

Basie Verster & Frank Berry

The property development challenge: Creating wealth through regional and rural projects

Peer reviewed

Abstract

Past experience, specifically in the regional context in South Africa, shows that development of land and the use of land for physical projects and buildings has had some negative effects on the environment.

Recently developers have tended to be more sympathetic regarding the possible negative influence of project development. The challenge is to match economic, environmental, health and social sustainability with growth, in respect of small projects, or small benefits from big projects.

Lessons from nature, wildlife and environment as well as results of a study conducted by the department of quantity surveying and construction management, University of the Free State, on rural sustainability will be discussed.

Keywords: Property development, wealth creation, regional projects, rural projects

Abstrak

Ondervinding het bewys dat die ontwikkeling van grond en die gebruik van grond vir die oprigting van geboue in sommige gevalle 'n negatiewe effek op die omgewing het, veral in Suid Afrika.

Ontwikkelaars raak meer simpatiek teenoor moontlike negatiewe invloede van projek ontwikkeling. Die uitdaging lê daarin om ekonomiese, omgewings, gesondheids en sosiale volhoubaarheid vir groei te ewenaar ten spyte van klein projekte of klein voordeeltrekking uit groot projekte.

Lesse geleer uit die natuur en omgewing asook resultate verkry uit 'n studie oor landelike volhoubaarheid, wat deur die departement bourekenkunde en konstruksiebestuur Universiteit van die Vrystaat gedoen is, sal bespreek word.

Stelwoorde: Eiendomsontwikkeling, rykdom skepping, streeks projekte, landelike projekte

Prof. JJP (Basie) Verster is the Head of Department of Quantity Surveying and Construction Management, University of the Free State, PO Box 339, Bloemfontein 9300, South Africa. Email: <VersterJ@ufs.ac.za>

Mr FH (Frank) Berry is a Lecturer in Department of Quantity Surveying and Construction Management, University of the Free State, PO Box 339, Bloemfontein 9300, South Africa. Email: <Berryfh@ufs.ac.za>

1. Introduction

It is important that the project manager understands the sensitivities and influences of development on the environment no matter how small and seemingly unimportant (Verster, 2002: 60).

Direct influences in respect of the building site, plants, trees, sunlight, environment, nature, micro-ecology and species are important while indirect influences related to use of energy, water, material, rehabilitation and industry attitude, philosophy about our place related to time, space and culture, and indirect environments should be part of assessment and planning.

Environment is much more than what is observed superficially. It needs to be recognised that cost should include the impact on the total environment, especially in a regional and rural context. Risk should be seen not only as financial risk. To be sustainable, areas (regional or rural) should be able to provide decent living conditions to all life forms.

The quantity surveyor, cost engineer and project manager, especially in Africa, find themselves in an old industry of raw material, real estate and cheap labour, while the new economy, driven by information, technology, knowledge, skills and ideas at its core, is the lever for change. This new economy should also be understood in a rural context. The challenge seems to be the utilisation of the available knowledge and skills in a new economic context. New types of accommodation and projects that meet the demand in various new growth areas will be needed.

The quantity surveyor (sometimes acting as principal agent or project manager) has to become more pro-active, in the sense that returns, development costs, price, risk analyses and assessments are now more important than ever before, but should be seen in relation to the total environment.

2. Property development and environmental impact

2.1 Attitude

A paradigm shift in respect of development is suggested by Montgomery (1990: 20), who contends that the following aspects are important:

- Local history and traditions, with a vision of the future;
- Diversity and choice – a wide range of activities, ownership, cultures etc.;
- Safety, economy, physical and emotional access;
- Environmental quality, sense of place and aesthetic quality.

In the words of Wolf von Eckhardt:

... effective culture planning involves all the arts the art of architecture, the art of urban planning, the art of winning community support, the art of transportation planning and the art of mastering the dynamics of economic development (Montgomery, 1990: 22).

This fact was already redirected by Le Corbusier, (1929: 80) when he said that: "What is perhaps needed is the great unity between the fact 'man' and the fact 'nature.'"

2.2 Activities and influence

It should be taken into account that human actions influence the rural environment at various levels and to various degrees in respect of local economy, natural environment, aesthetics and culture, security, recreation, transport, health and housing (Wathern, 1995: 11).

It is important to recognise the inter-relationship in order to understand interdependency and change in the context of sustainable development:

- Happiness: From the purchase of goods to good relations with life
- Other species: The riches of the earth are here exploited to interdependence on all life forms
- The future: From present generations to "the effects of any action on the seventh generation" (Callenbach, 1999: 22).

3. Risk, the environment, nature and human activity

3.1 Assessment: Harm by human actions should be gauged in relation to:

- The nature and extent of harm and the time scale within which it might occur;
- The vulnerability of the receptors to which the harm might be caused;
- Appropriate guideline standards.

The more severe the harm, the more immediate its effect (Richards, 1997: 11).

3.2 The human influence: Two grave ecological consequences

One is ecological scarcity and the diminishing carrying capacity of the planet, the other is pervasive environmental degradation stemming from the misuse and abuse of the eco-system, threatening the foundation of organic survival (Chung-In Moon cited in Chasek, 2000: 167-174).

3.3 Architecture, the environment and human experience

Luke (1994: 60-64), uses Soleri's project to show the influence and effect of architecture:

- The alterations made to nature by the organic, the physiological and the mental;
- Materially expresses what society does;
- Society's most basic information technology;
- Ecological development is part of theological and technological evolution.

3.4 Risk and Bio-diversity

Bio-diversity is one of the most important elements of nature and the experience of life, as well as the sustainability of all life forms. If bio-diversity is threatened, life itself will be threatened and ultimately human life will be at risk.

The loss of biological diversity may take many forms, but at its heart is the extinction of species. Species extinction is a natural process; however, it is beyond question that the rate at which man causes extinction, directly or indirectly, far exceeds any reasonable estimates of background extinction rates (Groombridge, 1992: XV).

In the South African context, the protection of the more well-known species has become an economic activity. Many property development projects in rural areas are currently under construction not only for various income-generating reasons, but also to stop the loss of bio-diversity and risk of damage to eco-systems. It is here that the development professional may also play an important role in respect of sensible development as developers and professionals understand the following premises (Smit, 2000: 27-29):

- Economic return can only be secured within a long term context;
- The influence of land, soil and grasslands on species;
- Suitability of habitat, for the specific species that are going to be established;
- Genetic integrity – the smaller the unit (development), the larger the risk;
 - ▶ The aim of the development: Eco tourism
 - ▶ Trophy-hunting
 - ▶ Harvesting
- Fencing;
- Cost and size of development;
- Climate;
- Species-mix;
- Integrity and protection focus;
- Quality and grazing patterns;
- Social conduct of species;
- Gender-relationships;
- Sheltering.

It is now in the hands of humans and more specifically governments, developers and non-government agencies to manage the risk and to introduce a comprehensive strategic approach. The development professional must take cognisance of these aspects so that pro-active participation in the process may be ensured.

3.5 Rural needs and the professions

Montgomery (1986: 23) states that designers and planners should also have a keen sense of cultural diversity and steps have to be taken to make a community interested to experience:

- Open spaces, bars and cafés to foster and develop the night-time economy;
- Council-owned properties to assess their feasibility as arts or cultural venues;
- A youth cultural policy and a circuit for popular activities;
- Conversation and arts initiatives, linking the greening of local areas to culture;
- Attention to street design, furniture and sculptures.

Explaining the new attitude, Kuhne (cited in Watkins, 2001: 22) states:

We build a civic landmark for the 'contemporary tribes' that echoes their roots and restores some civic pride. People need to have outdoor space to meet, do business deals, fall in love, interact and conduct their lives. There is a sensibility about working in cities which is only now becoming common currency. It is about getting people out of their pigeonholed offices into shared civic and public spaces. Civic space deals with the festival quality of being in a city, with the interaction of people.

4. The study on sustainability of rural regions

The study done by the University of the Free State (UFS) amongst professionals in the area of quantity surveying and construction management was done to test the opinion of professionals who function within the rural regions of South Africa. It also tested the factors that influence various projects important for sustainability of rural regions. The study showed that:

- Projects (not only physical development projects) related to the environment, health, economy and education would have an important influence on **financial sustainability** of rural areas;
- Physical projects aimed at manufacturing, tourism, infrastructure development and state spending should contribute most to **economical and financial sustainability**;
- That as far as the 'environment' is concerned, tourism, ecotourism, infrastructure, development and state spending will have a substantial positive influence on **financial sustainability**;
- Developments such as health facilities, education buildings, and housing were selected as projects that will contribute most towards **community sustainability**;
- The most pressing problems of rural areas were pointed out as being, the economic situation, urbanization, limited physical projects and state spending.

The study supports the fact that employment creation, economic activities such as manufacturing and tourism and stable communities, are essential parts of **rural sustainability**.

The influence of the Free State Development Plan (FSDP) (2001: 6-21) was also investigated. People involved with developments in small towns support the FSDP's aims of economic development, sustainable infrastructure, investment in people development, ensuring a safe and secure environment and good governance. However, unemployment and lack of infrastructure were indicated as problem areas. The FSDP seems to have a positive influence related to developments of leadership, tourism and physical projects opportunities. The above aspects seem to support the study.

Verster & Berry • The property development challenge

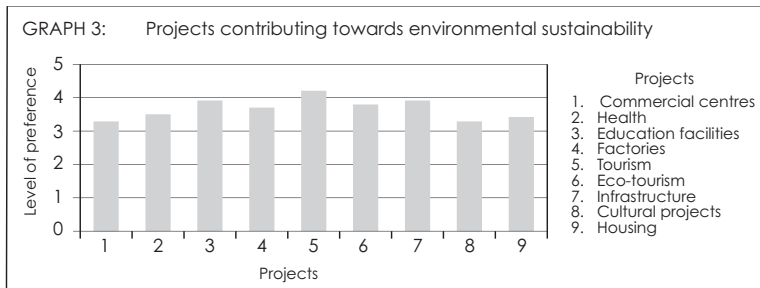
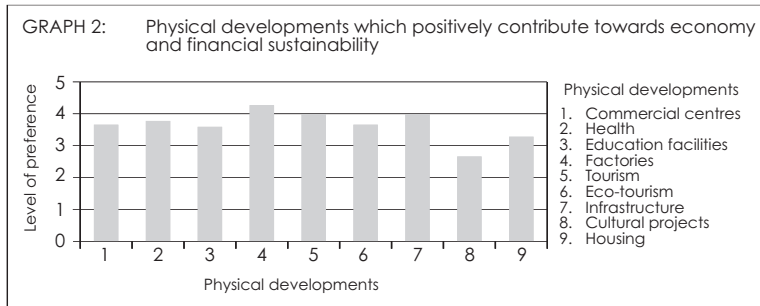
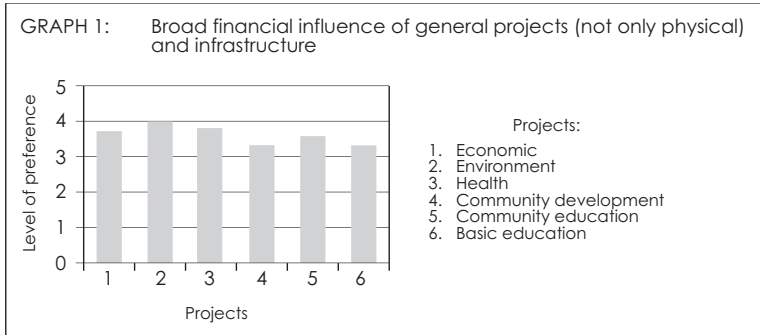


Figure 1: Results of the study done on sustainability of rural regions: Graphs 1-8

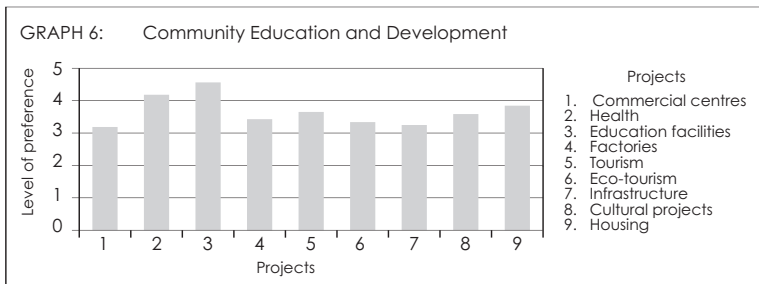
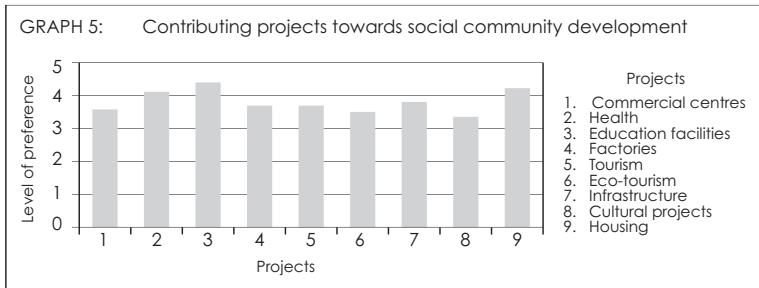
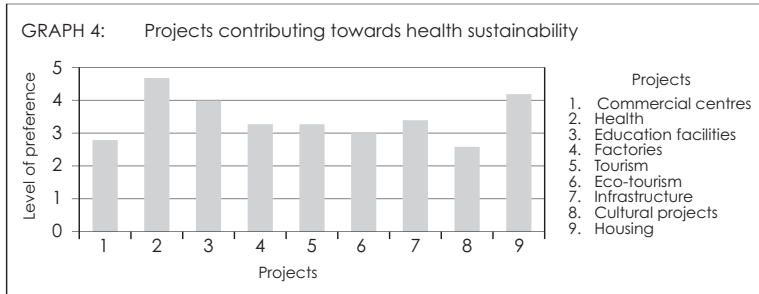


Figure 1: Results of the study done on sustainability of rural regions: Graphs 1 8 (continued)

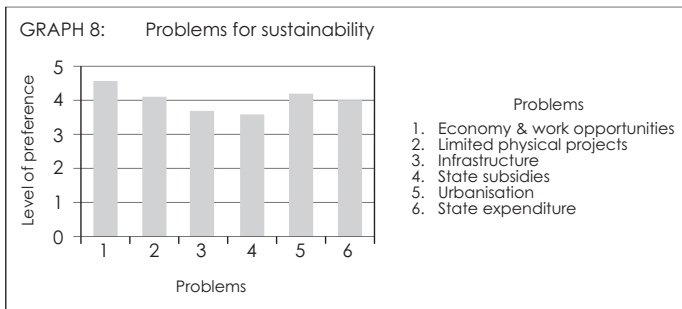
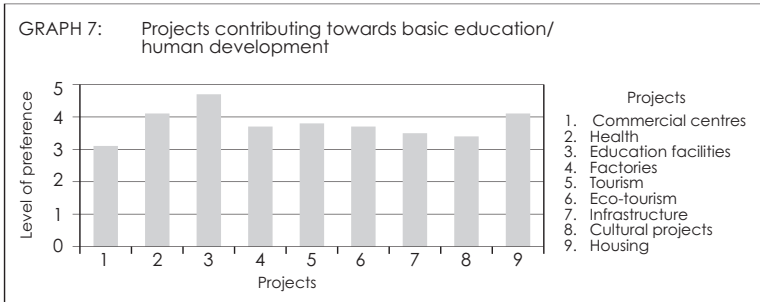


Figure 1: Results of the study done on sustainability of rural regions: Graphs 1 8 (continued)
Source: UFS Department Quantity Surveying and Construction Management, 2004

5. Examples of hope

Example 1: The Richtersveld National Park in Namaqualand, South Africa

The Richtersveld National park, a huge area that includes some of the most untouched environments in the world; regardless of this, people live there and survive there. This park is regarded as one of the few success stories in the history of parks and communities in Africa. As the first contractual national park in the country, no land was expropriated and no communities moved to establish it. Therefore, former inhabitants do not hang around at the park's entrances

in desperate attempts to benefit from an industry controlled by outsiders. Instead, in establishing the park, the South African National Parks Board has taken a different route. The board rents the land from its original inhabitants, while allowing them to continue their stock farming. What makes the park even more unique is the fact that a private mining company is also paying local communities directly for diamond-mining rights in the park. It means that, in an area of 165 445 hectares, stock farmers are allowed to have their goats graze, industry mine diamonds, and tourists visit the park (Krog cited in Weinberg, 2001: 55).

Eco-tourism, travel and safari are much needed activities to sustain the economy of these areas; however, developments to accommodate them must be undertaken with the utmost care not to damage nature. Indeed, these developments have allowed a culture and way of life to evolve which is enjoyed by all.

Example 2: Small projects

Small Project 1: The Blouberg Cultural Village

Developed in the beautiful Blouberg mountains of Limpopo, this 12-bed cultural village was designed and project managed by architects to form the base camp for a hiking trail. The work was done by local people on a small scale, but with long-term benefits. These benefits include: tourism based on the experience of natural scenery and ecology, the income stream flowing through to the community, active participation, transfer of skills, long-term sustainability, local material and labour. The village was done using local indigenous material. This sustainable rural project benefited the small community directly and ensured employment for unemployed people and allowed the discovery of previously unavailable nature (Crafford & Crafford, 2004).

Small project 2: Mowani Mountain Camp

The Mowani Mountain Camp in Damaraland, Namibia is a development for the rich, where they can enjoy the stillness: "The loudest sound is your breathing" (Fysh, 2004: 97). Although done to fuse with the environment, and from very simple material, to the highest quality, the cost was apparently not of great concern because it caters for luxury in the desert. The project consists of thirteen serviced African style en-suite safari tents with features like a professional guide, elephant drives, exploration trips, nature walks and micro-

lighting. The benefits of such luxury are employment, foreign currency, returns, unspoilt nature, elephant conservation and a reason to protect the dessert. This is a clear example where project managers should cater for different concerns and needs in a rural context.

Example 3: Medium sized projects

The Kandirri Wildlife and Game Farm

According to the manager Dunette Le Roux (2004: personal communication) this wildlife and game farm in the southern Free State in South Africa has had a positive influence on its rural environment and community. The project, consists of 2600ha of Africa savannah grassland with patches of indigenous trees, a conference facility and accommodation for twenty four visitors, at a total cost of about R7mil (€900 000). This amount included the purchase of wildlife to bring indigenous species back to the region, all-be-it in a semi-controlled environment. The risks were high because primary income is seasonal. For the rest of the year, the owners rely on conferences, functions and eco-tourism. The benefits are delivered in respect of:

- Direct employment: More than seventeen extra permanent employment opportunities;
- Indirect employment: More than six employment opportunities are created in the town nearby due to meat production, leather curing, and related activities;
- Income to the region due to visitors, foreign currency of about €400 000 per year;
- Environmental sustainability, due to the fact that wildlife in a controlled state is much more environmentally friendly to grassland life than agricultural farming;
- Wildlife is sustained for posterity;
- Education in respect of natural heritage and life that shares the region.

Game farms must adhere to the Department of Nature Conservation's rules and regulations, to eliminate negative effects. This game farm was planned with their assistance in respect of water holes, carrying capacity, and extra fodder during winter months as well as eco-analysis of the farm.

Example 4: Huge Projects

The Lesotho Highlands Water Project

This huge water project with a catchments area of 1869km², presents a case for the impact of rural projects on the economy, environment and social structure (Kyriacou 1996: 19).

The first phase consisting of the Katse reservoir, tunnelling to South Africa, resettlement and the environmental impact project were completed at a cost of approximately R5,7 billion (\pm €720 mil) with a contribution of \pm R250 million (€32 mil) to rural development and compensation (Wallis, 1996: 22).

The question that may be asked is whether a huge project like this really benefits the environment and society. Some negative aspects must be considered like the loss of farm land (35,8km²), income to rural people, natural environment and habitat resettlement, socio-economy and the psychological effect on society.



Figure 2: Map of Lesotho Highlands Water Project
Source: Country Profile: Lesotho, 2004: online

Verster & Berry • The property development challenge

According to Kyriacou (1996: 5-30), the lessons learned from this project on how the developers dealt with sometimes seemingly small but very important issues can be summarised as follows:

- Environment: An environment impact assessment (EIA), in partnership with local communities, ensured integrity of the process;
- Rural Development Plan (RDP) aimed at long term direct and indirect compensation, the establishment of infrastructure such as roads, training and income generating projects, agriculture, etc.;
- The Natural Environment and Heritage Plan (NEHP) ensured that the environment and heritage was not adversely affected, albeit affected, consisted of a compliance monitoring system, erosion and sedimentation studies, water quality and biological monitoring and awareness education;
- Economically: The gross domestic product of the Kingdom of Lesotho benefited by an added 14% through the royalties project.

The above examples shows, that some rural communities of Namibia and South Africa benefited immensely from the development of projects, on the short, mid-term and long term. The communities that benefited most were the small rural villagers in respect of education, housing, health, wealth, economy, employment and sustainable long-term benefits.

Each country has a different conservation policy, each region a contrasting set of ecological, political, economic and social dynamics. These policies and dynamics need to be assessed and incorporated in respect of development solutions. Weinberg (2001: 8-9) sites various examples of these issues to illustrate these differences from Kenya to Namibia.

6. Rural development: problems, successes and solutions

In the South African context, good news for nature, wildlife and the environment is that more and more eco-friendly wildlife farms are being established for diverse reasons. However, as far as ecological reasons are concerned, the following should be mentioned in respect of game:

- Higher levels of resistance to parasites and diseases;
- Less affected by droughts, etc.;
- Adjust more easily to poor weather and nature conditions (Smit, 2000: 25).

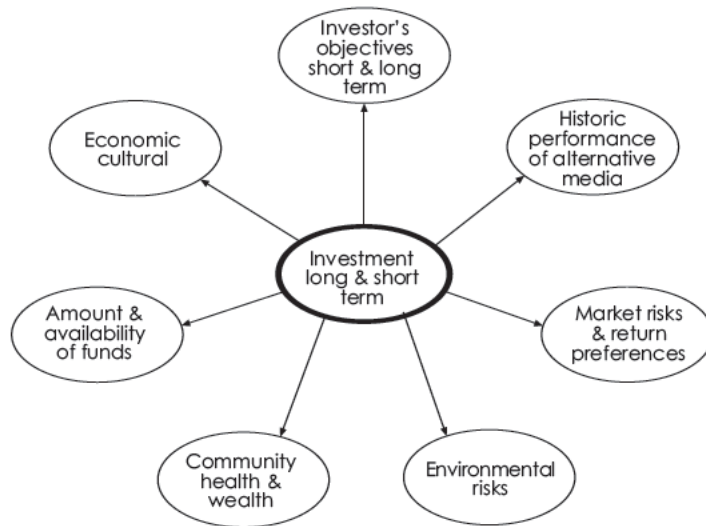


Figure 3: A model to presents an approach that may be used by project managers when confronted by project development in a rural context
Source: Hargitay & Yu, 1993: 21

An integrated policy is also needed as shown in Figure 4 as an approach to project appraisal because even small projects will have an effect on communities in nature and on the environment.

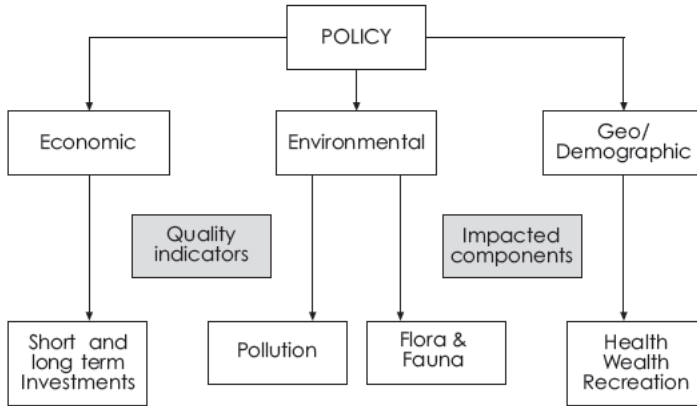


Figure 4: An integrated approach to project appraisal
Source: Nijkamp cited in Wathern, 1995: 22

Environmental damage is a serious international threat that knows no boundaries mostly affected by human action through over-population (population growth) pollution, foreign species in specific areas and island forming.

7. The function flow: A plan of work for rural development

The success of a project or product is subject to more than just the usual architectural, engineering and quantity surveying functions. A fresh approach by the professions would enhance the impact and value of professional services. This does not mean that the professions become everything to everybody; rather, the professions take the total effect of influence and project related to environment, culture, region, finances, economy and growth, seriously.

The flow of project management influences may be represented as follows:

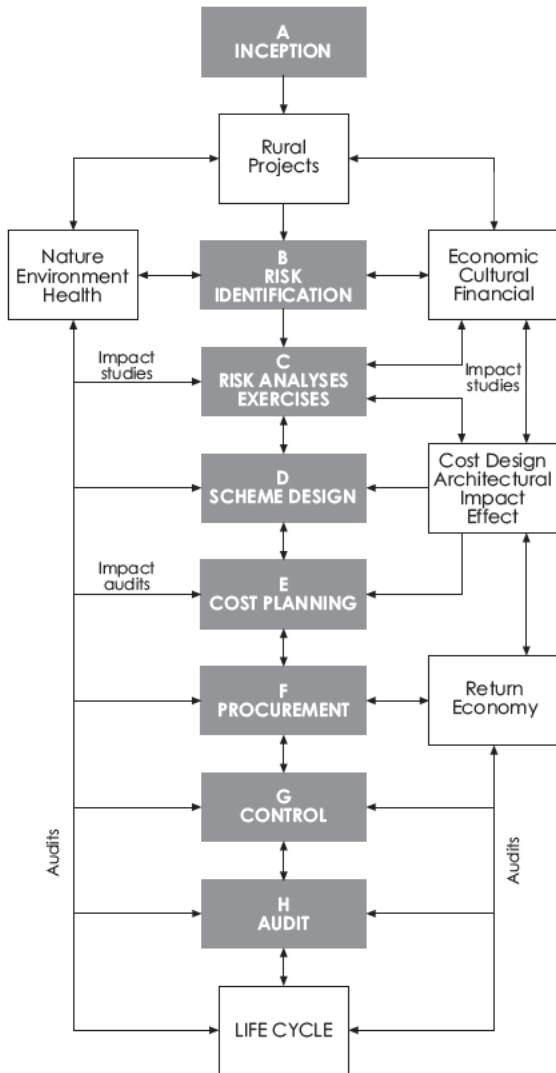


Figure 5: Functional flow model
Source: Verster, 2004

Verster & Berry • The property development challenge

It is evident from the flow diagram that influences are interlinked and must be active throughout the life of the project. Logical interaction during the project flow is also a duty of all the professionals involved, including the quantity surveyor.

The elements of risk are shown in the following diagram:

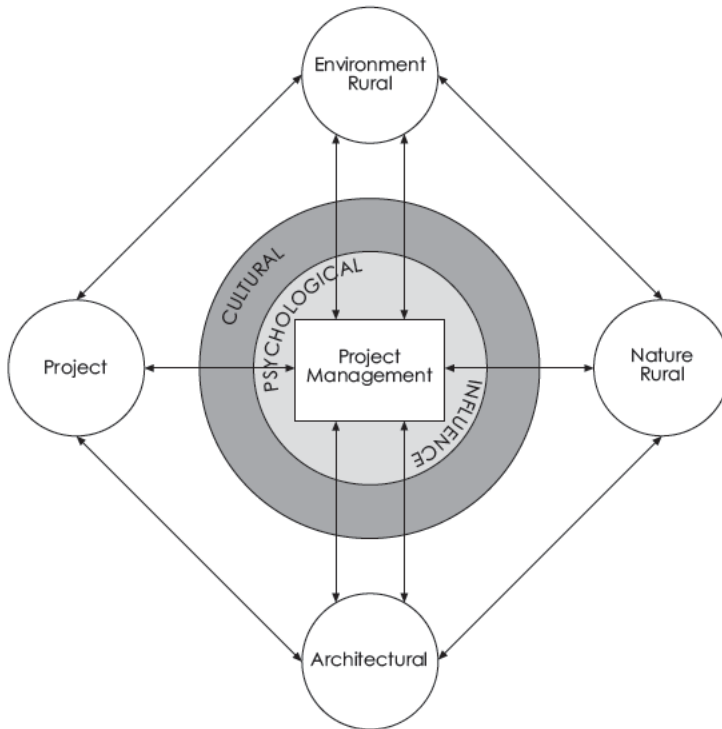


Figure 6: Main elements of rural physical projects model as amended by Verster, 2004.
Source: Verster, 2002: 73

8. Conclusion

This paper proposes to show how important it is for the project manager to understand the scope of projects to be managed and more specifically in respect of three of the additional areas of the body of knowledge, as mentioned by Zack (2004: 6) environment, health and safety, and financing, in rural areas. The project developer and manager should understand culture, country characteristics, environmental properties and qualities, financial and project-specific constraints, type of sustainable project and the contribution it may make to communities and the environment as well as the negative aspects it may have.

The cost engineer and quantity surveyor will play a vital role in respect of the development of projects. They must, in a pro-active manner, ensure that the role is extended to and strengthened in the rural environment where their skills are equally needed. We live in a total eco-system and the one cannot survive without the health of the other; indeed, urban and rural planning, design and construction are interlinked. Effective management and financial expenditure available are critical to the building of a total sustainable economy.

Property development in a rural context will be judged as successful, when projects receive their credibility from rural people and protected environments.

Bibliography

Callenbach, E. 1999. Ecological 'tales' of a sustainable society. In: Inoguchi, T., Newman, E. & Paoletto, G. (eds.) *Cities and the environment: new approaches for eco societies*. Tokyo: UN University Press.

Chung In Moon. 2000. Market forces and environment: Introduction. In: Chasek, P.S. (ed.) *The Global environment in the twenty first century: prospects for International cooperation*. USA: United Nations University Press, pp. 167-174.

BBC News: UK edition. 2004. Country Profile: Lesotho. [online]. Available from: <http://news.bbc.co.uk/1/hi/world/africa/country_profiles/1063291.stm> [Accessed 03 February 2005].

Crafford & Crafford architects, 2004. *Digest of South Africa*. Endorsed by SAA. South Africa: Johnnic Publishing.

Fysh, R. 2004. The Loudest sound is your breathing. *Good Taste*, No 170, pp. 97-101, March/April.

Groombridge, B. (ed.). 1992. *Global biodiversity: Status of the earth's living resources*. World Construction Monitoring Centre (Report). London: Chapman & Hall.

Hargitay, S.E. & Yu, S. 1997. The context of the investment decision. In: Richards, T. *Is it worth the Risk? The impact of environmental risk on property investment valuation*. Research Report: College of Estate Management. Whiteknights, Reading.

Krog, A. 2001. It takes a lot of God to survive here – The Richtersveld National Park. In: Weinberg, P. *Once we were hunters. A journey with Africa's indigenous people*. Cape Town: David Philip.

Kuhne, E. 2001. Larger than Life. In: Watkins, G. *The Subcontractor*, 13(3), pp. 22-23, May/June.

Kyriacou, E. 1996. In: *Lesotho Highlands Water Project Commemorative Journal 1986 1996*. Johannesburg: Honegger Media Marketing.

Le Corbusier, 1929/1947/1971. *The city of tomorrow and its planning*. (Translated from the 8th French edition entitled: *Urbanisme*. Published: Paris : Editions Cres, 1924). London: The Productional Press.

Le Roux, D. 2004. Personal Communication. 10 September, Kandirri Wildlife and Game Farm, Free State South Africa.

Luke, T. 1994. The politics of archaeological utopia: Soleri on Ecology, architecture and society. *Telos*, 101, pp. 55-78, Fall.

Montgomery, J. 1990. Cities and the art of cultural planning. *Planning Practice and research*, 5(3), pp. 17-24, Winter.

Acta Structilia 2005:12(1)

Richards, T. 1997. *Is it worth the Risk? The impact of environmental risk on property investment valuation*. Research Report: College of Estate Management, Whiteknights, Reading.

Smit, J.N. 2000. Ekologiese benadering tot wildplaasbestuur. *SA Game & Hunt*, 6(10), pp. 25-33, October.

South Africa. Free State Provincial Government. Department of the Premier. 2001. Free State Development Plan (FSDP). [online]. Bloemfontein: Free State Provincial Government. Available from: <http://www.fs.gov.za/free_statedeveplan/FSDP%20Summary%2001.10.10htm> [Accessed 6 February 2004].

Verster, J.J.P. 2002. Property development: in search of an environmental sensitive development model. *Acta Structilia*, 9(1), pp. 59-78.

Verster, J.J.P. 2004. The flow of project management model. Bloemfontein: University of the Free State.

Wallis, S. 1996. *Lesotho Highlands Water Project*. Volume 4, November, Surrey: Laserline.

Wathern, P. 1995. *Environmental impact assessment: theory and practice*. London: Unwin Hyman.

Weinberg, P. 2001. *Once we were hunters: A journey with Africa's indigenous people*. Cape Town: David Philip.

Zack, J. 2004. Project Management in crisis. In: *ICEC 4th World Congress*, Cape Town 17-21 April 2004, pp. 1-7.