INTRODUCTION

This paper deals with aspects of transformation of the local neighbourhood against the background of social space as articulated by Henri Lefebvre, the French philosopher and taxi driver.

During 1994 a study based on Lefebvre's spatial triad was undertaken in a neighbourhood known as Westdene, in Bloemfontein. Bloemfontein is a small metropolitan region dating to the mid-nineteenth century and is situated roughly in the centre of the Republic of South Africa. Westdene was established shortly after the turn of the century and directly to the west of the town centre. The study was prompted by the rapid transformation of the area, characterised by the destruction of whole city blocks, houses being converted into offices or razed by developers to erect townhouses and a parallel process of gentrification fuelled by a burgeoning heritage industry. The existing town planning controls appear to be unable to deal with this transformation, especially coupled to a rigid town planning scheme that needs to be changed continually and at great expense.

This condition prevails in many, if not most, dynamic cities and towns all over the world and the issues pertinent to this local neighbourhood seem to offer the possibility of an alternative reading that could open other options in dealing with urban transformation.

THREE MOMENTS

The three moments in the production of space - spatial practice, representation of space and representational space - are interconnected. According to Lefebvre spatial practice remains constant, but a shift has occurred in the other elements of the spatial triad. Unlike the pre-modern world, spatial representation (conceived space) to a large extent, dominates and/or has become separated from spatial practice (perceived space) and representational space (lived space) as is exemplified by technocratic planning practices. The shift that has occurred could, in Lefebvre's terms, be described as a gradual change from absolute space to abstract space. According to Lefebvre, three areas of society are particularly prone to the pull of abstract space: the urban, the body, and the everyday. The city witnesses the struggle between everyday life and the abstract rationality of the Authorities. The body can only try to appropriate, or merely inhabit the space engineered by power. Society, under the tyranny of objective analyses, is reduced to sets of systems and subsystems: transportation systems, urban networks, money-markets and the like.

A POSSIBLE APPROACH

Various themes and strategies to investigate social space have been put forward by authors drawing on philo-
Lefebvre suggests an approach that has two converging angles - the first from the smallest wholes discerned, the second from the most comprehensive. In the first instance items and objects that form part of everyday life are inventoried in a concrete way. Space, by contrast, is secondly described as a whole, that is on a global level:

Once an exact correspondence was attained between these two ways of apprehending space—... we would be in a position to grasp both the transformations brought about by the active elements within space and the genesis of space as an ensemble that is at once social and mental, abstract and concrete.

DECIPHERING THE SOCIAL SPACE OF WESTDENE

The Western Extension, as Westdene was originally known, was laid out in 1903. As the name implies, the town centre was merely extended westward by the surveyor Bourdillion, who at the request of the town council provided a large open space more or less in the centre of the typical gridded network. Bloemfontein then was the capital of the Orange River Colony and part of the British Empire.

The physical layout of Westdene consists of rectangular blocks of erven (more or less 100m wide by 360m long). The erven were large, measuring 30m x 50m. Due to a chronic shortage of residential accommodation, these erven were soon subdivided by owners for speculative reasons. This trend continued up to 1940 when the area was more or less consolidated. For the next 40 years the area remained stable, retaining its homogeneous residential character. By and large the houses were placed as close to the street as possible or as was permitted. The remaining narrow and deep backyards were generally used for cultivating fruit trees or a few rows of vegetables and maize. In the early part of the century cows, horses, pigs and poultry also formed part of the domestic landscape. Gradually modern planning legislation sanitized the livestock out of the urban areas and having your own fruit trees became unfashionable. Since the late 70's certain run-down properties were being recycled as decentralized offices. As townhouses became more popular, more houses were demolished and property prices rose sharply over the last decade. This has led to a rapidly increasing densification of the area. A simultaneous development emerged with the "chelseafication" of the houses in certain streets. These trends were also observed by the local planning authorities who by now have received a steady stream of applications to have the zoning of properties changed. A muddling-through approach has been adopted, largely based on zoning restrictions. In essence the zoning restrictions and the requirements for development have aimed at stemming the exodus from the CBD, and pays lip service to conservation. In both instances only marginal results have been achieved.

It is argued here that an alternative approach needs to be investigated. Lefebvre's approach offers an alternative in that it considers social space...
both from a global and a local point of view. To this end the following techniques and methods were employed:

- Surveying, recording and observing. The area was physically surveyed by listing all the buildings, studying aerial photographs and maps were compiled showing topographical elements, views, green structure, etc.

Activities of people were photographically recorded and use was made of the traffic studies compiled by the local authority.

- Motivation analysis. In order to understand more about the social practices of the inhabitants and how the people perceived their environment, self-administered questionnaires were used. Two questionnaires were compiled, the first aimed at businesses and the second at residents.

- Content analysis. This area of the study dealt with the way spatial representation has been transformed. Various themes relating to how the city is represented is discussed and include: history, spatio-temporality, culture, relationships, inscription, a whole of parts, and a sustainable framework. These themes offer insight on a universal level but has to be read in conjunction with the local context.

RESEARCH FINDINGS

The research findings largely substantiated universal trends. Respondents to questionnaire A (residents) overwhelmingly supported closeness to the city centre and the attractive neighbourhood as the most positive aspects of the area. Neighbours are only greeted and classical music and traditional home-cooked meals are rated highly. Respondents to questionnaire B (businesses) cited availability of parking and the developmental nature of the area as most important. Both groups of respondents deplored the rising tide of theft in the area, traffic noise as well as the “high” rates and taxes.

In order to relate spatial representation to perceived and lived space, a social space diagram was devised that tries to illustrate how these relationships might be interconnected. From the content and motivation analysis, the concept that emerged that most closely fits the study area is that of the so-called traditional neighbourhood development.

Neo-traditional design shares a number of general characteristics: a mixed-use core, a civic node, the fostering of a sense of community, street patterns that allow a variety of path options, socio-economic diversification, a balanced land-use mix, higher density, streets that encourage street life, a common open space and a distinct architectural character. Westdene displays most of these attributes, although in varying intensity. The popularity of the area owes much to its geographical location and the generosity of the original layout, and has evolved to its present state despite the interference of the local planning authority. A civic node is absent but the need is demonstrated by the weekly mobile post-office and library in

FIGURE 3: Demarcation of Study Area - Westdene
President Reitz Street. A steady increase in the frequency of crime, suggests a permanent police presence in the area and, besides general trends, points to the dwindling number of "eyes on the street", due to business premises progressively crowding out residents.

Viewed against the particularly aggressive local urban environment and global metropolitan trends, the sense of community in contemporary cities, has virtually disappeared15. The reasons behind this phenomenon are varied and many, and although it is recognised that a "good" physical environment does not necessarily guarantee a sound community, a positive urbanity could at least offer the potential of a sense of community16. The accelerating change in the area has compelled the community to deal with these issues on a communal basis, as is illustrated by recent events and which will later be elaborated on. The transformation of cities could be typified as movement based and as change occurs and routes and networks develop areas such as Westdene are adversely affected. Traffic and, in particular, noise and pollution, was cited by the residents as the most negative aspect associated with the area. The study area is bounded by streets that carry large volumes of traffic: to the south Voortrekker and Zastron Streets connect the CBD with a new shopping and office precinct directly west and south of Westdene; north-south traffic between the northern suburbs and the CBD are carried by First Avenue and Dan Pienaar Avenue respectively; to the north of the study area, east-west traffic is carried via Brill Street. Second Avenue is the "main" street of Westdene, but unfortunately also accommodates a large volume of through-traffic. The proposed link between Albrecht Street and First Avenue should, in time, ease the strain on Second Avenue, as much of the south-bound traffic will probably prefer this route. Conversely, the linking of Voortrekker Street and Kimberley Road has led to a substantial increase in traffic and a rapid transformation of the properties facing onto these routes17.

At present a healthy socio-economic diversity exists in Westdene. The age group most strongly represented is
between 20 and 30 years old, followed by the group older than 60 years. The predominant income level per household is between R50 000 and R100 000. The change in the composition of the population has been obvious for years, the closure of the President Brand Primary School in the early 1980’s, being a sign of the ageing population in Westdene by the end of the 1970’s. Propinquity to schools is no longer as important as earlier, and although gentrification has led to an influx into the area of young couples with children, other schools have become popular. The current threat, however, is the danger that older residents are forced out by businesses or persuaded by attractive offers to sell. Once the number of businesses become greater than the residential properties the character of the area so sought after might disappear for ever, particularly within the scope of the existing planning restrictions. This is clearly illustrated by developments along Kellner Street and First Avenue.

Under the current planning controls a balanced land-use mix seems unattainable partly due to the inability or lack of will of the local authority to enforce their restrictions and partly because the lucrative property market in the area makes it worthwhile for developers to ignore any restrictions.

Streets in Westdene are, in certain instances, tree-lined, but sidewalks in busier streets such as President Reitz and Kellner are taken over by parked motor-cars, and pedestrians have to fend for themselves. Efforts by the local authority to enforce off-street parking has resulted in the demolition and paving of front gardens of properties rezoned for business purposes. The common open space, originally bequeathed to the residents of Westdene by the city fathers and known as Victoria Park, has gradually been taken over by clubs with limited membership.

Westdene displays a fairly uniform architectural character, at least north of President Reitz Avenue. These characteristics have more to do with urban grain, scale, setback and silhouette, than with style. Stylistically Westdene is probably less homogeneous than residents would like to admit and this could be ascribed to the 35 odd years it took to attain built-up status. Edwardian and neo-Cape Dutch styles rub shoulders, but the designs are generally modest. A few houses were designed by well-known Bloemfontein architects like Rhodes and Harrison, Willoughby-Williams, HGE de la Cornillère and W Masey. Many of the houses have undergone functional changes. Steel windows have replaced wooden sashes, rainwater tanks have disappeared, verandahs were enclosed and kitchens and bathrooms upgraded. Others have suffered an even worse fate, having fallen prey to the heritage industry.

FIGURE 8: Figure - ground plans illustrating the densification over a period of approximately 50 years
FIGURE 9: Drawings for various houses in Westdene (Erven 326, 2032 and 2034, respectively)

PROPOSALS FOR SUSTAINABLE TRANSFORMATION IN WESTDENE

Planners may represent social space in different ways. In this particular instance, a social space diagram was developed to try and illustrate or represent the various aspects of the study discussed above. The social space diagram is not a definitive representation of social space, but merely tries to summarise the different issues that are involved. It is argued and illustrated in the diagram that the aspects of lived and perceived space as articulated by Lefebvre, could be related to the various needs that exist within social space, starting with the physiological as a lower order need, progressing through aspects of safety and security, affection and belonging, esteem, self-actualisation and cognitive and aesthetics needs as higher order needs. Within planning then, and also on a smaller scale, in terms of urban design and architecture, representing these needs is an important task. In assessing the qualities of a neighbourhood such as Westdene, and in trying to assess the impact of transformation on the area, it could be useful to consider the performance characteristics of the area, principles and the physical needs that constitute Westdene and to see in what manner they have been transformed, or if they are in need of further enhancement. The elements of spatial transformation are probably the most readily discernible and have been articulated by writers such as Kevin Lynch.

Traditional town planning representations of social space, at first glance seem to take into account the different elements in a neighbourhood as articulated by Lynch, such as path, edge, district, node and landmark. This is done by dividing up a piece of land into erven, indicating main roads, secondary roads, allocating open spaces, designating certain erven as church erven, schools etc., with the argument that the area will develop over time, so that these elements may become visible. The elements that Lynch refer to, however, relate to the way in which people of a particular neighbourhood appropriate the neighbourhood space. Identifying these different elements of the neighbourhood becomes of vital importance because this would be the first and tangible clues for the planner to base his/her future actions on. Principles relating to spatial representation is an important study area for different writers. These principles include, amongst others order, unity, proportion and scale, symmetry, balance and rhythm, and rhythm harmony and contrast. The National Monuments Council has drawn up a list of guidelines to assist people in areas worthy of conservation or in sensitive areas, such as Westdene. Quite often people are only concerned with so-called stylistic aspects, for example the paint colours, the finish of the building, decorative elements and so forth. The principles however, deal more with aspects such as the setback from the street, the silhouette of a group of buildings, vegetation and scale.

Westdene has a very fine grain, meaning that consolidating erven and erecting bigger buildings, or even sets of monotonous townhouses completely changes the grain of the area. This argument would then imply that inser-
tions of a contemporary design might not necessarily be detrimental to the area if these adhere to the principles inherent in the built fabric of the environment. Representing the performance of a future neighbourhood is rather difficult. In the case of Westdene, the aspects forming part of the performance dimension of so-called "good" environments include vitality, fit, access, control and sense. These performance dimensions are taken from Lynch\(^22\), but they also correspond with a similar set of criteria given by Jacobson and Appleyard\(^23\) and Walmsley\(^24\). Vitality relates to physiological needs like safety and security within a particular environment. Fit deals with authenticity and meaning in community and public life and considers emotions like affection and belonging. Access relates to opportunity and deals with the notion of esteem. Control relates to not only control over the physical environment, but also to the idea of self-actualisation. Lastly, the notion of sense. Sense deals with cognitive and aesthetic aspects of the environment. In the research findings, as indicated earlier, many of these aspects, if not all, were given as areas of concern by the inhabitants of Westdene. The concern arises from a particular way in which the performance dimension of Westdene has been altered, either through the existing planning legislation on the one hand, or on the other hand, due to people unscrupulously circumventing these regulations and capitalising on the potentially huge financial gains to be had in this area.

The concept of traditional neighbourhood development\(^25\) has been put forward as a possible framework that could be implemented by the inhabitants of Westdene to try and articulate the needs, the fears and the possible solutions relating to the transformation in the area. Using the traditional neighbourhood concept, a framework is proposed with which inhabitants of Westdene could firstly try to analyse their current situation and secondly try to plot a future course of action. The proposed framework for sustainable transformation, is considered as a layer that in some cases penetrates deep into the urban fabric and, in other instances, merely overlays invisibly the present situation. The framework aims to facilitate change by obvious anticipation, that is, it does not aspire to the "grand narrative" status of a master plan. The framework aims merely to enhance current positive trends and frustrate negative impacts.

The framework is presented in two formats. Firstly in the form of a table which allows simultaneous scanning of the social space in which it proposes to operate. This table follows the general diagrammatic summation of the concepts discussed in the study. Secondly, a graphic illustration of one possible outcome of the proposals is represented in the form of a design\(^26\).

It is argued that spatial representation should strive towards accommodating exceptional moments of life rather than the mundane uniformity of the average. The framework proposals should be read in conjunction with the proposed framework layout that illustrates one possible outcome of a future transformation of Westdene. The physiological needs of Westdene could be further addressed by strengthening the commercial strip in Second Avenue by creating a mixed use "wall" of two and three storey buildings that would at least have residential accommodation in combination with other activities, for instance commercial, business and public. A civic core could be created that would utilise a portion of Victoria Square to accommodate a post office, a police station and teller banking facilities, a small library and a clinic, around a small public square. The square could have a landmarks say in the shape of a campanile, and could be used for formal and informal trading such as

---

**FIGURE 10: Social Space Diagram** The proposed spatial representation is appropriated by the 'Thousand Designers'.
Placemaking in the residential infill area is facilitated by the layout of the dwelling units. The fine grain of the area is retained and the "vest-pocket" squares are envisaged along the lines of the Dutch woonerf.

Creating a civic node on the "lost space" of Victoria Square serves to bind together the commercial spine along Second Avenue. By consolidating the Westdene Tennis Club facilities with the Municipal Sports Club an area for a public park, that is linked with the small civic square, becomes available.

**FIGURE 11:** One possible transformation of the study area according to the proposed framework
By means of a private paved roadway developed along the Dutch woonerf principle. These areas would be defensible and would in no way detract from the general character of the area as the houses facing onto the streets would be kept intact.

Approximately 80 erven\(^{27}\) are potentially suited for the construction of either offices or townhouses at the back of the erven with direct street access. In these cases it is preferable that the existing house be retained for residential purposes and the offices erected deeper in the erven.

A safer, denser and identifiable environment could be the stage on which affection and belonging are played out. Creating special places where affection could be displayed, for example playing in a park or kissing on a bench under a tree. To articulate the need of esteem, the need for self-actualisation, cognitive and aesthetic needs, the preservation of the residential character of the area within a broader scope of transformation is essential. It is specifically proposed that President Steyn Street be declared a conservation area and that general guidelines such as those proposed by the National Monuments Council be implemented in collaboration with the residents. Owners of properties detracting from the aesthetic quality of the environment should be encouraged to redevelop or rehabilitate their properties.

Tourist flock to memorable places to share, if only for a day, the heightened sense associated with these places. Living in a memorable place enhances the quality of the lived experience.

Caring for one's abode brings a special attachment to the place and gives a sense of self-actualisation in accomplishing something. This is important in the society in which competition is fierce and esteem is measured mostly in terms of symbolic capital.

The generous legacy of a previous town council has bequeathed to Westdene an open space known as Victoria Square. It is proposed that this area be returned to the inhabitants as it is at present appropriated by groups using membership to exclude most of the inhabitants. It is further proposed that the municipal club be retained and consolidated with the tennis club so that about one half of the open space is freed for use as a park. The imposition of an additional levy on membership fees of the club will enable the development and maintenance of the park.

**FURTHER DEVELOPMENTS**

The study concluded that although strong arguments could be made for the framework proposal presented, it had to be tested within a public participation scenario. In the study it was also proposed that a local neighbourhood body be formed that could deal with these various issues including public participation. In 1995 an incident brought matters to a head\(^{28}\). It transpired that a particular property in Reid Street was being earmarked for redevelopment and that the National Monuments Council had refused to issue a permit, to have the property demolished in terms of the applicable law. The developer went ahead and demolished the house and there was a minor outcry from the public, most notably from the inhabitants of the area\(^{29}\).

When a town councillor bought a property in President Steyn Street and converted it into offices an immediate conflict ensued between inhabitants of, particularly, President Steyn Street, the most attractive street in Westdene, and people seeking business rights to properties in the particular area. This has led to the formation of the Westdene SOS group (meaning “save our suburb”) and the Westdene forum. These groups represent, broadly speaking, the inhabitants on the one hand and the business community on the other.

In recent months, that is during 1996, various discussions were held and the author has been part of negotiations to try and find an alternative strategy or framework for development in Westdene. On Monday, May 20th, 1996 a meeting was held with the Westdene SOS group and the representative of the local authority's town planning department. At this meeting the local authority indicated that by extent they were caught unawares by the extent and pace of the changes since the 1994 elections. According to the chief town-

---

27 Town and Regional Planning No 41. 1996

---
FIGURE 12: A discussion between inhabitants of Westdene and a town planner of the Local Authority

planner, people now generally disregard the rules and guidelines as set out by their department and had merely developed and utilised particular properties for whichever purpose they saw fit. The local authority has indicated that it is willing to prosecute perpetrators in this regard. It is, however, doubtful if the City Council has the will or the power, or if they indeed should be held responsible for policing transgressions of land-use zonings.

The Westdene SOS group has taken the matter to the broader public by staging a public exhibition at the Westdene park market on Saturday, 18th May, 1996, on which occasion billboards with photographs of different changes to buildings in Westdene were displayed and people were afforded the opportunity to sign a petition with regard to development in Westdene.

Both groups have been unanimous in their view that development in Westdene and any future developments in Westdene should be routed through a watchdog committee, comprising members of inhabitants and other stakeholders in Westdene and that the local authority should merely play a participatory role. On the 29th of May, 1996 a meeting was held between the two forums at which occasion various proposals were put forward by individuals and groups to try and formulate a strategy that could be taken to the local authority for consideration.

PROVISONAL CONCLUSIONS

It is imperative that the fragmented view of the urban environment be modified. At present interested parties (planners, urban designers, architects, sociologists, anthropologists, geographers, etc.) deal mainly with the social space in either abstract or real terms. In dealing with a social space, a change or transformation in the orientation of interested parties is called for. This means that merely looking at an area in terms of a set master plan underpinned by a set of written regulations, does not take into account the nuanced aspects of a particular neighbourhood.

Central business districts are known for the endless cycle of demolishing and rebuilding of its fabric, dictated by a scarcity of land and by economic pressures. Planners should not be guided by economic pressures only (which translate to mere growth and
Rules and regulations related to controlling space are often transgressed as soon as promulgated. Frameworks, on the other hand, that enable people to fulfill their short term basic and higher order needs, while at the same time allowing for long-term sustainability, will outlast the rigidity of other measures.

Frameworks dealing with transformation are related to enhancement. It would lavish attention on fragile aspects and protect the vulnerable more aggressively, that is, leaving it well alone.

It is readily recognised that statements of issues are provisional and that they remain open to review as a transformation process enfolds. Planning should take on the role of facilitating transformation rather than controlling it. In dealing with social space in its representation, the planner is confronted by "people being in the world". The everyday life world of people often seems irrational, inconsistent and chaotic. This situation strongly contrasts with the orderliness and rationality of approaches associated with planning theory.

Although planning deals with people and their social space, the eventual consequences manifest themselves in the built environment. Planners do not plan social space as this is produced by the inhabitants. Planners may be instrumental in establishing channels for citizen participation or local management, but these structures are transient and easily modified.

This study is a tentative enquiry into a complex issue. Further research, however, is necessary. It is hoped that this paper has illustrated that it is possible and feasible to consider social space as a unity. Many other conclusions could be drawn from this study, which hopefully offers researchers the opportunity for further enquiry.

NOTES

1. The study, "Planning and the transformation of social space in the neighbourhood - Westdene: a case study in Bloemfontein", on which this paper is based, draws on The Production of Space (1991), first published as La production de l'espace (1974). Social space is the space where the universals of philosophy are reunited with the particularities of everyday life in the modern world.

2. "Planning and transformation of social space in the neighbourhood - Westdene: a case study in Bloemfontein" (1994).

3. See Production of Space p38-39. Spatial practice of a society is the way in which a society appropriates a space and goes about its daily routine. Representations of space is the intellectually worked-out space of the architect, planner and engineer - "all of whom identify what is lived and what is perceived with what is conceived" (38). Representational space is space as directly lived, the space of myths, symbols and images and their associations with objects in physical space.

4. See inter alia Vernez Moudon (1989), Knox (1991), Hubbard (1993) and Berendt (1994) the latter, in particular, utilizing the "trivialities of everyday life" to illustrate this point (151). A local example is Karel Schoeman's Bloemfontein (1980).

5. See Production of Space (46).

6. See Stewart p614. Absolute space is the cosmological space of the Greek city, "... a space populated by human beings, gods, and demons, as well as a space that was lived and rationally represented" (613). Abstract space is both fragmented and homogenized at the same time due to the process of commodification. Homogeneity is propagated by the need for interchangeability and a uniform fragmentation of land assists in this process. Fragmentation is further evident in cities where working, living and playing are clearly separated by zoning or single-use spaces.

7. For an introductory review see Broadhent's Emerging concepts in urban space design (1990).

8. See Production of space (295).


10. Council minutes, 03.04.1902.


16. In a local context see Dewar and Uytenbogaardt (1991) and on failures of urban renewal Hall (1988) and Goodman's classic, After the Planners (1972).

17. See the various traffic studies undertaken by the City of Bloemfontein in Westdene (1994).

18. See the parking requirements in the Bloemfontein Town Planning Scheme (1954), as amended.


25. Traditional neighbourhood development forms part of the so-called neo-traditional design approach towards town planning. In general, neo-traditional design shares the following characteristics: A mixed use core; the establishment of employment and civic centres; the fostering of a sense of community; street patterns that allow a variety of path options; socio-economic diversification by providing housing for all income levels; a balanced land-use view; higher-density; streets that are designed to encourage street life; a common open space and a distinct architectural character. See Christoforidis 1994:432.

26. The table and the design are not fully discussed or reproduced in this paper.


28. See Oms Stad, 28.03.1995: "Kultuurskat stil-stil in Westdene geslapo".

29. Oms Stad, 4.04.1996: "Vorige nienaar van Westdene-spoehuis gesesk na berigte van sloping".

30. Members of the Westdene forum discussed the validity of opinions expressed by signatories not living in Westdene.

31. See memorandum prepared by P Zondagh.

32. See various submissions by members of the Westdene SOS and Westdene forum. The Westdene SOS used the study on which this paper is based, as a starting point to formulate its position.
ARCHIVAL SOURCES

Published and unpublished sources in the Free State Archives Depot, Bloemfontein
Council minutes of the Town Council, Bloemfontein: MBL 1/1/1/10.

Published and unpublished sources in the archives of the City of Bloemfontein.

Published and unpublished sources in the archives of the Registrar of Deeds, Bloemfontein.
Title deeds of erven in President Steyn Street and Second Avenue, Westdene: Various deeds.

LITERATURE

Unpublished articles, research, theses, and reports.


Occasional Publications (Official and Unofficial).


Magazine Articles


General


SENKAL WFS (1977). Gedifferensieerde Woonbuurtvorming binne die Munisipaliteit van Bloemfontein: 'n Faktorekologiese Toepassingsstudie (Deel 1 en 2). Bloemfontein: ISEN.


Newspaper articles

ONS STAD 07.07.1994:16-17. "Kollig op Westdene ..."


ONS STAD 04.04.1996. "Vorige eienaar van Westdene-spoeghuis geskok na berigte van sloping."

PROVINCIAL GAZETTE 09.05.1994. "Requirements for Development in Westdene."

Maps, Photographs etc.