there is no sense of ownership, the development initiative will most likely end in failure.

THE FARM VILLAGE – EXPLAINING THE CONCEPT IN GENERAL TERMS

Developing the conceptual model

In creating a realistic conceptual model of a farm village, several key issues will need to be considered, ranging from identifying beneficiaries and interacting with them, to funding of the development and the provision of municipal services. This will require input from a multi-disciplinary professional team to deal with the full development spectrum, including town planning, engineering services, social facilitation, environmental impacts and agricultural production. Some thought-provoking ideas on the respective matters are provided below.

The beneficiaries

With the farm village concept, the intention is to cater for beneficiaries who may fit one or more of the following profiles:

- A person employed on a farm and his/her family;
- A person employed by a company which provides a service to the agricultural sector and his/her family;

- A person who is a shareholder in a farming enterprise and his/her family; and
- Persons in the low to medium income group who would prefer a rural lifestyle as an alternative to settling in a township.

It must be emphasised that the development will not be suitable for families where the breadwinner is unemployed as property owners will need to pay for municipal services in full.

The beneficiaries will most probably fall into the so-called “affordable/gap” market, where the household income is between R3 501 and R15 000 per month. As first-time homeowners they may therefore qualify for Government’s Finance Linked Individual Subsidy Program (FLISP).

Spatial requirements and layout

The intention with the farm village concept is to duplicate the farm lifestyle by providing residents an opportunity to improve their living conditions by practising small scale farming. At least 5 hectares of pastoral land need to be earmarked for farming activities, while the development density for the residential component should preferably be 15 units per hectare or less to preserve the rural atmosphere.

The town planning layout should reinforce the rural village theme by:

- Allowing sufficient space between individual properties,
- Making adequate allowance for pedestrian traffic, and
- Opting for meandering instead of straight roadways.

Property owners should be encouraged to plant trees along the verges and in public open spaces as part of an ongoing initiative to beautify the area and create a pleasant and secure residential neighbourhood.

The fundamental focus of such a development should be on ownership, which, apart from owning a house, extends to the ownership of shared services infrastructure and facilities. With ownership comes pride and responsibility and at the same time the risk of vandalism or theft of common property is nullified.

A typical village will consist of the following:

- A residential component, with anything between 20 and 50 single residential erven. The recommended erf size is 600 m². Anything bigger could present a challenge for the property owner to maintain. Anything smaller will remove the feeling of spaciousness and farm-like character.
- A village green (part of the common property) which should preferably be placed near the centre of the village. This space is to be used for leisure activities and, similar to a city park, should contain playground equipment and picnic facilities.
- A commonage on the periphery of the residential area for small-scale agricultural activities (crop and stock farming).
- A single access road (to enhance the feeling of security) which could end in a ring road which will provide access to individual properties. In larger developments short cul-de-sacs could branch from the ring road for access to a cluster of houses.
- Where necessary, a fire break along the circumference of the village may be required as a protection against uncontrolled veld and forest fires.

Subdivision and rezoning

A farm village will most probably be developed on land which is currently zoned for agricultural use. One of the major challenges will be the subdividing and rezoning of such land to allow for the establishment of a low density residential settlement.

The Subdivision of Agricultural Land Act (Act 70 of 1970) provides the legal framework for the subdivision of existing farmland. Section 3 of the Act states clearly: “Subject to the provision of Section 2, agricultural land shall not be subdivided....”

Section 2 states that subdivision of agricultural land will only be permitted if the intention is to transfer the subdivided portion to the State or a statutory body. In this context a statutory body includes a local authority. It will therefore make sense to involve the Local Authority who will then, by default, become the owner of the land earmarked for residential development. The normal procedures, as prescribed by the local authority’s zoning scheme, can then be followed for further subdividing the land into individual residential erven.

The zoning for the commonage to be used for small-scale farming activities can remain unchanged as Agricultural. The village green will be zoned as public open space or private open space.

Services infrastructure

The intention is that the farm village should preferably be self-sufficient with regards to essential services such as water and sanitation. In the short term, electricity supply will probably be from the ESKOM grid, but the option of eventually using alternative sustainable energy sources is worth considering.

Although normal rates and property taxes will still be payable to the local municipality, a Homeowner’s Association is to perform some of the tasks of a municipality and will be responsible for:

- Enforcing adherence to National Building Regulations;
- Ensuring compliance to municipal zoning requirements (preferably no taverns);
- Operating and maintaining municipal services, including water, sanitation and solid waste management; and
- Revenue collection from owners to pay for services provided.

The village should preferably have its own reliable water supply, which could be from one of two boreholes or from a nearby dam or stream. The ideal situation would be to use surface when available and have a borehole (or more than one borehole for improved redundancy) as a back-up supply during dry periods. The internal water reticulation network should be designed for minimal maintenance and quick repair when pipe failure occurs. It must be possible to source all pipe material and pipe fittings from the nearest farming cooperative to minimise the time taken to perform emergency repairs.

The houses in the village should drain to a conventional waterborne sewerage system, with a minimum pipe size of Ø160 mm for network sewers. Where possible, the use of sewer pump stations should be avoided to reduce operating costs and maintenance burdens.

A small water treatment works as well as a wastewater treatment facility will be required. Reliable low maintenance sewage treatment package plants with proven technology and suitable for small developments (populations less than 1 000) are available on the open market. The treated water from the wastewater treatment plant can be used for irrigating grazing for stock animals.

The internal roads can be unpaved to add to the rural character of the village. Alternatively, concrete block paving can be used, preferably with sunken concrete kerbs as edge restraints. It may be necessary to construct an access road from the entrance of the village to the nearest public road.

To minimise the risk of storm damage during major flood events, the extent of hard surfaces (paved streets, etc.) should be kept to a minimum. This is to allow for some percolation of rain water into the soil, with the excess water dispersed as overland sheet flow rather than concentrated stream flow.

With solid waste management, the basic principles of waste minimisation (re-use, reduce and recycle) should be applied. It is simply not practical or ecologically acceptable for a village to have its own landfill site. Instead, a communal mini-transfer station should be provided near the edge of the village and should preferably be screened from public view for

aesthetic reasons. Waste separation should be performed at the transfer station, with bins provided for the different recyclable materials (plastics, metals, glass, etc.)

Operating and maintaining essential services

The property owners themselves will be responsible for operating and maintaining municipal services within the development. It must be appreciated that most farm workers, due to the nature of their work, do acquire basic technical skills, which may include doing repairs to farm irrigation systems, including pipes, valves, pumps and pump controls. Where specialist skills are lacking, the Homeowner's Association can appoint a service provider to assist with maintenance and repairs.

The residential component

The start-up house should be at least a two-bedroom unit and 40 m² in size (minimum), with the option of expanding it to a three-bedroom dwelling as the home owner's financial situation improves. The intent is to encourage people to move from the low income to the middle-income group and encouraging an owner to improve the value of his/her property is part of the plan.

The architectural design must allow for the development to blend in with its natural surroundings, thereby reinforcing the rural lifestyle concept. The building design and layout should also conform to the so-called green building principles, with the intention to reduce energy use and water consumption. The spin-off is a lower carbon footprint and a reduced burden on the home owner's monthly budget for water and electricity.

Rainwater harvesting should be an integral part of the development. All dwellings within the farm village should be fitted with the necessary rain water goods (gutters, downpipes, rain water tank and tank stand) to ensure that an alternative water supply is available in case of emergencies.

Sustainability

A sustainable development is one which is socially acceptable, environmentally compatible and economically viable. It is crucial that the farm village needs to conform to these basic sustainable development principles during the planning, construction and post-construction phases, as explained below.

For social acceptance it is recommended that the future residents should be involved in the planning stages of the project to ensure that their needs are adequately catered for. Community participation will thus be a key component of the project – from inception to completion. Ongoing interaction between the beneficiaries and the design team will generate trust amongst stakeholders, encourage creativity and ensure transparency. During construction the recruitment of labour from amongst the future beneficiaries will further enhance community involvement.

To minimise the impact on the local ecology, the following actions are recommended:

- An Environmental Assessment Practitioner (EAP) should be included in the professional team, regardless of whether listed activities are triggered or not. The EAP's primary function will be to guide the design team in limiting damage to the natural environment before, during and after construction. He/she therefore needs to be involved from conception design right up to completion.
- Where possible, indigenous vegetation should be retained and protected and alien invasive species eradicated.
- Earthworks for the construction of roads and other infrastructure must be kept to a minimum and natural stormwater escape routes should be retained to reduce the risk of soil erosion.

For the settlement to be economically sustainable, property owners will need to pay in full for services rendered. Without sufficient revenue, the internal services will not be maintained properly and premature component failure will be imminent. Property owners will also be liable for the payment of rates and taxes to the local municipality.

Financing the development

For the farm village concept to succeed, the key stakeholders will need to form partnerships and/or agreements where respective responsibilities are clearly demarcated. A detailed explanation of a financial model suitable for this type of development falls outside the scope of this initial investigation. In fact, it may be necessary to consider alternative financing options and select the most suitable.

A basic framework for what will be required is provided below:

- The parcel of land earmarked for the farm village will need to be sold (or donated) to the local authority to allow the subdivision to be approved in terms of current legislation which deals with the subdivision of agricultural land.
- The local authority will thus be the initial landowner (prior to subdividing the land into individual properties) and will generate revenue by charging rates and taxes post development.
- A private developer (preferably a turnkey contractor) will be responsible for the installation of services and the construction of houses.
- Existing funding programmes (such as the Municipal Infrastructure Grant) can be utilised to fund the construction of services infrastructure (water, sanitation, roads, etc.).
- The beneficiaries will be low and middle-income households earning between R1 500 and R15 000 per month and may qualify for a FLISP subsidy. (Note: FLISP subsidy applies to residential properties in formal townships, where transfer of ownership and registration of mortgage bond is recorded the Deeds Office.)

THE WAY FORWARD

As a way forward, the following actions are recommended:

- It is necessary to do further research on the viability of the farm village concept. This should include extensive consultation with all stakeholders, including the agricultural sector, local authorities and relevant Government Departments.
- Develop a conceptual model which covers all aspects of the development, from identifying beneficiaries to funding and the provision of services.
- Promote the concept amongst the large farming cooperatives who are proactively involved in the establishment of black-owned commercial farming enterprises.
- Should it prove to be viable, launch a pilot project on a commercial farm to test this development model.
- The possibility of a private-public partnership to fund the development needs to be considered.

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