



THE WINDHOEK STRUCTURE PLAN

**WINDHOEK MUNICIPALITY
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1. TOWN PLANNING GOALS

Town Planning has as a general goal the aim of promoting the continued co-ordinated and harmonious development of Windhoek in such a way as will most effectively tend to promote health, safety, order, amenity, convenience and general welfare, as well as efficiency and cost effectiveness in the process of development, the attraction of new investment and the improvement of communications.

To contribute its part towards the mission of Council, this report seeks to anticipate and draw Council's attention to trends and changes in urban development which may need to be addressed and to advise Council on plans and guidelines which may be recommended to handle the physical planning of land use and urbanisation. The report seeks to establish principle guidelines. If there is general consensus on likely trends and the guidelines, the compilation of detailed policy issues can be considerably facilitated.

This report concentrates on the urban structure of Windhoek, how it came about, and the pattern it may be expected to assume over a 20 year horizon. It will suggest a structure about which a vibrant, economic and technological powerhouse may develop and which will offer residents opportunities for improved quality of life.

A report is particularly called upon at this time for the following reasons:

- 1.1 The Country and the City are in their seventh year since independence and expression must be given to the changing times and circumstances in the planning of the City's structure.
- 1.2 The 1995 results of a Civic Population Survey and a Traffic Study are available for presentation to Council and as input into this report.
- 1.3 Council has itself recently set goals which call for integration into a planning report.
- 1.4 Development is now reaching into peripheral areas and specifically Brakwater for which clearer statements are needed on their role as components of the growing City.
- 1.5 The long term growth potential of the City is not generally appreciated and should be presented in proper context.

2. COUNCIL'S VISION

The Council of Windhoek have set for the community a vision which states that "we commit ourselves to make the City of Windhoek the vibrant, economic and technological powerhouse of Africa in order to enhance the quality of life of all our people".

The City of Windhoek is committed to the following goals:

- 2.1 Rendering affordable, effective services and infrastructure to our clients through the optimal and sustainable use of resources and technology;
- 2.2 Creating economic development opportunities, while applying sound environmental conservation principles; &
- 2.3 Promoting user-friendly management and enhancing public participation.

3. OBJECTIVES

The City Council has set itself a strong vision for the future. Attainment will require firm policies and clear objectives. Sustainable development requires optimum usage of resources with minimal wastage. Management will be a crucial factor. In the context of this report, land, and particularly well located flat land, is scarce as well as the resources needed to develop it. Translated into a structure plan, Council's vision requires a clear indication of where growth is going to take place and what form that growth will take.

The following objectives have been adopted in the formulation of this document.

- 3.1 There should never be a shortage of land (serviced or unserviced) for economic activity and investment.
- 3.2 Opportunities for economic activity and investment must be widely available and accessible
- 3.3 The advantages of scale should be achieved by certain levels of concentration of economic activity and the creation of a hierarchy of economic activity centres attuned to natural market forces.
- 3.4 The location of areas of economic activity must facilitate provision of infrastructure.
- 3.5 Traffic should be directed on to a suitable hierarchy of roads so that congestion is minimised.
- 3.6 People should be able to live near places of work (economic activity centres).
- 3.7 The need for private vehicle transport should be kept low.
- 3.8 Opportunities for public transport should be designed into the developing structure of the City.
- 3.9 Living areas should not be undermined or destroyed by excessive traffic and commercial activity.
- 3.10 Open space opportunities (parks, playing fields, wilderness or views) should be available to all.
- 3.11 The proposed structure should be open ended in the sense that growth is not limited spatially and internal improvement may be readily accomplished.
- 3.12 The proposed structure should be compatible with the Windhoek environment and be such that the community will want to sustain it.
- 3.13 Variety of housing types and densities should be possible in different locations to allow for variety of choices and financial abilities.
- 3.14 The attractiveness and viability of Windhoek's City Centre should be enhanced.

The following objectives are quoted from the South African Government's Green Paper on National Transport Policy for comparative purposes.

"Land use frameworks, guidelines and policies should channel development, particularly employment

activities, into public transport corridors and nodes; development priority should be given to infilling, densification, mixed land use and the promotion of development corridors and nodes; decentralisation which disperses employment activities must be discouraged; unrestrained car usage and subsidised car parking should be contained through the application of policy instruments including strict parking policies, access restrictions for private cars, higher licence fees, road pricing and area licensing" (Municipal Engineer p37).

4. BACKGROUND TO THE CITY

Windhoek plays an important role as the Capital City of Namibia being the host for prestigious buildings and functions (University, Main Hospital, foreign embassies, etc.). It is the centre of a transport network of road, air and rail that covers Namibia and beyond. It lies in a semi-arid region with a low human and animal carrying capacity and it is part of one of the least densely populated regions in the world. A study of regional growth fluctuations recently revealed that "Windhoek's growth follows closely that of the national average, and" seems "to be more stable than growth in other regions" (NEPRU p13).

Windhoek can be defined as being the administrative, commercial and service industrial centre for the country. It is conveniently situated at the geographic centre. It contains the head offices of most larger organisations operating in the country. As a result, based on employment figures from the 1992/93 establishment survey undertaken by MLHRD, in terms of value added throughout Namibia, Windhoek has 51% of manufacturing activity, 96% of utilities, 56% of construction and trade, 94% of transport and communications, 82% of finance and business services and 68% of community and social services (NEPRU p11). Although Windhoek produces 47% of value added, estimates based on preliminary data from a recent National Household Income and Expenditure Survey indicate that "only 35% of private consumption expenditure takes place in Windhoek". The information suggests that "large transfers go into the north" (NEPRU p12). Nevertheless, available figures on the value of building plans completed January to December 1995 indicate that 77% of these buildings were erected in Windhoek.

The implications of this information are that, all things being equal, Windhoek may expect to parallel the economic growth of Namibia as a whole; its economic development will be more stable than other regions; and that the City has little to fear from decentralised development. Other regions depend upon Windhoek for income transfers. This dependence may be unwise and alternative regional economic development opportunities are needed. However it does highlight the importance of the role of the City and suggests that further economic growth will have some good spin-offs for the regions.

5. THE CITY CENTRE

As a result of the City's national role, Windhoek's City Centre holds prime position in the symbolism and economy of the nation. Often the first impression foreign investors and tourists obtain of Namibia is that of Windhoek's City Centre. Its image for attractiveness and vitality is something of which the nation may be proud. Its attractiveness is based upon its spaciousness, the people that walk its streets, its pedestrian malls and arcades, the fine buildings which house business headquarters, embassies and financial institutions, the proximity of major symbolic government buildings, and the clarity of its structure.

Its attractive features can be maintained by giving it pride of place for prestigious buildings and by guiding

more functional buildings to other areas. Over-concentration of activities and business floor area must be avoided. Congestion must be prevented. Its spaciousness and pedestrian orientation can and must be expanded when opportunity and resources allow.

This image can be sustained by judicious management. The present City Centre has a "business" zoned floor area development potential of 104 hectare of which less than half has been taken up. The potential floor area of all the "business" zoned land in and contiguous to the City Centre is about 164 hectare of which maybe a third has been developed. Many opportunities still exist for new significant buildings within the City Centre. This will add to the traffic and pedestrians in the City Centre. Keeping a hold on the present potential and guiding more functional less costly developments elsewhere will help maintain the prestige value of the City Centre. Alternative areas could develop such as the outlying government office area which is developing to the North of the City Centre. The location of alternative development areas is a major topic of this report.

6. WATER SUPPLY

No planning report on Windhoek can fail to mention the water supply. Rainfall is highly variable and unreliable. Windhoek has an average of between 300 and 400 mm per annum (National Atlas of SWA map 10). Settlement took place in the Windhoek basin because of the presence of natural springs. By 1912 boreholes became necessary because of population growth. There are 46 operational boreholes at present. Dams have been constructed from 1932 onwards. Four major dams serve the City. During 1968 water was for the first time reclaimed from purified effluent. The total supply presently available consists of 21 million cubic metres (18 from the State, 1,5 from boreholes and 1,5 from reclamation).

Most boreholes are situated over aquifers which cross the southern half of the Windhoek Basin. These aquifers are a precious resource. Any development over the southern Basin must not be allowed to pollute these resources. Water borne sewage removal is virtually mandatory for this area.

"Water resources from a large area of central Namibia have had to be tapped to make this supply possible. This extraction leaves less available in the region for other purposes (eg. agriculture). Long term prospects of obtaining water from the Kavango River are very expensive (N\$940 million) and pose questions of water sharing rights between regions and nations. Additional distance brings additional costs of pipelines and pumping" (Windhoek City 1994).

Water conservation measures are being instituted by the City Council. If the measures are successful, and the growth rate in demand declines, then the critical point in time when demand exceeds supply can be put off from 1997 until the year 2003.

In the meantime it is expected of Government that it will make the necessary capital investment to supply the City with water from the Kavango River. It is only with this expectation that planning for future growth can take place.

7. POPULATION GROWTH

Although this is not a report on population characteristics and growth, it is necessary to outline the direction in

which population is headed in order to have the correct perspective. The population growth rate based on the June 1995 Residents Survey is 5.44% per annum. Natural growth is 1.52% (City 1996, p15). The population doubling time is approximately 13 years (City 1996, p20). The following population projections are based on the 1995 Residents Survey (City 1996, p20).

YEAR	HIGH PROJECTION	LOW PROJECTION
1995	182 000	182 000
1996	192 000	192 000
2000	241 000	237 000
2005	318 000	307 000
2010	421 000	393 000
2015	558 000	498 000
2020	740 000	623 000

In 1995, 38,93% of a population sample stated they had lived for less than 10 years in the City (City 1996, p62). Population growth is chiefly fuelled by immigration from the rural areas. 88,2% of immigrants are from Namibia. The Northern Areas alone contribute 57,6% of immigrants (City 1996, p63).

It has been recorded of the central northern area of Namibia that "there is considerable evidence that the land is unable to indefinitely support the current numbers of people practising traditional land use management" (Oshanas p.19). One method of escape is to emigrate. The major migrational trends taken from the Government Census of 1991 were an outflow of about 60 000 people from the rural areas on the northern border of Namibia and an inflow into the capital city, Windhoek, of 34 000 people (Rep. of Namibia p.27-28). Migration may be expected to continue. Unemployment in the City rose from 5,05% in 1985 to 22% in 1995 (City 1996, p46,47).

The City's population will be approximately 360 000 people in the year 2008, if presents trends remain unchanged. The population could be over 2,5 million within 50 years. Whilst there may be many factors which will influence the growth rate in the future, the important point is that based on historical trends large scale immigration of poorer people from rural areas may be expected.

8. URBANISATION

Population growth and accompanying development falls under the heading of urbanisation. Urbanisation creates a situation in which people are more inter-dependent, more inter-reliant and less self-reliant and independent. It has positive and negative effects as discussed below.

8.1 Positive factors.

Urbanisation has many positive factors in the Namibian context which have been enumerated by Mr. G.Seydack, President of the Engineering Professions Association of Namibia.

" a. Urbanisation may save, for future generations and for sustained tourist attraction, a fragile

ecology in rural areas known to have a very low carrying capacity and to be already over-exploited.

- b. Services, particularly those of a social nature which invariably have to be subsidised by the more affluent part of the population, can be provided more cost-effectively in an urban than in a rural setting.
- c. Opportunities for entrepreneurs and for the creation of work are better in an urban than in a rural setting; and obviously those people flocking to Windhoek have realised this.
- d. A concentration of consumers makes production more profitable and provides an incentive for building manufacturing capacity; this is of further importance in that if Namibian industries can cover their production costs by sales in a concentrated local market, they will be more competitive internationally by being able to sell at marginal prices on export markets.
- e. Urbanisation is probably the best known suppressant of population growth. "

8.2 Negative factors.

Urbanisation is invariably accompanied by a concentration of much that is negative in human settlement.

- a. The poverty of poorer sections of the community is very much more concentrated and visible.
- b. Crime has more opportunities.
- c. Strains on and failures of infrastructure and the supply of services have greater adverse impact.
- d. Health, safety and living conditions require more stringent control.
- e. Social conditions and family networks can be easily undermined.

The positive factors are very supportive of the City Council's vision of vibrancy and economic development. Ensuring that the benefits are achieved and that the quality of life is enhanced does require proper management and investment. For instance, new street layouts may have to concentrate on designs which improve local surveillance or which can be privatised. This document itself is one of the management tools needed to achieve the City's goals.

9. MUNICIPAL AREA & AREA OF EXPANSION

Windhoek is centrally located in the Khomas Hochland. It lies in an approximately 10 kilometre wide valley. The valley is hedged in by mountainous terrain on the East and West and is closed in the South by the Auas Mountains. The situation is illustrated on the **Windhoek-Okahandja Urban Corridor Plan**. The valley

stands out as the unshaded area running North-South down the middle of the plan. Only the steepest areas are indicated on the plan. Other unshaded areas vary widely in topography and are not all suitable for urban development.

The valley runs for about 70 kilometres. To the North of the City the valley at Brakwater is about 13 kilometres wide and gradually broadens until it loses its distinctiveness as it reaches Okahandja, 80 kilometres away. Windhoek lies within the first 20 kilometres. It is partially confined in the North by an island of mountainous ground. The confined area is known as the Windhoek Basin. Two routes connect Windhoek to the wider northern valley area. They are the Monte Christo Road and the National B1 through Brakwater. The Municipal Area covers the Windhoek Basin and an area known as Brakwater centred on the National B1 Road.

The areas of the various components are supplied in the following table.

DESCRIPTION	AREA Hectare
<u>Municipal Area:</u>	
<u>Farms: Brakwater Area</u>	
Brakwater No. 48	1698.8806
Brakwater No. 48, Portions B1, B2, B3	9.9847
Railway reserves through Brakwater area	15.8021
Döbra No. 49 (incl. Emmarentia No. 380)	4919.2459
Elisenheim No. 68	4765.3088
<u>Farms: Windhoek Basin</u>	
Gammams No. 36	2644.5031
Eros No. 69	1316.8327
Ujams No. 288	457.3896
Railway reserve through Ujams area	109.4623
Nubuamis No. 37, Portion A	420.8721
Windhoek Town & Townlands No. 31, Portion B	26599.3387
Windhoek Town & Townlands No. 31, Portions A, C-T	1867.4153
Klein Windhoek Town & Townlands No. 70, Portion B	14693.9066
Klein Windhoek Town & Townlands No. 70, Portions A,C-Z	732.2276
<u>Split between Basin and Brakwater</u>	
Nubuamis No. 37, Portion B (incl. Ongava No.452)	4334.8643
<u>Total Municipal Area</u>	64586.0344
<u>1996 Proclaimed Townships and Extensions:</u>	
Academia	163.9666
Cimbebasia	21.8639

Dorado Park	133.9424
Erospark	129.4228
Goreangab	399.9664
Hakahana	42.0678
Hochland Park	158.7165
Katutura	768.7314
Khomasdal	618.6106
Kleine Kuppe	220.3036
Klein Windhoek	841.8354
Lafrenz	62.9573
Okuryangava	266.4119
Olympia	222.0346
Otjomuise	251.2053
Pionierspark (incl. University of Namibia 235.5359)	686.6027
Prosperita	160.1455
Rocky Crest	158.6845
Wanaheda	252.6877
Windhoek	2677.2917

Total area of proclaimed townships; June 1996 8 237.4486

(1974 area of proclaimed townships = 4728 hectare)

In June, 1996 there were approximately 38 000 registered erven.

Estimated available land for intensive urban usage within the Windhoek Basin (up to 12 kilometres radius of the City Centre) and outside of proclaimed townships: 5 000.0000

1996 Unproclaimed Townships

(Townships for which there was an approved diagram for the outer figure on 30 June, 1996).

Cimbebasia Extensions 1 & 2	54.5644
Gammansrivierpark	173.7963
Haloid	117.5171
Khomasdal Extension 16	156.9516
Kleine Kuppe Extension 1	124.2134
Okuryangava Extension 6	501.8664
Otjomuise Extensions 1,2 & 5	110.5350

Total area of unproclaimed townships; June 1996 1 239.4442

In June 1996 there were approximately 5 000 unregistered erven.

Following first settlement at convenient water sources, settlement is spreading to fill the 20 kilometre long Windhoek Basin. Since the land slopes downwards from South to North, development towards the South has initially been favoured due to lower infrastructural costs for water supply and sewer.

The Basin is expected to accommodate possibly 400 000 people. On the basis of the population growth

sketched above, a population of 400 000 may be expected in about the year 2010. Further urban growth will accommodate itself in whatever flatter areas can be found. Fifty years from now, the whole valley from Windhoek to Okahandja could be populated. One might also expect additional settlement beyond the Auas Mountains to the South and off the road to the airport (Sam Nujoma Drive) to the East.

10. INFLUENCE OF LAND TRANSPORT ROUTES

The geography of the Khomas Hochland has also influenced transport routes and the location of the international airport. Roads and railway lines thread through hilly ground along the easiest paths to reach the Windhoek Basin. The two nearest towns to the City are Okahandja 70 kilometres to the North and Rehoboth, 90 kilometres to the South. The distribution of population in Namibia is heavily weighted towards the North. The City's major transport links to the coast run through Okahandja. These two factors combined with the Northern sources of the water supply naturally tilt urban settlement towards expansion along the main road to the North.

The main North-South road along the valley floor is expected to remain the main channel for intensive development. The Monte Christo Farm Road which runs Northwards but on the Western side of the valley will carry supportive development.

Far smaller settlement is expected to take place on the Southern side of the Auas Mountains south of the City.

The improvement of the road to the East past the international airport to Botswana and South Africa will promote development in that direction. Because of topography and the attractions of the airport, this development is likely to lie closer to the airport than to Windhoek.

The two roads running to the West will be of lesser importance because of topography and the lack of any other feature to attract urban development.

11. LINEAR PATTERN.

Historically, the North-South route has been important for trade and later for administration. It has contributed to giving the City a linear form in the following ways. Commerce and government took early opportunity to position themselves at strategic points on or near this route. Thus the City Centre was stretched along Independence Avenue and the Southern Industrial Area extended the commercial line further southwards. The railway line coming from the North combined with the northward drainage flow to a sewage treatment works motivated the establishment of the City's main northern industrial areas in the same linear corridor.

For other reasons the local Eros Airport and the Luipardsvallei Military Base came to be established in the South and along the same line. The airport was dependent on flat ground and the military base wanted a strategic position with good road access.

Employment opportunities are predominantly located in this non-residential corridor. Less intensive residential development has taken place East and West of this line. Employment opportunities are also found

outside of the corridor. Each residential area has its own business centre, schools, etc.. The presently undeveloped Haloid light industrial area and the University of Namibia both in the West are two other deviations from the linear pattern for commerce and major employment centres.

This developmental structure is illustrated on the **Windhoek-Okahandja Urban Corridor Plan**.

12. COMMON TREND

Most cities have a concentric arrangement of land uses. Intensity of development declines outwards from the centre. The key to understanding the pattern is accessibility. Thus the concentric pattern is often disturbed by the influence of major roads which extend opportunities for better access. The roads radiate outwards from the centre. In addition, outlying centres develop closer to one sector of the city rather than another and thus serve smaller markets.

As a city grows residential activities will be pushed further from the City Centre. The area around the City Centre will always be subject to speculative conversions of usage. For example residential buildings may not be maintained in anticipation of demolition to make way for commercial buildings. The area will become increasingly unattractive as a living area. Those able to afford it, will live elsewhere. Those with little choice will find accommodation in good standard buildings increasingly unaffordable and what cheaper accommodation there is will become increasingly dilapidated. To counter this trend, a local authority may try to force new commercial development to include a residential "upper floor" component. Attempts of this nature are not generally successful. Conversions of residential floor area for commercial purposes is the norm.

The radial road system will be utilised to its maximum. Increasing traffic congestion will force some activities to decentralise and road widening will increasingly cut away portions of the urban fabric near the City Centre. Public transport will remain closely focused on the City Centre.

A discussion of urban development models with particular reference to Cape Town may be found in Sturgeon K.B.; Towards an Interim Metropolitan Development Framework, 1995.

13. BENEFITS OF THE LINEAR MODEL.

The linear city theoretically has its highest development intensity along a central line, with declining intensity on either side. There will be a central transport spine with other roads running outwards at right angles to the spine.

Real life cities do not usually conform perfectly to the models. Even in Windhoek's early days when the commercial strip ran 1,5 kilometres from the Kudu to Ausspannplatz, it was characterised by more intensely developed nodes at the station, at Ausspannplatz and in the middle nearest the Government offices.

The benefits of the linear development pattern are that it spreads employment opportunities over a greater area. The area is usually more penetrable for people moving in from the sides (less traffic congestion). Residential uses and particularly higher density residential uses will be given a chance to become established

within easy walking distances of the linear development corridor. Public transport will be facilitated as discussed in a later section.

The linear pattern can provide an integrated framework for commercial and higher density development and infrastructural investment which in Windhoek at this stage is not blocked by an existing built up area. Changes will have to be made in the approach to new townships, but these changes will be facilitated due to the fact that the proposals build upon an existing development pattern.

14. THE CHOICE

Within the next 13 to 18 years urban growth will fill the Windhoek Basin. Thereafter, that is from about the years 2010 to 2015, the bulk of new growth will take place outside the Basin, and probably to the North. In the meantime under-utilised development potential in the established urban area will be used up. Even in 1996, requests are being received for rezoning of the area peripheral to the City Centre. As 2010 approaches, the pressures for redevelopment and rezoning for higher population densities and higher intensity of land use will increase. These pressures may be accommodated in either of the following two ways.

- A. The radial model in which the business zone in the City Centre is allowed to expand by rezoning of peripheral areas to "business", "restricted business" and "office". Increases in bulk zoning would allow larger commercial buildings to be erected.
- B. The linear model in which changes of zone within and on the fringe of the existing central commercial areas are restrained and new decentralised commercial areas are created along the linear corridor.

Both models may be supported by outlying subsidiary economic activity centres.

Alternative B is recommended.

A third model which promotes outlying centres and attempts to freeze more central development cannot be proposed since it would discourage many potential developers and therefore be contrary to Council's Vision. Such a model would usually only be descriptive of a large urban conurbation with a city centre in decline.

15. BUSINESS ENTERPRISE LOCATIONS

A hierarchy of locational opportunities can be presented to enterprises. Although there may be certain restrictions concerning the location of industry and noxious activities, the basic locational principles remain the same (economically developable land, access to market and services).

The City Centre remains the home of the more prestigious developments. Thereafter the linear model creates a stretched out economic activity area or series of economic activity areas fed by good transport routes. At the same time it stretches out locational opportunities for business enterprises wishing to serve the City wide market. If this model is properly supported by Council policy, relative disadvantages of not being in the City Centre will be reduced. Enterprises with a high per square metre turnover will be prepared to pay the higher

prices for the most accessible developable positions. Enterprises with a lower turnover per square metre, industry for example, will be accommodated on lower priced land.

The present location of the Northern Industrial Area, Lafrenz Township, the Southern Restricted Business Area, Prosperita, and the Luipardsvallei army supply base support this pattern. In order to provide more employment opportunities to the southernmost townships, it is suggested that the pattern be further strengthened in the South by provision of another restricted business and light industrial area near to the Luipardsvallei development but on the other side of the Auas Road so as to take advantage of access from this road and from the proposed future freeway further to the West. Extension into the Brakwater area is dealt with in the separate report "**Development Potential of the Northern Peri-urban Areas of Windhoek (Brakwater)**".

Outlying subsidiary economic activity centres cater for enterprises concerned with more local markets or with specialised requirements. The University is one example. More non-residential development may be expected in the area of the University. Proposals include a technology park within the University grounds, offices for a Government Ministry on the western hillside, and a new cemetery South of the University and West of Prosperita. These activities will be supported by the already existing major roads in that vicinity. Haloid will provide development opportunities for light industry, and warehousing in the north-western areas. A new major third order commercial centre may also be expected in the North-west (reference should be made to the section on retail hierarchy in this respect).

The development of this pattern would be further assisted if Government use this document as a guideline for the location of new Government offices, workshops, and storage areas. The Government owned Eros Airport is a large component making up the linear pattern. The area is seen as an important generator of employment opportunities with future potential. Further commercialisation of the airport would be supportive of these development proposals.

At the lowest scale, people should be able to work from home, provided that they show true respect for their neighbours by minimising adverse impacts. The usual criteria are that home enterprises should be small and should accommodate all associated activities within the site boundary, eg parking. They should not pollute the environment, should not be unsightly, should not be a safety or health hazard and should not create noise especially in the evenings.

16. RETAIL HIERARCHY

A hierarchy of retail commercial centres can be presented based on the perceived trading areas each centre serves. The higher the order the greater the area served; shops will be more specialised and retail floor area will be larger. Informal sector marketing is considered part and parcel of retail commercial centres. Provision is being made in most new shopping areas for the informal sector. In terms of the present and expected future distribution of population, the following list sets out an expected retail hierarchy. The location of future third order centres is only tentative since some of the areas have still to develop or have not yet been designed.

16.1 Highest order.

CITY CENTRE with associated specialised commercial sub-districts.

- 16.2 Second Order.
- 16.2.1 KATUTURA (Independence Centre to Soweto Market)
- 16.2.2 KLEINE KUPPE (Frankie Fredericks Drive)

- 16.3 Third Order.
- 16.3.1 KLEIN WINDHOEK (Sam Nujoma Drive)
- 16.3.2 OKURYANGAVA EXTENSION 2

- 16.4 Future Third Order.
- 16.4.1 KHOMASDAL EXTENSION 4 (Paul van Hartes Street)
- 16.4.2 CIMBEBASIA
- 16.4.3 AUAS MOUNTAIN TOWNSHIP
- 16.4.4 OTJOMUISE
- 16.4.5 BIG BEND-WANAHEDA
- 16.4.6 AVIS-AUASBLICK
- 16.4.7 UNAM-ROCKY CREST

16.5 Other centres.

Other centres include retail outlets in restricted business areas and a variety of suburban shopping centres of sizes ranging from single corner shops to third order centres.

The hierarchy will be influenced by market forces such that the arrangement 20 years from now may not coincide with the pattern described hereunder. Only the dominance of the City Centre can be predicted with a lot of certainty. The number of third order centres in particular may increase depending on local circumstances. New centres will be developed in the Brakwater area and Monte Christo Valley which cannot be determined at this stage.

Expansion is a very real possibility for centres in the future. Allowance has been made in the Kleine Kuppe for a significantly sized second order centre. In the case of the other second order centre in Katutura, the surrounding area is built up with detached housing. Expansion will be difficult but can take place by rezoning and consolidation of erven adjacent or nearest to the existing commercial area. The immediate area for expansion is in the residential blocks immediately North and West of Independence Centre. From the point of view of convenient access, future extension in about 5 to 10 years time should be directed northwards between Abraham Mashego Street and Penning Street. Abraham Mashego Street offers the important advantage of interconnecting Okuryangava, Khomasdal and Katutura.

17. GUIDELINES FOR SUBURBAN BUSINESS DEVELOPMENT

Council Resolution 263/05/91 determines guidelines for suburban business development which may be applied to strengthen second and third order centres. The guidelines are as follows.

- 17.1 Central Business Area development is Council's first priority for support.
- 17.2 Existing suburban centres are to be considered first for any new suburban development (with or

- without rezoning) before proposals are made to invade other established suburban areas.
- 17.3 New sites away from the established suburbs may only be considered for rezoning in conjunction with Guide Plan proposals and the availability of services.
- 17.4 The intensity of development controlled by bulk restrictions will taper from the highest allowances in the Central Business District downwards towards the periphery; outlying shopping centres may also have bulk zoning above that of their surroundings with a similar tapering. Unless special merit exists the pattern will be made up as follows:
- | Area | Bulk | | |
|--------------------------------------|------|-----|-----|
| Central Business District (CBD) | 4.0 | 3.5 | 2.0 |
| C B D Periphery | 1.0 | 0.5 | 0.4 |
| Commercial districts adjacent to CBD | 2.0 | 1.0 | 0.5 |
| Industrial areas | | | 1.0 |
| Suburban business (shopping) centres | 1.0 | 0.5 | 0.4 |
- 17.5 Suburban business development must be accompanied by adequate on site parking provision.
- 17.6 Suburban business development will not be allowed to extend in linear fashion along major roads.
- 17.7 Suburban business development shall not be allowed on both sides of major roads.
- 17.8 Residential areas may not be opened up to business development including offices except in circumstances where:
- 17.8.1 A rezoning to offices could be motivated and supported in terms of points 1 to 7 above as for instance where the affected erf abuts on to a local business centre.
- 17.8.2 The activity is small and being practised by a home owner in his own home in terms of Council policy on resident occupations.
- 17.8.3 The usage supports and is approved in terms of Council policy for the preservation of historically and architecturally valued buildings.
- 17.8.4 The body involved is the representative of a foreign government being accommodated in terms of Council policy.
- 17.8.5 Very special circumstances may exist.

18. PUBLIC TRANSPORT

The City is growing outwards. Travel distances are increasing as is traffic congestion. Traffic will be more widely distributed requiring a good road and public transport system that is able to reach a larger area. Many out of the population do not have or cannot afford their own vehicle. Public transport in one form or another is expected to grow in importance. Currently busses and taxis dominate. In terms of the goals set for South African National Transport Policy, quoted earlier, provision must be made for a land use framework which should channel development, particularly employment activities, into public transport corridors and nodes.

The economics of operating public transport is heavily influenced by threshold levels. Based upon what people can afford or are willing to pay for transport, minimum numbers of passengers can be determined for any transport mode. The ease with which these numbers can be collected is related to land use patterns and particularly the density of population and concentration of destinations.

The linear pattern creates the opportunity for a strong efficient public transport system along the central spine supported by side branches to the suburbs. It provides for a concentration of destinations. The example of a bus service can be given in a some what simplified form. A bus route could, for instance, start at some point

in the North-western suburbs, move due East until it reached the central spine, then turn and run South bisecting the area of job opportunities before turning in another direction, say Eastward into the future South-eastern residential areas. The overlay of numerous bus routes of this nature could result in a high frequency of busses along the most important areas of job opportunities and trade and, with only one change of bus, could make all areas of the City reasonably accessible. The road pattern of the City will support such a service, but must be built upon to ensure public transport can operate without being clogged by congestion.

Urban design must consider the spatial requirements of transport corridors and terminal facilities. The residential pattern would need to be supported by suitably high density residential areas which will enable passenger thresholds to be reached. It must be remembered that in urban areas people strongly prefer walking distances of less than 200 metres to a bus stop, but many will walk up to 400 metres. Assembly points such as remote bus terminuses or park and ride sites may become important in the future. Suburban public transport routes should also intersect outlying economic activity centres such as the major shopping centres, the University and industrial areas.

A public transport system will be weakened by a proliferation of low density activity points which fail to concentrate as destinations for trips; for example odd shops or scattered offices within residential areas. The more such sites develop, the greater will be the dependence on individual transport and taxis. Such development can possibly be afforded by the wealthier section of the community but is at the expense of the poorer majority. In this respect the tendency of wealthier business owners to pull employment opportunities in the direction of their home areas (generally into the Klein Windhoek Valley) must be countered, since it adds to the journey times and inconvenience of the majority of potential employees (and clients) who inhabit the main Windhoek Valley. The approach should be more towards locating business opportunities, formal or informal, on or near bus routes.

While there will be a lot of movement up and down the central spine, transport can often make use of outlying fast moving roads parallel to the central spine. An example would be the role of the Western Bypass relative to the roads which serve the City Centre. An express bus service would make use of such peripheral roads.

In the long term a commuter rail link to Okahandja can be envisaged.

19. INFRASTRUCTURE

Over the years a network of pipes, cables and roads has been built up which provides the population with a high standard of Municipal Services. Almost all development within the urbanised area is able to connect to the water supply, water-borne sewage and electrical system. The exceptions are peripheral development where squatting is taking place and only communal facilities are available. All development is provided with access roads. The topography and soil conditions offer few obstacles to development and infrastructural extensions. The chief obstacle to the provision of infrastructure in Windhoek is finance.

19.1 Water.

The main water supply comes from the northern edge of the Windhoek Basin either from the water reclamation works or from Water Affairs' pipeline exit on the southern edge of the Northern Industrial Area. It

is supported by boreholes concentrated on aquifers is the southern half of the City. Hills at suitable elevations are the locations of 18 water reservoirs. A series of water supply pressure zones serve the existing built up area. The major drainage flows are from South to North. Hence water is continually having to be pumped upwards to maintain supply pressure. 1 800 kilometres of water piping were in use in 1996. Existing pipes and reservoirs will not be adequate to handle the growth expected. Some pipes in the older areas are already running at close to full capacity. Replacement will be necessary and will be expensive.

19.2 Drainage.

Stormwater and sewers follow clearly outlined drainage channels (water courses) to outfall points into a dam and two water treatment works respectively at the northern edge of the Basin. A third treatment works was under construction in 1996. Extensions beyond the basin will require new water treatment works at distances related to the catchments areas and the economics of their provision. In 1996 1 200 kilometres of sewer were in use. The extension of the sewer network in the southern half of the City is particularly important since **aquifers must be protected**. Many existing sewers in older areas are running at near capacity and will need replacement to accommodate growth. Detailed plans for the distribution of water and its treatment are being maintained and updated as urban growth takes place.

19.3 Electricity.

The City's supply is provided by NAMPOWER through a national grid which includes a power station on the fringe of the Northern Industrial Area. A 66 KV high tension electrical ring grid is planned and nearly completed for strengthening the supply of power to all points in the City and to facilitate extensions within the Windhoek Basin. Major substations are located on the ring. A major extension of the 66 KV line with a new load centre will be needed to handle City Centre's growth. Electrical power capacity at end of 1996 is 216 MVA (It was 176 MVA in June 1996). The maximum power consumption of 95.6 Megawatt occurred in July 1994. Electrical consumption is distributed as follows: 46% domestic, 32% commercial, 9% industrial users.

19.4 Access

Access is important to economic growth and urban development. Windhoek is well supplied with a hierarchy of good standard roads including a freeway connection from the mid point of the City to the North. In 1996 the City had 480 kilometres of surfaced streets and 113 kilometres of gravel streets.

To create economic development opportunities in line with Council's vision it is essential to make and keep the City accessible. The **Windhoek Guide Plan** is based on the existing roads hierarchy and extensions which are envisaged to accommodate traffic growth. Many of the roads to the peripheral areas do not yet exist but must be constructed if economic growth is to be extended to those areas. The Roads Master Plan is of great importance. Regular studies are carried out by Council, the most recent being the **1993 Update of the Greater Windhoek Transportation Study**. The road network is reviewed and revised to compliment the planning goals as proposed by the Structure Plan. The intention is to implement the Roads Master Plan in various stages as the traffic increases but to achieve this, the routes must be reserved in time and be protected from development.

The linear model emphasizes the importance of, for example, the extension of Robert Mugabe Avenue to the North which is proposed in the Transportation Study as a high priority. The success of the linear model is the east-west roads leading to and linking the north-south routes.

Public transport systems also need a good and effective road network to be functional. The road network as proposed in the Transportation Study will set the backbone for any public transport system.

20. HOUSING

20.1 The linear model

The linear model makes the following proposals for housing. Higher density housing, typified by flats and townhouses will be encouraged to locate along the edge of the linear commercial development corridor. Policies may be introduced which encourage creation of housing alternatives in business and office areas. Densities will taper off with distance, although there will be outlying higher density areas associated with outlying economic activity centres. The present policies which encourage increases in residential densities are given additional direction by adoption of the linear pattern and should be pursued. With its limited water resources and limited flat land, smaller gardens and more built-up areas are the more practical and sustainable housing options for Windhoek.

20.2 Current situation

The current demand in Windhoek still concentrates on detached housing. The July 1995 housing stock deducted from the sample excluding institutional housing such as school hostels is as follows (City, 1996, p71).

TYPE	NUMBER OF UNITS	PERCENTAGE OF TOTAL
Detached houses	25 405	66.8
Semi-detached houses	2 375	6.2
Flats	2 605	6.9
Backyard flats	785	2.1
Shacks (squatter units)	<u>6 847</u>	18.0
Total	<u>38 017</u>	

The shacks (squatter units) accommodate approximately 28 000 people, whilst the rest of the units accommodate 150 000 people. The growth in shacks as a component of the housing stock has taken place over the period 1988 to 1996. From the income data supplied and taking into account the Primary Household Subsistence Level (PHSL), of N\$860 in 1995 and the 25% ratio of income for accommodation, 45% of households can afford less than N\$140.00 per month for housing (City, 1996, p76). This is scarcely enough to obtain a partially serviced site. 85% of the informal settlers in shacks in the North-western area of the City

live below the PHSL and can theoretically afford nothing for accommodation. Migrants into the City are typically less educated, have high illiteracy rates, have a high proportion of preschool children, have low incomes, and high unemployment rates (City, 1996, p62). With maybe more than 600 people moving into Windhoek every month (City, 1996, p 15), the proportion of the population in the poorer strata is growing. The City may expect to find 50% and more of its housing stock in the form of shacks within the next 10 years. Indications from the Residents Survey are that a significant number of residents are prepared to accept unserviced or partially serviced sites on which they can at least erect shacks (City, 1996, p74).

Current Gross Housing Densities range from about 3.5 dwellings per hectare to about 20 dwellings per hectare in the area typified by shacks. 10 dwellings per hectare may be taken as a reasonable average for all residential areas (City, 1996, p11 & 34).

20.3 Market trends

It is neither possible nor desirable to force people to accept higher density flats and townhouses, especially with so many who are resorting to squatting for economic reasons. Nor can one force people to accept financial responsibility for housing units they cannot afford. Over the next 10 years market trends may be expected to change for two reasons. New housing will move steadily further from the City Centre requiring longer more expensive journeys. It will become more apparent to the market that good flat land in the Windhoek Basin is running out. Density increases must be expected. Redevelopment of older residential areas or relatively under-developed land will take place. Rezoning applications to higher densities can be expected.

20.4 Supportive action

Council can anticipate and support desirable change by the following methods:

- 20.4.1 It can draft a policy for higher density housing which will support applications for higher densities (similar to the approach Council presently follows supporting applications for higher density residential zoning near to the City Centre).
- 20.4.2 It can increase the proportion of smaller erven in its own township development programme.
- 20.4.3 It can accept that partially serviced sites are going to have to form a major proportion of its supply, and include increased provision in its development programme.
- 20.4.4 It can create and reserve blocks of land (large erven) for future development of higher density housing. For example blocks of land with higher density zoning have been created in Kleine Kuppe Township. Even if there are no immediate purchasers willing to erect higher density housing on them, they should be kept out of the market until the market conditions turn towards higher densities. Blocks of land at appropriate locations may also be occupied by poorer families and internally administered as a unit (City, 1996, p94).
- 20.4.5 It can direct larger erven towards the hillier periphery and encourage smaller erven and higher densities along the flatter centrally situated areas. In this respect note should be taken that

the 300 m² minimum erf size for low income housing would be a relatively low density for housing near the linear commercial development corridor and even of this size would have to be located more in the fringe areas.

20.4.6 It can provide opportunities and even for higher density housing in all townships at suitable points which relate well to access roads, economic activity centres and open spaces.

20.4.7 It can support more mixed land usage by amending the Town Planning Scheme so as to provide for housing as a development option additional to business and office rights.

20.5 Spatial distribution

The **Windhoek Guide Plan P/1700/S Rev.4** shows the township development filling the Windhoek Basin with diagrammatic indication of housing densities. The picture presented is for Windhoek by the year 2010. Three generalised density zones are shown. The highest density is for small erven, two houses on one erf, townhouses (semi-detached and row houses), and flats. Residential densities will be greater than one dwelling per 350 square metres. The next density zone is for housing in the density range of one dwelling per 350 square metres to one dwelling per 700 square metres. The third zone is for lower densities and undetermined land. The densities portrayed on the plan represent the most probable and most common densities for each area. They do not represent the details of a zoning plan nor do they show all options which may be developed.

The highest density zone presents existing high density areas and proposals for new higher densities which will more closely relate to the linear commercial development corridor. New areas and established townships are affected. The middle density takes account of some existing townships where doubling of existing densities is expected and covers certain hilly fringe areas where higher densities are unlikely because of higher development costs.

The lowest density zone has been combined with an undetermined zone. Most of the area in this zone is mountainous. Low density residential settlement is expected to predominate. However some parts, particularly to the North of the urban area, are flat and, although they are mainly used for residential development in 1996, changes are expected which cannot be adequately displayed at this time.

20.6 Speed of change

Change in usage of property depends on a number of factors such as:

- a. age and condition of a property;
- b. the value of a property for different uses;
- c. the individual owner's private interest in selling;
- d. flexibility of the property to accommodate change; and
- e. the cost of change.

The current property market is only vaguely appreciating the advantages of higher density redevelopment of older properties. Most higher density development is taking place in new areas where ordinary houses are being erected as a rule at densities in excess of one dwelling per 500 m². It is expected that change in

established areas will be gradual but at an increasing rate as more and more people take advantage of Council policy to erect two dwellings on ordinary residential sites. This is presented on the **Windhek Guide Plan** where these areas are shown at densities of between one dwelling per 350 m² and 700 m² which recognises that two dwellings may be erected on each ordinary residential site. This same density is used for residential development on steep land.

In older areas where buildings are more aged and conditions can easily be allowed to deteriorate, more redevelopment for multiple-housing units is anticipated. These areas have been allocated the highest density representation on the **Windhoek Guide Plan**. Once development reaches the foothills of the basin, the whole pace of change will dramatically increase as the limits to growth become more evident to the general public and as commuting distance rise steeply.

An early indication of density change will be the decline in garden space as it becomes used for new dwellings. A benefit will be the reduction in water usage for gardens.

21. SUSTAINABLE DEVELOPMENT

The action plan called Agenda 21 was adopted at the Earth Summit Conference held in Rio in 1992. The aim of the conference and the strategic plan are to solve the worlds environmental problems and achieve development in a sustainable manner. Sustainable development has been defined in the Brundtland Commissions' Report published in 1987 as the ability to "meet the needs of the present generation without compromising the ability of future generations to meet their own needs." It is made with particular reference to the environment and the crucial role the environment plays in supporting humankind. The Rio Conference succeeded in securing a commitment to the above goals by world leaders. It was well understood however, that in order to succeed, action must be taken from the 'bottom up'. Individuals, companies, organisations of all kinds and local authorities (and not just national governments) must all become committed to the same movement. The actual 'users' of the environment need to be drawn into the process.

At the risk of oversimplifying the issues, sustainable development largely involves three actions:

- Making use of **non-renewable resources** as efficiently as possible and minimising their use overall.
- Using **renewable resources** in a sustainable way.
- Minimising the output of **wastes and pollutants**.

A table of sustainability criteria is attached as Appendix 1.

Many of the actions articulated in the Agenda are already being implemented in Windhoek, such as material recycling at dumps, landscaping of major roads and the new water saving measures. Activities which can be followed up by the City include the following.

- 21.1 Management and budgeting decisions should take the environment into account.
- 21.2 Environmental audits may be required for major projects allowing extra expenditure to be argued for on environmental grounds.
- 21.3 Public awareness can be raised.
- 21.4 Energy conservation in buildings can be promoted.

- 21.5 Public transport, cycling and walking can be encouraged in place of car use.
- 21.6 Using Town Planning to promote policies (eg higher densities) which reduce the need to travel within the city, promote energy efficient patterns of development, protect habitats and landscapes.
- 21.7 Privatisation of some recreational areas, subject to conditions in the public favour, can assist in the conservation of particular attractive features.
- 21.8 A long term commitment can be taken to creating a City wide network of improved footpaths with shade and benches.

The proposal of this structure plan of the north-south commercial and industrial activity corridor will help in channelling and reducing commercial traffic movement. Public transport would also follow the same corridor. The opportunities Council allows for people to work from home will have a complimentary effect provided they are kept small and local in character. However shops and supply points should not be allowed to open up in homes in residential areas since this again generates traffic.

Few families today require a wife to stay at home. This being the case, more can be done at or near the work place to enable children to remain closer to their parents, and in particular to aid lactating mothers. New major building (such as an extension to the Municipal Offices) should include a children's area.

22. RECREATION & THE ENVIRONMENT

Windhoek is blessed with water courses and mountains that can readily be used for open space activities. They amply supplement open space reservations for sports fields, playgrounds and gardens. Their importance to this report is that they provide a natural structure that helps integrate the urban area. The opportunities presented for walking trails, bicycle routes, view points, picnic areas, exercise areas etc. have barely been touched. They are a resource that can add significantly to the quality of life. They should be protected and kept free of structures until a suitable open space recreational opportunity is presented. Future development can be Council or community driven. A goal should be to make the City more pedestrian friendly whether it be within privately developed shopping centres or along major routes frequented by pedestrians.

22.1 Major Recreational Opportunities

A number of major recreational opportunities have been highlighted on the **Windhoek Guide Plan**. Because of their size they offer opportunities for residents and tourists alike. In this latter respect they are a potential income earner for the City. They include the following.

22.1.1 The Goreangab, Avis and Van Rhijn Dams.

The three dams offer an attractive visual contrast to an otherwise dry environment and are the homes of much birdlife. They are strategically situated at three corners of the City. The Dams provide recreational opportunities to the whole City. Up till now most recreation has been relatively passive in nature. The areas may be used for walks. Only the Goreangab Dam, by far the largest, has been provided with barbecue places and sun shelters. In terms of convenience the Goreangab Dam is convenient for residents of the Western and North-western suburbs, the Avis Dam serves those on the East, whilst the Van Rhijn Dam

serves residents in the South-west.

Residential development is reaching each of these dams. Only the van Rhijn Dam, so far, has been given firm boundaries and been incorporated as a public open space. In other cases, detail planning has still to find the right mix of open area and recreation and public service activities as well as to establish final boundaries for residential encroachment.

22.1.2 Kleine Kuppe Nature Park.

The Kleine Kuppe Mountains offer a, so far, undeveloped recreational outlet for residents of new suburbs coming to the South of the City. The mountainous area can be used mainly for walking and passive recreation but at certain points opportunities exist for more intensive recreational development.

22.1.3 Green Belt.

The **Windhoek Guide Plan** shows a band of open space virtually circling the City. This band lies along the anticipated mountainous extremities of urban development. It includes parts of the Auas Mountain Range. It is shown on the plan separating urban development from the Commonage Farms, two of which have been leased out for 30 years for development of game farms and lodges. It provides Windhoek with a unique natural green belt available for active and passive recreation on all sides of the City. A hiking trail with overnight stops could be developed within this green belt.

22.2 Sensitive Environments

Deforestation is a threat to all unattended open areas. The cost and limited availability of fuel has, in recent times, led to unauthorised wholesale exploitation of the small resource of trees which the City possessed. It is painfully obvious that this resource will be eliminated in the near future unless effective control is exerted and alternative energy supplies are made available. The privatisation of large areas of Municipal owned farmland does give a measure of protection to some areas.

Sensitive areas that require particularly careful treatment are the following.

22.2.1 Narrow valleys.

A number of narrow valleys give entrance to the City. The two most prominent valleys are on the northern and southern sides. The major national roads to Windhoek curve through the rocky surroundings and camel thorn trees (in the North). The views from the roads provide visitors and tourists with lasting impressions of the City. These views should not be obscured by large buildings or destroyed by scrap yards. Where the Municipality is the land owner future land use should be for low intensive activities such as for a cemetery, for recreational use, tourist chalets, horse riding clubs, or similar uses. In the case of privately owned land a compromise may have to be reached whereby the flat developable land is given development rights but the steep slopes are reserved as open spaces.

22.2.2 Hill tops.

In general all possible developable land will be used. In order to keep the scenic attractiveness of the City

some areas of open space should be kept from development. The most prominent areas are hill tops and ridge lines. These areas stand out above their surroundings so as to be visible to large parts of the community. Their reservation from the usual type of development can have a much greater impact than a much larger area of low lying land. Over the last few years the Municipality has been careful to landscape new water reservoirs which have had to be placed on hill tops. It has also resisted developers on a number of occasions when applications have been received to close and sell open spaces which include ridge lines or hill tops.

22.2.3 Major water courses and dams.

Water courses are major features which run through the City binding one township to the next. Properly developed and used they can contribute to community life. Because they are drainage channels they can easily become polluted and unattractive. If this happens they can then have the opposite effect and add to the deterioration of a neighbourhood. This pollution can and is being carried over into the lower lying Goreangab dam steadily destroying it as a water resource.

Beautification and maintenance costs money. More public involvement can ease the burden and increase public involvement in local Municipal affairs. Privatisation of selected open spaces and under controlled conditions can considerable aid in maintaining such areas for posterity. Council has already established guidelines for privately initiated community centres on open spaces which can extend to private parks. This opportunity for community groups can be advanced by further publicity.

23. RURAL PERIPHERY

The City is surrounded by mountainous land. The limit to normal urban development is roughly indicated by the green belt on the **Windhoek Guide Plan** which virtually circles the City. Only the wealthy or the very poor may choose to occupy small parts of the mountainous areas; the wealthy because they may be able to afford the very high servicing costs, and the very poor who may illegally occupy the land should adequate alternative affordable land not be made available. The major portions of the mountainous periphery falls within the undeveloped land of Farms Windhoek Town and Townlands No. 31 and Klein Windhoek Town and Townlands No. 70 and are owned by Council.

Council manages its land holdings in the interests of its residents. The objective is to use the land resources so as to develop sustainable economic opportunities and to conserve the natural heritage. Over the years, the mountainous areas have been leased to farmers for grazing, a dairy, and for youth camps. Grazing of the veld has also acted to inhibit fires. It has long been realised that more could be made of the mountainous areas for recreation, tourism and for preserving wildlife, flora and the natural environment. An example of this has been the Government Game Reserve outside the western boundaries of the Municipal Area.

For ease of analysis the rural periphery immediately adjacent to the City is divided into three parts as follows.

23.1 Tourist Lodges.

Recent identification of Namibia as a tourist destination prompted Council to grant two large portions in the South-east and the South-west to developers on long term leases for controlled game farms and tourist lodges. They are identified as commonage farms 2 and 3 on the **Windhoek Guide Plan**. They will join the

Government's Daan Viljoen Park which has a similar conservational and recreational purpose. This policy is also expected to give the two areas an additional measure of security against the adverse impacts of nearby urbanisation. Neither of the two developments have as yet materialised but development is expected in the near future.

23.2 Open Space and Undetermined.

Other areas are shown on the **Windhoek Guide Plan** as commonage farms 1 & 4 to 6. Open space type recreational use is considered the most appropriate use for the mountainous areas. However other activities such as youth camps and dairy farming are also acceptable. Whilst the hilly terrain and the location of commonage farms 1 and 4 makes them unsuitable for urban uses, in the case of other areas the boundaries of urban type activities have not been finally drawn.

Parts of the area in the South-west between Commonage Farm 3 and the Otjomuise, Oub River and Rocky Crest townships may be used for residential settlement. The bulk of the area is hilly and could be used for smallholdings (erven of 10 or more hectares). Flatter areas could have higher densities. There is also the potential for restricted industrial type activities of which a new major Municipal Dump is one proposal and a dairy is another.

Mountainous land on the South-eastern side of the City in Gammansrivierpark has also been earmarked for large erven for residential use.

Detailed development plans for these areas will be produced in future.

23.3 Recreational open space.

The proposed green belt, Kleine Kuppe Nature Park and the development about the three dams have already been discussed.

24. FINANCE

The proposals on densification and a rational model for distribution of non-residential activities will generate an increasing rates base for the City and will contribute to maintaining relatively low infrastructural extension costs. The adoption of this planning document will provide encouragement to potential investors that the City is under good management. It must however remain an important component of new development that it should cover its own costs unless national interests or extreme poverty demand otherwise. Cost recovery will strengthen the hands of the Council and allow it flexibility in determining and pursuing priorities. Developments in fringe areas such as Brakwater or on Municipal Townlands (new townships, etc.) should not be able to profit from municipal infrastructure for which no adequate payment has been made. Resources to aid the struggling sections of the community are scarce and need careful management to ensure the designated beneficiaries are the ones who gain.

25. REGIONAL EXTENSION

As noted above, future growth will spread to fill the valley stretching 70 kilometres towards Okahandja. The easiest model to follow has to be the linear one which reflects both the geography of the area and the existing infrastructure. This model is easy to understand and will correlate closely with economic forces. It will thus require less interference from government to be achieved.

The continuation of the linear pattern for more intensive development along a central spine will facilitate development of a future public transport link between Windhoek and Okahandja. Just how this development can take place is shown schematically on the **Windhoek-Okahandja Urban Corridor Plan**.

The significant features of this proposal are the following:

- 25.1 A new town roughly midway between Windhoek and Okahandja;
- 25.2 Strips of intensive development between the new town and Windhoek and Okahandja;
- 25.3 The commercial core of the new town and the strips of intensive development all lie along the present eastern road corridor between Windhoek and Okahandja;
- 25.4 A number of subsidiary outlying commercial areas are located along the western Monte Christo Road.

In terms of the projections made, development will be extending beyond the Basin and into the Brakwater Area by the year 2010. The Brakwater Area is typified by private ownership of 25 hectare farm smallholdings.

Urbanisation will be in private hands although influenced by Council. Council or the National Government may have to acquire property in order to ensure smooth expansion of the City. In particular, within the next 5 years, (2001), Council (or Government) should initiate the purchase of part of the Farm Ongos No. 38 which shares the same drainage area with the Municipal owned land to the South. The watershed of this drainage system lies approximately 1900 metres North of the Municipal boundary. About 700 hectare would be required. In about 10 years time a further large portion of the Farm Ongos No. 38 will be required for expansion along the western edge of the valley (along the Monte Christo Road). By the years 2015 to 2020, the purchase of portions of the farms Gross Okapuka No. 50, Monte Christo No. 46 and Klein Okapuka No. 51, Triangle 47 as well as portion of Otjiseva No. 45 for a future sewage treatment works will become a serious consideration.

It would be premature at this stage to attempt to fix all the positions proposed. The Windhoek City Council's responsibilities extend only as far as Brakwater. Urban growth beyond Brakwater would require the consideration of Central Government.

Details of proposals for the Brakwater Area are included in the separate report "**Development Potential of the Northern Peri-urban Areas of Windhoek (Brakwater)**".

26. SUMMARY OF SIGNIFICANT STATEMENTS

The **Windhoek Guide Plan** has been prepared to present and guide urban development up until the year 2010. It presents a summary of the Report's major findings with respect to the Windhoek Basin. The **Windhoek-Okahandja Urban Corridor** is a more speculative plan indicating what urbanisation may be expected in the land between Windhoek and Okahandja. It may serve as a guide to future planning of this corridor.

The following statements emphasize the main message of the Report.

Town Planning through this report seeks to establish principle guidelines for the urban structure of Windhoek.

Council has a vision which commits "ourselves to make the City of Windhoek the vibrant, economic and technological powerhouse of Africa in order to enhance the quality of life of all our people".

Council's vision has been interpreted into objectives of providing a clear indication of where growth is going to take place and what form that growth will take, namely as follows.

- a. The report seeks to promote economic activity by indicating locations for future economic growth, the establishment of a hierarchy of traffic routes and places of work (economic activity centres), confirming the prestigious value of the City Centre and the relative reduction of the need to travel by private motor vehicle.
- b. The living environment is to be improved by due care in planning of traffic flows, economic activities, open space opportunities and a variety of housing types and densities.
- c. The proposed structure should be open ended in the sense that growth is not limited spatially and internal improvement may be readily accomplished compatible with the Windhoek environment and be such that the community will want to sustain it.

Windhoek may expect to parallel the economic growth of Namibia as a whole; its economic development will be more stable than other regions; and that the City has little to fear from decentralised development.

The City Centre's image for attractiveness and vitality has national symbolism and is a draw card for foreign investment.

The City Centre should remain the site for prestigious buildings and more functional buildings should be guided to other areas.

Spaciousness and pedestrian orientation can and must be expanded.

Future development cannot be successful without a reliable water supply.

Pollution of precious southern lying aquifers cannot be permitted; water borne sewage removal is virtually mandatory for this area.

The City may expect large scale expansion based on the population growth rate of the June 1995 Civic Survey of 5.43% per annum.

The positive factors of urbanisation are very supportive of the City Council's vision of vibrancy and economic development.

The 1996 area of proclaimed townships amounts to 8 237.4486 hectare leaving an estimated 5 000 hectares within 12 kilometres of the City Centre still available for intensive urban usage; the 1974 area of proclaimed townships was 4 728 hectare.

The present site of the City is expected to accommodate possibly 400 000 people by 2010. Fifty years from now, the whole 70 km valley from Windhoek to Okahandja could be populated with additional smaller settlement in other directions.

The City has developed historically with major commercial and employment areas forming a linear pattern.

The linear city model offers benefits in line with Council objectives of spreading employment opportunities, being more penetrable for people moving in from the sides (less traffic congestion) and of creating a strong efficient public transport system.

The linear pattern can provide an integrated framework for commercial and higher density development and infrastructural investment.

The linear model is recommended to give clear developmental guidelines for managing the pressures for redevelopment and rezoning for higher population densities and higher intensity of land use.

A hierarchy of locational opportunities can be presented to business enterprises.

The retail hierarchy will be dominated by the City Centre supported by two second order centres in Katutura and Kleine Kuppe.

People should be able to work from home, subject to criteria which protect the neighbours and the environment.

Traffic will be more widely distributed requiring a good road and public transport system that is able to reach a larger area.

The linear pattern concentrates destinations creating the opportunity for a strong efficient public transport system along the central spine supported by side branches to the suburbs.

Excessive dispersment of job opportunities and commercial enterprises adds to the journey times and inconvenience of the majority of potential employees and customers.

The pattern would need to be supported by suitably high density residential areas which will enable public transport passenger thresholds to be reached with walking distance of preferably less than 200 metres.

The chief obstacle to the extension of Windhoek's existing high standard infrastructure is finance.

Based on the linear model higher density housing will be encouraged to locate along the edge of the linear commercial development corridor.

Policies may be introduced to encourage housing options within business and office areas.

Shacks on partially serviced sites which made up 18% of the 38 017 housing units in 1995, may be expected to pass 50% within the next 10 years since 45% of households can afford less than N\$140.00 per month for

housing and this proportion is expected to grow.

Residential densities will taper off with distance from the linear commercial development corridor, although there will be outlying higher density areas associated with outlying economic activity centres.

Local Agenda 21 activities which can be followed up by the City include the following: Management and budgeting decisions should take the environment into account; Environmental audits may be required for major projects allowing extra expenditure to be argued for on environmental grounds; an example would be landscaping and beautification of construction projects; Public awareness can be raised; Energy conservation in buildings can be promoted; Public transport, cycling and walking can be encouraged in place of car use; Using Town Planning to promote policies (eg higher densities) which reduce the need to travel within the city, promote energy efficient patterns of development, protect habitats and landscapes; Privatisation of some recreational areas, subject to conditions in the public favour, can assist in the conservation of particular attractive features; A long term commitment can be taken to creating a City wide network of improved footpaths with shade and benches.

Open spaces, water courses and mountains provide a natural structure that helps integrate the urban area which can add significantly to the quality of life.

A goal should be to make the City more pedestrian friendly whether it be within privately developed shopping centres or along major routes frequented by pedestrians.

Major recreational opportunities exist which because of their size and attractiveness can become economically beneficial to the City and be developed to serve residents and tourists alike.

Deforestation threatens to eliminate trees from all unattended open areas; privatisation of large areas of Municipal owned farmland does give a measure of protection to those areas.

Particularly sensitive open spaces requiring especially careful environmental consideration are the entrance valleys, hill tops, and major water courses.

A major objective to develop sustainable economic opportunities and to conserve the natural heritage, is the leasing of mountainous areas to developers for tourist lodges, game farms, grazing, a dairy, and for youth camps.

The continuation towards Okahandja of the linear pattern for more intensive development along a central spine will facilitate management of development of the area as well as a future public transport link between Windhoek and Okahandja.

Within the next 5 years Council (or Government) should initiate the purchase about 700 hectare of the Farm Ongos No. 38 which shares the same drainage area with the Municipal owned land to the South.

In about 10 years time a further large portion of the Farm Ongos No. 38 will be required for expansion along the western edge of the valley.

27. STRUCTURE FOR STRATEGIES

The City of Windhoek wishes to establish itself as a vibrant, economic and technological powerhouse of Africa in order to enhance the quality of life of all our people. In order to achieve its vision, it has reviewed development trends and believes it has a responsibility to set guidelines for future investment and the provision of infrastructure. The contents of this report and the associated plans set out the land use structure within which Council may achieve its objectives. A next stage will be to analyze individual components of the plan and prepare strategies. In moving to the strategic planning stage, the Windhoek Community should be consulted on these proposals so that there is wider understanding of Council objectives and policies and opportunity for public input to be incorporated into the structure plan. Ultimately the private and government sectors will want to make use of the final structure plan as input into their own planning program.

Consistency of action can be achieved through use of the structure plan when dealing with matters involving land and growth of the City. Strategies which follow approval of the structure plan should therefore be framed in terms of Council's objectives and be guided by this structure plan.

28. COUNCIL RESOLUTIONS

The following was approved by the City Council at its meeting of October 2, 1996 (Resolution 437/09/96).

1. That the report "Windhoek's Structure Plan" and the "Windhoek Guide Plan P/1700/S Rev.4" be approved for public presentation and motivation of Council policy.
2. That the Report and Plan serve as a tool in furthering Council's determination to:
 - 2.1 Rendering affordable, effective services and infrastructure to our clients through the optimal and sustainable use of resources and technology;
 - 2.2 Creating economic development opportunities, while applying sound environmental conservation principles; &
 - 2.3 Promoting user-friendly management and enhancing public participation.
3. That Council approves in principle the Linear Development Model supported by outlying subsidiary economic activity centres for future urban growth.
4. That this model should be actively followed in the design of new townships and major roads.
5. That future Council submissions with strategies and policies for inter alia, the City Centre and other development areas, housing, open space, transport, take note of the guidelines set out in this Report and the 20 year time horizon.
6. That future strategies, policies and changes to town planning zones be handled on individual merit and in accordance with the circumstances pertaining at the time of submission.
7. That note be taken that the successful development and accommodation of growth in accordance with the Plan depends on expensive extension and upgrading of infrastructure for roads, cables, pipes, associated facilities such as treatment works and load centres, and public transport facilities for which finance must be provided in future budgets.

After a public consultation meeting of 1997-06-24, Council reviewed the Structure Plan and resolved as follows:

1. That Council reconfirm Resolution 437/09/96.
2. That the Manager (Public Affairs) inform the public that staff of the Town Planning Section will be available to discuss and present the document to individuals and groups whenever called upon.

Copy of the submission attached as Appendix 2.

Resolution 263/07/97

29. REFERENCES

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14. Watson B.P.; Some aspects of sustainability and Windhoek City; Paper delivered at the annual Winter School of the Namibia Institute of Town & Regional Planners, Windhoek, August 1994.

APPENDIX 1 SIMPLE SUSTAINABILITY CRITERIA

The following material has been extracted from an article in the "Planning Week" (Anderson M. p15) in which the author points to the need for a set of criteria on which to base appraisals.

Criteria

1. Reduce use of finite energy and other resources especially those nearing exhaustion.
2. Reduce production or emissions of non-degradable wastes, especially where the environment has little or no capacity to contain them safely.
3. Keep the impact of economic and social activities within environmental carrying capacities at local and regional levels.
4. Substitute use of renewable resources for non-renewable resources.
5. Encourage and protect biological diversity at appropriate spatial scales.
6. Avoid irreversible loss or damage to feature of the landscape which are naturally, aesthetically or culturally significant to current generations or may be for future ones.
7. Enhance the aesthetic and cultural quality and diversity of the environment.
8. Increase peoples opportunities to enjoy their environment through a diversity of recreational pursuits.
9. Improve the quality of life by meeting people's needs for amenities and services.
10. encourage activities which provide people with a greater choice of roles which fulfil their economic and social needs.
11. Enable people who are affected by management of the environment to participate in decisions and their implementation.
12. Take account of the needs of people who are disadvantaged in their quality of life or in their opportunities for enjoying their environment.

Indicator Types

Quality indicators which assess the underlying quality and sustainability of different aspects of the environment like the aesthetic, cultural and natural quality of the environment, people's use and enjoyment of it, levels of community identity and involvement, levels of bio-diversity, air, water and soil quality and climate change.

Pressure indicators which measure the level of pressures affecting the sustainability of the environment like traffic, visitor numbers, chemical use in agriculture, housing development and quarrying activities.

Response indicators which measure progress on agreed targets and actions designated to influence quality and pressure.

APPENDIX 2:

STRUCTURE PLAN PRESENTATION: 24 JUNE 1997, 17:15 AT THE POLYTECHNIC.

1. Council Resolution

The following was approved by the City Council at its meeting of October 2, 1996 (Resolution 437/09/96).

1. That the report "Windhoek's Structure Plan" and the "Windhoek Guide Plan P/1700/S Rev.4" be approved for public presentation and motivation of Council policy.
2. That the Report and Plan serve as a tool in furthering Council's determination to:
 - 2.1 Rendering affordable, effective services and infrastructure to our clients through the optimal and sustainable use of resources and technology;
 - 2.2 Creating economic development opportunities, while applying sound environmental conservation principles; &
 - 2.3 Promoting user-friendly management and enhancing public participation.
3. That Council approves in principle the Linear Development Model supported by outlying subsidiary economic activity centres for future urban growth.
4. That this model should be actively followed in the design of new townships and major roads.
5. That future Council submissions with strategies and policies for inter alia, the City Centre and other development areas, housing, open space, transport, take note of the guidelines set out in this Report and the 20 year time horizon.
6. That future strategies, policies and changes to town planning zones be handled on individual merit and in accordance with the circumstances pertaining at the time of submission.
7. That note be taken that the successful development and accommodation of growth in accordance with the Plan depends on expensive extension and upgrading of infrastructure for roads, cables, pipes, associated facilities such as treatment works and load centres, and public transport facilities for which finance must be provided in future budgets.

2. The Public Meeting.

In accordance with point 1 of the Resolution, the Manager: Public Affairs arranged and advertised a public meeting which was held in a lecture theatre of the Polytechnic of Namibia, 1997-06-24, at 17:15. The meeting was well attended by about 100 members of the public (81 signed the attendance register). Before the meeting began all 51 available copies of the Structure Plan were sold. The formal presentation took

about 40 minutes, thereafter questions were allowed. Another 80 minutes were spent answering questions before the meeting was closed. Minutes were taken of the question and answer session by Ms. S. Engelbrecht and are submitted here for the interest of Council.

3. Questions which followed after the Presentation.

3.1. Isn't the water quality of the southern aquifer at stake if development is further allowed to the south?

It shouldn't be assumed that further development to the south will destroy it. Council definitely sees the aquifer as a very valuable resource. This is why engineers advise that all residential development in the area must be equipped with a fully waterborne sewerage system.

3.2 It is known that the Kupferberg waste site has already polluted the aquifer.

This waste site is situated on impervious material. The City is struggling to find a safe disposal site. Kupferberg is seen as the best option at the moment for the next 10 years or so. Thereafter we might have to start transporting waste further away. Nevertheless, Council will make use of the best scientific advice.

3.3 A contractor in Kleine Kuppe was allowed to dump hazardous material on terrain which caused pollution.

The speaker is not aware of this case. (It was subsequently learnt that this was an old case of a contractor allowing fuel to seep into a borehole; the matter has long since ceased to be of concern).

3.4 Council must apply international standards when dealing with waste management.

Yes, this is happening.

3.5 How can further development to the extent portrayed in the Structure Plan be allowed with possible future water shortages.

It is understood that the longer term water supply option for the city will be from northern sources. The statements in the Structure Plan such as those regarding higher densities are based on the assumption that water will be available.

3.6 Isn't it better to take the people to the water rather than to bring the water to the people?

This issue should be addressed at a national level. The Municipality can not account for planning at a national level.

3.7 The statement in the Structure Plan that employment should be closer to the people is contradictory to what is shown on the plan namely the centralisation of commercial activities along the central spine.

The distribution of the different employment areas, including those planned for the north-western areas were once again explained. People may work from home, as long as they do not negatively affect the environment or destroy the residential nature.

3.8 If one takes into account the high population growth rate, the fact that the majority of developable land is left to the West and South, does it then mean that low cost development may be expected to the South and West.?

Yes, there is comparatively little space left in the other two directions. But this has not been decided upon yet. Council has a special team dealing with informal settlement who are presently investigating where people will be settled.

3.9 Is it intended to cater for other public transport than roads, such as rail transport?

Rail transport normally works with high densities. This option might work if development reaches Okahandja. For now, the plans include improved bus options. These are being investigated at the moment.

3.10 Are new roads planned for the future higher density areas?

Council has not yet approved the proposed roads master plan. There will be increased traffic with increased densities which could possibly be accommodated with street widening. The existing roads are well designed and have a much greater capacity than what they are presently carrying, before clogging will happen. It might just mean better traffic management.

3.11 Have the fundamental principles of the National Development Plan been taken into account.

Government has not given clear guidelines of what it wants Council to do. The increasing immigration into the city and out-migration of rural areas is a fact of life that Council has to accept and accommodate. The government probably encourages decentralisation but the Policy is unclear on these issues and that of urbanisation.

3.12 The facilities must be invested where the people located who can use them. It would be worthwhile to calculate the amount of investments made in Windhoek in the provision of facilities for immigrants compared to what would have to be invested in rural areas for the same people. On which side will the savings lie.

One should remember that people come to Windhoek for perceived opportunities. Once again, this is a national issue.

3.13 What type of replanning, if any, is envisaged for the CBD, taking into account the expected expansion of the City?

Council will not need to drastically replan. When there is a need, probably when other prominent sites such as the large municipal parking area is developed, Council will look into expanding the

pedestrian corridor. A further bridge over the railway might also become necessary. Future private development in the CBD will precede these possibilities.

3.14 How can one plan 20 to 30 years ahead without an environmental policy framework?

All local authorities worry about environmental issues. Part of their functions is management of parks, of waste and of water supply, etc.. Recently for instance, partnerships between Council and communities have been formed to manage the Avis and Goreangab dams. They are just not coordinated into one policy. Council will be working on this, probably for the next few years.

3.15 What is planned for the Avis dam?

The existing threats to the dam, such as off-road riders, dogs, wood cutting, etc., causing environmental degradation, were explained. Council will hopefully enter into an agreement with Friends of Avis Dam, a sub-committee of Greenspace to manage the dam and surroundings. Council will also encourage controlled development, up to the edge of the area - something like a hotel, sensitive to the surroundings. The combination of these strategies might result in an area protected from environmental degradation.

3.16 What is planned for the Van Rhijn Dam?

Council developed a retention dam in the river course in Pionierspark Extension 1 and designed this as a public open space. The idea is that it develops into a recreational site, with maybe a small bird sanctuary, picnic areas, etc. Council resolved that this should be privatised and recently invited tenders for it, but unfortunately no one tendered. The option is still open to the community of Pionierspark to form a committee and take over management.

3.17 Is it planned to use the water of the Avis Dam?

No, to use the water, the water distribution facilities will have to be re-installed, which is unlikely.

3.18 Nina Maritz, representing Greenspace, announced that there will be a meeting on 19 July, 18:00 at the Forum, Burg Street, where the proposed management plan for the Avis Dam will be presented. People interested in future development and management of the Avis Dam and surroundings should attend.

3.19 Please explain the proposed management and implementation of the Structure Plan, especially with regard to the proposed increased densities.

Council will not increase the densities, owners will apply and the public will do it. The transition to higher densities will not be radical. Although the eventual densities might come to those shown on the Structure Plan, Council will encourage a gradual increase of densities, for instance from 1/900 to 1/700 depending on circumstances. The more suitable areas, such as those near an open space or adjacent to existing commercial centres will probably be increased sooner and to higher densities.

3.20 What will happen with areas like Klein Windhoek where the existing infrastructure is already

not coping with the development taking place and where the social services such as schools have only been planned for lower densities?

The infrastructure and social services are definitely a concern. Two school sites remain which have not been developed. The infrastructure will have to be upgraded, as the need arises.

3.21 Do people already have the rights, as shown on the plan?

No, owners still have to apply for rezonings. This is not a statutory plan, merely a guideline for future development. It is also not necessarily that, when this plan indicates a certain density, that individual applications to this effect will be approved. It depends on the local circumstances. The Plan is an indication of what Council foresees 10 to 15 years from now.

3.22 Where is the money for all this development going to come from? Will lower income groups be subsidised?

The present system already has limited cross subsidisation built in, like all other cities world wide. This is a tricky issue for the future. Financing for future major items such as, roads is a current concern. This is why Council is being conservative about roads, for instance.

3.23 The existing infrastructure in Klein Windhoek, such as the roads are ageing and won't be able to accommodate increased development.

As mentioned, Council will not increase densities, it will be done when people ask for it. Increased densities mean an improved use of existing services. Present services like the sewer system will have to be upgraded when the money is available.

3.24 There is still a concern that when one owner gets an increased density, the whole neighbourhood is opened up for it, whether the majority of the community wants it or not. This will place a too heavy burden on the infrastructure.

An example where Council approved increased densities, is the SWABOU development at the edge of Ludwigsdorp. SWABOU was responsible for all costs of infrastructure to the new development. Higher densities do not necessarily mean shacks, it might be a group of luxury townhouses. As mentioned, preference will be given to areas suitable for higher densities. Jumping is not preferred.

3.25 The issue of cross-subsidisation is not fair. Why is the money not spent where it comes from?

All cities have subsidisation. Our problem is the rate of expansion which is difficult to cope with. This issue is now becoming political and not technical.

3.26 Will the infrastructure be upgraded in advance of the increased densities?

This is an ideal. It sometimes happens in practice that new services are installed only after the development is already there.

- 3.27 The Structure Plan does not make provision for opportunity to use the already busy areas for mixed type development. Strips along busy roads may for instance be designated as areas of vertical differentiation, like shops downstairs and flats on upper levels.**

This would create further congestion, leading to justification for new roads, which would need to cut through a different part of the neighbourhood. The example of Sam Nujoma Drive was explained.

- 3.28 Have people in the South and West been contacted regarding the planned low income areas next to them?**

Shacks will eventually come all over. We are not deliberately trying to influence property values, but just trying to accommodate the high growth rate. The high growth rate is due to factors beyond Council's control. This matter falls under the category of national policy.

- 3.29 Why doesn't Council keep low income development to the north?**

No more land is available other than a valley which runs away from the City. Council does not want to be responsible for pushing people further away. We have to try and rectify the bad planning of the past, where poor people were placed relatively far away.

- 3.30 Can't one locate the lower to middle income groups and scheme housing next to low income areas so that the transition is more gradual?**

Yes, this is possible and does happen. It is not a popular solution for those affected. You need only ask the inhabitants of Okuryangava.

4. Conclusions

The Structure Plan was well received at its official presentation. Council may proceed with more confidence in adopting aspects of the Structure Plan into its policies and programmes. As there may be other people with an interest in Council's future expectations, staff of the Town Planning Section will be available to discuss and present the document to individuals and groups whenever called upon.

It is therefore

RECOMMENDED

1. That Council reconfirm Resolution 437/09/96;
2. That the Manager: Public Affairs inform the public that staff of the Town Planning Section will be available to discuss and present the document to individuals and groups whenever called upon.