A NEW VILLAGE REGION:

Addressing 'Rural Sprawl'

By Ronald Eglin

The Eastern Cape Spatial Development Plan Volume 1: Contextual Analysis of 2010 states that, "In the eastern portion of the province, there is widespread peri-urban sprawl close to the service centres and towns, with the main transport corridors enabling high mobility to and from urban opportunities." What this means in effect is that the former Transkei and Ciskei areas are becoming one large sprawling rural settlement.

Most people refer to the former homeland areas of the Transkei and Ciskei as rural; made up of rural homesteads, rural villages and rural towns. In most parts of the world, rural areas are areas where people make a living off the land. That's not what you see when you drive through most areas of the former homelands. What you see is what can only be described as 'rural sprawl' with houses scattered across the landscape. Many traditional authorities are starting to complain that they have no more land to allocate for new homesteads in such a sprawling landscape.

Households do not appear to be making a living from the land. Most of these areas do not rely on farming income, but rely more on remittances sent back from people working in urban areas and on social welfare grants, for example child support grants and old age pensions.

The following map of the Eastern Cape, compiled as part of the present process of reviewing the provincial spatial development plan, provides a visual picture of this rural sprawl occurring in the eastern portion of the Eastern Cape. The population of the eastern half of the Eastern Cape is growing while the western half shrinks. It does not look like this growth is going to stop anytime soon.

The areas marked on this map are a stylised summary of areas of new settlement development from 2000 to date. It shows that most new settlement development is occuring in the former homeland areas.

Urban and Rural Sprawl
Urban sprawl is when urban growth expands out from an urban centre into the adjacent agricultural and rural hinterland. Small towns grow over long periods of time to become cities; cities grow to become metropolitan areas; metropolitan areas are now growing to become what some call city regions. For example, the metropolitan areas of Gauteng are growing and there is no longer any space left between these metros for further development. It is becoming one big Gauteng 'city region'.

In the Transkei and to a lesser extent the Ciskei, rural villages have expanded over time to be become more spread out rural villages. There is now less space between these spread out rural villages for more homesteads to be built. One spread out rural village is joining with the next rural village, becoming what we could call one big sprawling 'rural region'.

If this is truly a new sprawling rural region settlement pattern emerging, then we need to understand it; in terms of its limitations (if any), and identify ways in which it can be improved.

This rural sprawl settlement pattern of the Transkei (and Ciskei) has emerged over time as households from these areas aspire to a traditional rural lifestyle of having open space around their house and space for cattle, crops and graves. But this rural sprawl settlement pattern is coming at a cost.

The Cost of Rural Sprawl
As land becomes scarce for low density living, new homesteads that are built have to be built on land that may be better for agricultural development or land that has cultural significance, for example ancestral graves. It is expensive for the government to provide roads and other networked services, like water and water-borne sanitation, to such spread out locations. If inappropriate on-site sanitation is provided, like unlined pit latrines, this then leads to increased contamination of ground water sources. It is also expensive to provide a viable public transport system to such a scattered population. The extra travel required from a spread out settlement pattern increases greenhouse gas emissions from fossil fuels contributing to climate change; and households also have to pay more for travel as fuel prices rise due to the effects of peak oil.

If the present trend of rural sprawl is allowed to continue, new homesteads will encroach onto agricultural and cultural lands. New homesteads will also need to be built in between the existing homesteads increasing the density of rural sprawl. These expansion and densification trends will lead to the erosion of the rural lifestyle that households so admire and aspire to in the region.

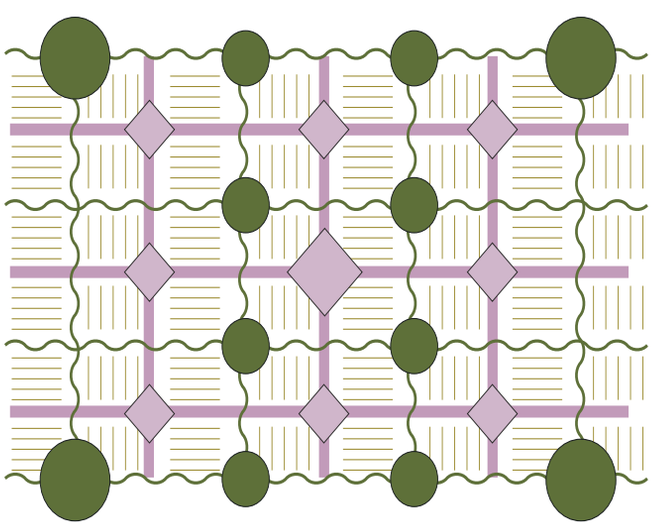
Addressing Settlement Development
If we do not want to end up with a more expansive and denser rural sprawl, we need to change the way that settlement development occurs in this region.

The first thing to do is to identify existing and potential future wilderness areas that we want to keep for future generations. We need to conceptualise these wilderness areas as one big network of wilderness zones and corridors connecting these zones. Experience in the conservation sector demonstrates that nature functions better when fauna and flora are linked. Isolated islands of wilderness do not do as well and are harder to sustain from an ecological perspective than areas that are linked.

We then need to identify those agricultural areas that have high agricultural and grazing potential, have good soils and access to irrigation. These areas need to also be set aside so they can be maintained as agricultural productive areas into the future. However, these agricultural zones do not necessarily need to be part of a continuous corridor-node network.

This then leaves the remaining areas on which settlement development can occur. Settlement planning theory currently emphasises the development of a network of settlement nodes and corridors. The nodes relate to areas where urban activities occur and the corridors relate to movement and transport routes, especially public transport routes such as rail and bus. Settlement activity is then concentrated in these corridors thereby preserving the agricultural and wilderness areas.

The diagram below provides a schematic description for what such a wilderness, agricultural and settlement network could look like. This network pattern would be found at various scales, from the scale of the region (i.e. the former Transkei as a new village region) to the scale of a local village.



- Straight Lines and diamonds: settlement
- Squiggly lines and circles: wilderness
- Hashed areas: agriculture

At larger scales the size of these corridors may be fairly wide and large, with distances between separate corridors from tens to hundreds of kilometres. At smaller scales the size of these corridors may just be the width of one road with houses on each side; creating what Christopher Alexander (A Pattern Language, 1977) calls a 'lace of country streets.' The distance between this 'lace of country streets' could be from tens to thousands of meters.

The scale of wilderness corridors and agricultural areas within this settlement pattern would similarly change from kilometres to meters as you move down in scale. In effect, what is found is a self repeating wilderness - agricultural - settlement pattern at all scales. This network pattern would be replicated in a nested manner at different scales, or in what mathematicians call a fractal pattern. It is nested in a way that you can still find wilderness and agriculture areas nested within settlement areas, as well as nodal and linear settlements nested within wilderness and agricultural areas.

Such a nested and networked system would ensure that the wilderness, agricultural and settlement realms are kept apart. Settlement does not encroach into agricultural and wilderness areas. And if it does, it does within the spatial logic of the wilderness - agricultural - settlement network at a lower scale. It does however imply that within the settlement zones and corridors, as new homesteads, schools, shops, etc., are built in future, these areas become denser and more compact. The size of plots on which households are able to build structures becomes smaller. If this is handled within the networked approach, this homestead plot compaction would occur along this 'lace of country streets.' These households will still have access to agricultural and wilderness areas in their vicinity.

The lifestyle of those living in this village region would be preserved as they continue to have access to agricultural and wilderness lands. As one travels through the region the 'rural' character of the landscape would also be retained with open vistas over a mosaic of wilderness areas, agricultural lands and rural country lanes.

The higher density along these routes or corridors will make it easier for government to provide networked services, like water and electricity. The higher densities along these routes will also mean that public transport becomes more viable.

Implementing a Village Region Settlement Pattern

Assuming it is accepted that such a village region (as opposed to rural sprawl) settlement pattern is appropriate and accepted, the question becomes how can it be promoted and achieved? Forceful removal as done by the apartheid government through its Betterment Scheme Programme, where households were moved into villages with separate agricultural lands, is not acceptable and is not the way to go.

The present rural sprawl pattern needs to be the starting point. The rural sprawl pattern can not just be wished away. What can happen, however, is that all future development and homestead growth can be smarter in how it is located within the landscape. All new development can be encouraged to follow this networked pattern approach.

"Urban sprawl is when urban growth expands out from an urban centre into the adjacent agricultural and rural hinterland."

There will be households that fall outside such a networked approach. Some households will be located in areas that are more suitable for wilderness or agriculture or grazing. These households can be encouraged to move, but they should not be forced to move.

Raise Awareness Amongst Role-Players

The first thing to do to work towards the development of a village region settlement pattern, is to raise awareness amongst all role-players, from traditional leaders to councillors, development professionals, policy makers, and the communities themselves, as to why such a village region approach is needed and how it can be achieved. There would need to be lots

of meetings and workshops within traditional and municipal councils, and in communities generally. It could also involve, for example, new radio programmes confronting the issues of rural sprawl and possible solutions. Role-players in each local area will need to unpack for themselves what the implications of this wilderness-agricultural-settlement networked pattern would have for their locality. Since all areas are understandably different, the way this pattern expresses itself in each area will be different. Once people understand why a nested and networked village region approach is necessary, and what it means for their locality, they will be more prepared to work towards such a vision.

Encouraging Investment in Settlement Corridors

A second set of activities that can be taken is for the State to start using the resources at its disposal for investment in roads, bridges, water systems, schools, clinics, etc., in areas where it wants to encourage development along the settlement routes within this village region pattern. This will also be cheaper for government as not as many kilometres of roads and pipes need to be constructed.

The government also needs to develop a comprehensive public transport strategy for the whole village region, in much the same way the Gauteng city region is working towards a comprehensive public transport system based on the Gautrain and a feeder Bus Rapid Transit (BRT) system. The combination of focused public investment in schools, clinics, subsidised housing, etc., along a network of corridors (at various scales from regional corridors to a local 'lace of country streets') and a comprehensive integrated public and private transport network will provide a huge incentive for households to locate in close proximity to these facilities and services. Some people may still want to stay in more isolated areas outside of this settlement pattern, but they will then not benefit from these services.

Exploring Village Region Incentives and Regulations

A third and final set of activities that the state can adopt in support a village region settlement pattern is to provide financial and other incentives to entice households to settle within certain areas in line with the planned pattern. A possible example to explore in this regard would be a relocation incentive that is provided as part of the state welfare package, for example as a small bonus that is added to the monthly old age pension or child support grant, to people that are located within certain areas where settlement is to be encouraged.

Those that live outside these areas will still receive their welfare package, but not the bonus component. Some may claim that it would not be sustainable to continually provide such subsidies, but the cost savings in terms of public transport, road construction, etc., will likely more than make up for these additional bonuses. Another possibility would be to offer a once-off re-location bonus to any household that moves from an area not designated as a settlement zone to one that is. Households would not be forced to move and accept these relocation bonuses.

Regulations could also be established that discipline households that do not conform to the village region pattern, but it is likely that it will be difficult to enforce such regulations. Examples of this would be to fine households who continue to build new homesteads in areas not designated as settlement zones. It could also involve creating rules stipulating maximum plot sizes in an effort to reduce the expansion of new settlements into agricultural areas. As suggested previously, this regulation approach may be construed as too draconian and bring back memories of forced removal as a result of the implementation of the Betterment Scheme programme.

Ideally, households that do not confirm rigidly to such a village region pattern should not be forced to move, unless there are compelling reasons for this. They can stay where they are, but they would just not benefit as much from the services provided by the roads, schools, etc., that are provided by the State and they would also not benefit from any incentives provided to households that do move according to this settlement pattern.

Balancing Bottom-Up and Top-Down Processes

The ultimate objective would be for all decisions that are made, that have a spatial component to them, to be made using the vision of a nested and networked village region. This includes, for example, traditional leaders deciding where to allocate land for a new homestead; the Department of Basic Education deciding where to locate the next school; the Department of Agriculture, Forestry and Fisheries deciding which irrigation project to support; the head office of a major retail chain deciding where to open a new branch office; a local municipality deciding which roads to surface; and a household deciding if and where they would like to open a new spaza shop.

This nested and networked village region settlement pattern will not miraculously occur over night. It can only be achieved over time, one step at a time, in much the same way that the present rural sprawl pattern also emerged over time.

What is required is for everyone, at all scales and from all sectors, to continually work towards the same vision. There is no pre-conceived spatial master plan that defines in detail what this village region will look like. Rather, there is an on-going process of individual role-players making spatial decisions relating to their field of influence, such as where to build the next homestead, road, school or irrigation scheme; building it; reviewing the quality of the environment created as a result of this new build; and making the next spatial decision on where to build subsequent additions in a way that helps solve problems created by earlier decisions and contributes towards the vision of a village region.

In summary, spatial development is achieved through a bottom-up process of action and reaction working towards a collaboratively defined top-down vision of a nested and networked village region.

References: Alexander, C., Ishikawa, S., Silverstein, M. , Jacobson, M. , Fiksdahl-King, I. and Angel, S. (1977), A Ppattern lLanguage, Oxford University Press , New York, NY • Alexander, C. (2003-04) The Nature of Order, Books 1-4, Center for Environmental Structure , Berkeley, CA • Marchall, S., (2009) Cities, Design and Evolution, Routledge, New York, NY • Duany, A., Speck, J., and Lydon, M., (2009), The Smart Growth Manual, McGraw Hill, New York, NY • http://www.psdp.ecprov.gov.za/ or • http://drupal6dev15.econsultant.co.za/ • http://drupal6dev15.econsultant.co.za/sites/drupal6dev15.econsultant.co.za/files/App%202%20-%20Map%204%20Settlement%20Trends.pdf