

SOCIO-DEMOGRAPHIC NEIGHBOURHOOD CHANGE: A CASE STUDY OF STELLENBOSCH

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Neighbourhoods form an integral part of the urban structure and neighbourhood change has a direct impact on the functioning of urban areas. Neighbourhood change is a continuous and highly individualized process. The aim of this exploratory study is to examine the changing social space of Stellenbosch, as reflected in its neighbourhoods, in order to aid optimal urban planning, management and quality of life. The unique and changing character of neighbourhoods was corroborated in this study. Census data of 1980 and 1991 were analyzed and profiles of change were compiled on both town and neighbourhood level. General trends, deduced on the town macro-level, expedited identification of significant change on the micro-level of neighbourhoods. An interpretation of the disparate socio-demographic change that the neighbourhoods wit-

nessed during the study period is provided and the implications for urban management, infrastructure and quality of life in Stellenbosch are broadly outlined. The methodology utilized in this research is recommended for similar studies of other towns and cities.

Woonbuurte vorm 'n integrale deel van die stedelike struktuur en woonbuurtverandering het 'n direkte impak op stedelike funksionering. Woonbuurtverandering is 'n deurlopende en hoogs geïndividualiseerde proses. Die doel van hierdie verkennende studie is om die veranderende sosiale ruimte van Stellenbosch, soos weerspieël in sy woonbuurte, te ontleed en sodoende optimale stedelike bestuur, beplanning en lewenskwaliteit te bevorder. Die

studie het die unieke en veranderende karakter van woonbuurte bevestig. Sensusdata van 1980 en 1991 is ontleed en veranderingsprofiel is op beide dorps- en woonbuurtvlak saamgestel. Algemene veranderingstendense wat op makro-dorpsvlak na vore getree het, het die identifisering van betekenisvolle verandering op die mikrovlak van woonbuurte vergemaklik. 'n Vertolking van die uiteenlopende sosiaal-demografiese verandering wat gedurende die studietydperk in die woonbuurte plaasgevind het, asook 'n breë omskrywing van die implikasies vir stedelike bestuur, infrastruktuur en lewenskwaliteit word aangebied. Die metodologie wat gebruik is, word vir soortgelyke studies in ander dorpe en stede aanbeveel.

INTRODUCTION: THE CHANGING URBAN SOCIAL SPACE

The future new South Africa will inevitably be accompanied by change and restructuring in our cities and residential neighbourhoods. The nature and magnitude of the change taking place in neighbourhoods must be accounted for by adapting urban planning and management so that new social needs may be optimally met. A better understanding of neighbourhood change may contribute significantly to responsible, efficient and equitable urban planning and management. Residential space is the dominant land use phenomenon in the city and occupies roughly 40% to 50% of the urban area. However, residential areas are not uniform and are characterized by specific socio-economic patterns to form an urban residential mosaic

(Herbert and Thomas 1990). In Western cities it is especially factors such as socio-economic status, life cycle status, ethnic status, minority group status and residential mobility that form the basis of this differentiation, although other factors and processes have proven importance as well. The city also presents a time-layered mosaic of neighbourhoods and dwellings, communities and families, whose character and needs are continually undergoing change. "Certainly it is the distinctiveness of particular neighbourhoods and districts ... that gives the city its fascination not only to geographers but also to writers from a wide variety of disciplines" (Knox 1982:1).

The neighbourhood concept deserves prominence as a subject for geographic research since it heightens our

understanding of cities and the people who live there. "People don't live in cities, but in neighbourhoods, which have real meaning for them" (Masotti *et al.* 1980:129). The majority of definitions of the neighbourhood concept contain two components - the physical and the social. Smith (1985: 241) informs that: "The multifarious literature on the neighborhood concept offers no succinct definition of what a neighborhood is". However, Cohen and Shinar (1985:13) maintain that: "Neighborhood refers to distinctive areas into which larger spatial units may be subdivided ... the distinctiveness of these areas stem from different sources whose independent contributions are difficult to assess: geographical boundaries, ethnic or cultural characteristics of the inhabitants, psychological unity among people who feel that they belong together, or

concentrated use of an area's facilities for shopping, leisure, and learning". Neighbourhoods are not static in their characteristics, but are in a continuous process of transformation. The implications of neighbourhood change for urban management, provision of housing, education, public services, job opportunities and the functioning of the urban economic base are investigated in numerous studies (Badcock 1991; Beaugard 1990; Gober 1992; McCarthy 1983; Morrow-Jones 1986).

In the 1920s, the Chicago School of Social Ecology developed the concepts of social competition, conflict and domination as a means of understanding the changing urban social space (Knox 1982). The theory of social ecology has been repeatedly adapted since then (Warf 1990), but "at the heart of classical human ecology is the proposition that urban growth not only physically enlarges the city but also results in a sequence of redistributions in which one type of land use or population type replaces that originally found in an area" (Bursik and Webb 1982:26). An impressive corpus of theories and models for the study of neighbourhood change has been expounded up to the present time (Olson 1982; Schwirian 1983). The life cycle model offers insight in both the spatial manifestation of socio-demographic changes, accommodating neighbourhoods from the original development phase to renewal or abandonment (Knox 1982; Schwirian 1983), as well as in processes of household instability and residential mobility (Aitken 1990; Gober *et al.* 1991). Several variations of the life cycle model have been developed since the late 1950s. In the 1990s these models have been increasingly criticized (Gober *et al.* 1991). In Aitken's (1990:249) words: "They are too general and unnecessarily restricting for microlevel research". Alternative models include the politico-economic model (McCarthy 1983), the behavioural community models (Abu-Lughod 1991; Altman and Wandersman 1987), the residential location decision process (Berry and Horton 1970) and the various factor ecological models (Murdie 1969). Knox (1982) proposes a typology of neighbourhood change that integrates areas experiencing either change or stability in certain population characteristics with areas that experience either high or low

residential mobility.

None of the traditional models were found to be ideally suited for this exploratory study which investigated a number of neighbourhoods using a variety of socio-demographic indicators. It was therefore decided to discover general trends of change at town level to assist in the analysis of change in individual neighbourhoods. There is a complex interaction between the physical-morphological and socio-demographic aspects of neighbourhood change. However, this exploratory case study focuses only on the latter element. The aim of this study is to examine the changing social space of Stellenbosch as reflected in its neighbourhoods and thereby promote optimal urban management and improved quality of life in the town. The methodology developed during the study may prove of value for the evaluation of neighbourhood change in other middle-size towns. The specific objectives of this study are:

- to construct, analyze and interpret the socio-demographic town and neighbourhood profiles for 1980 and 1991, in order to identify trends which may have significantly influenced town and neighbourhood character during this period; and
- to identify neighbourhoods that

have experienced significant change during the study period.

Urban social space may be divided into personal/qualitative and impersonal/quantitative spheres (Herbert and Thomas 1990). The former is subjective and is based on personal values, attitudes and behavioural patterns, whilst the latter may be measured objectively by census indicators of the socio-demographic structure. This study applies quantitative data analysis and utilizes population census data for 1980 and 1991, linked to digitized spatial data of the Stellenbosch Municipal Area. Similar studies have also made use of population census data (Badcock 1991; Bursik and Webb 1982; Gober 1992). The SAS System statistical program (SAS Institute Inc. 1985) as well as the Arc/Info Geographical Information System (ESRI 1990) is utilized to create a database. Demarcation of the study area is accomplished by consolidating the 67 census enumerator areas within the Stellenbosch urban area into fifteen neighbourhoods (Figure 1).

THE CHANGING TOWN CHARACTER

Neighbourhood change does not occur in isolation, since neighbourhoods form an integral and interactive part of the greater urban structure (Davies

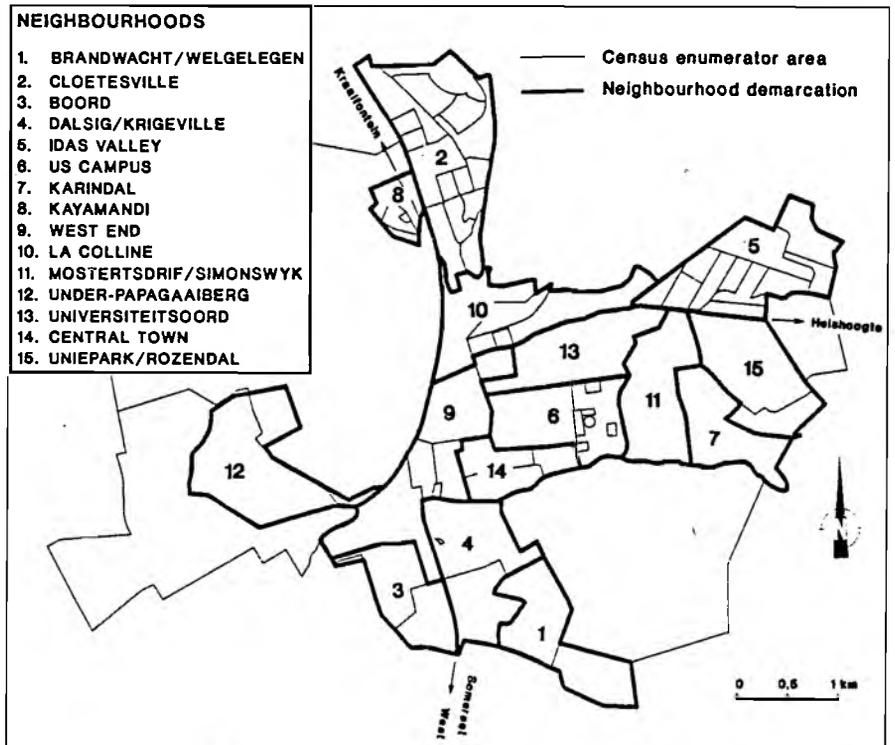


FIGURE 1: Study area: Stellenbosch neighbourhoods.

and Herbert 1993). Therefore, neighbourhood change must be viewed in the context of socio-demographic changes taking place in the town as a whole. Such trends of change deduced on town macro-level may subsequently serve as a point of departure for identification of significant change on the micro-level of neighbourhoods.

In Stellenbosch, analyses of ten demographic, socio-cultural, socio-economic and residential indicators (Figure 2) revealed trends at town level that are subsequently briefly outlined. *Demographic* characteristics include population density, age, population group and household size. Stellenbosch has grown extensively during the study period: absolute population numbers increased with 23% (from 40 280 persons in 1980 to 49 550 persons in 1991), while the population density increased from 3 029 to 3 725 persons/km². Natural growth has been of less importance, as the absolute number of children aged fifteen years and younger has declined during this period. The increase probably has a dual cause: accelerated urbanization of the rural Black population and annual in-migration of university students. The dominant age group remained between the ages of sixteen and thirty (42% of the total in 1991) which reaffirms the university town status of Stellenbosch. The concept of ethnicity is a dominant theme in studies of neighbourhood change (Knox 1982; Herbert and Thomas 1990). Although the town's Black population has more than doubled during the study period, the White population retained its dominance and maintained its relative balance with the Coloured population. Changes in household size and composition have important implications for neighbourhood character and residential mobility (Gober 1992). Demographic aspects that influence household characteristics are fertility, mortality, family size, age, economic status and ethnicity. Stellenbosch experienced a reduction in the proportion of relatively large households (four or more persons) while an increase in small households was evident. This trend may be linked to the decline in the number of children as well as to the increase in single/divorced/widowed persons who set up a home of their own. The number of households in Stellenbosch almost

doubled (from 7 700 in 1980 to 12 950 in 1991), but it must be taken into consideration that, contrary to 1991, no household data was collected for the Black township, Kayamandi, in the 1980 census.

As a *socio-cultural* indicator, the language profile of Stellenbosch reveals that the percentage Xhosa-speakers has almost doubled during the study period, which may be ascribed to the population increase in Kayamandi. Afrikaans remained by far the dominant language, while English and other languages remained almost unchanged and jointly accounted for less than 10% of the total in 1991. The level of education reveals a marked improvement in the proportion of the adult population who achieved Matric or tertiary qualifications, while at the same time the proportion of those with no or primary education only, dropped further.

Socio-economic characteristics of Stellenbosch such as occupation and annual personal income reveal that occupations in production have increased prominently whereas those in transport, communication and trade dropped significantly during the study period. The white-collar occupations in 1991 (48%) gained 3% on the 1980 figures. Annual personal income of the economically active town population is analyzed according to the quartile principle in Low, Middle-Low, Middle-High and High income brackets, in order to compensate for differences in the Rand value between 1980 and 1991. Change of no more than five percentage points is evident in any of the quartiles in 1991, indicating no significant change in this variable.

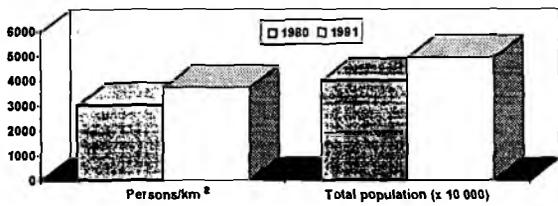
The town profile is further supplemented by *residential* characteristics such as dwelling type and duration of stay at the same address. While houses and semi-detached/townhouses still remain the dominant dwelling type in 1991, they are fast losing ground to room occupation (old age homes, hostels and boarding houses) and, more significantly, to informal structures. Squatting has become a real problem in Stellenbosch. In 1980 less than one percent of the town's population were living in informal structures. In 1991 this figure has increased to almost 10%. Residential mobility refers

mainly to intra-urban migration of households (Knox 1982; Gober 1992). Analysis of the duration of stay at the same address is employed to provide an indication of the degree of residential mobility in Stellenbosch in 1980 and 1991 respectively. The 1980 profile, heavily dominated by the group that resided at the same address for a period of less than six years, was replaced with a very different profile in 1991. A more balanced distribution between the categories was present in 1991, which indicated a lowering in the level of residential mobility and migration in Stellenbosch. This may have had positive implications for the development of a cohesive and stable town character.

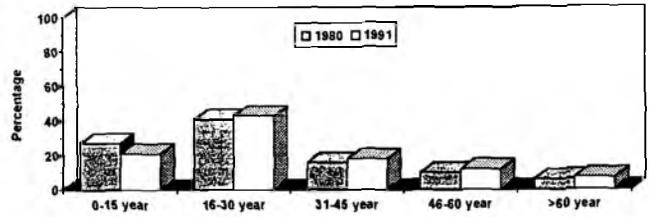
The main trends discovered at town level were that of a growing adult and dwindling child population, which while still very much dominated by the Afrikaans-speaking White and Coloured communities, was increasingly being influenced by the growing Black Xhosa-speaking community. Social progress is represented by the improved level of education. Shrinking household size and the growing component of white-collar workers confirm the First World character of the town. However, very little improvement in relative personal income was achieved at town level during the study period. Furthermore, the proportion of the population accommodated in houses has decreased, while informal structures have become a real issue on the housing scene. Finally, a remarkable drop in residential mobility between 1980 and 1991 indicates greater residential stability in the Stellenbosch community. These impressions of socio-demographic change at town level are subsequently taken into consideration in the analysis of socio-demographic change in the individual neighbourhoods of Stellenbosch.

NEIGHBOURHOOD CHANGE

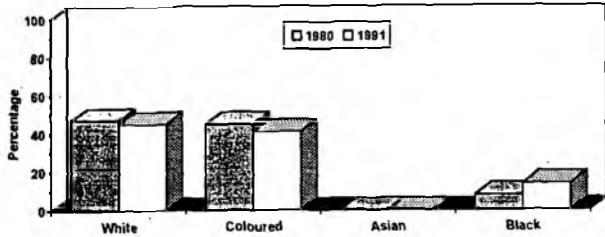
Schwab (1987) describes neighbourhood change as a process that involves complex interaction of historic, geographic, economic and social forces. Neighbourhood change is a highly individualized process - it does not occur at the same pace or follow the same trend for any two neighbour-



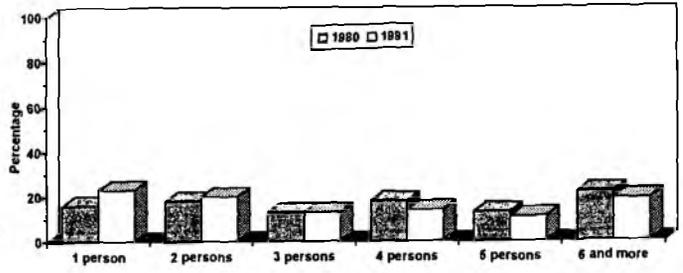
Population number and density



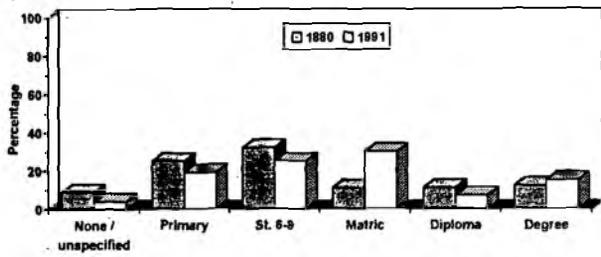
Age



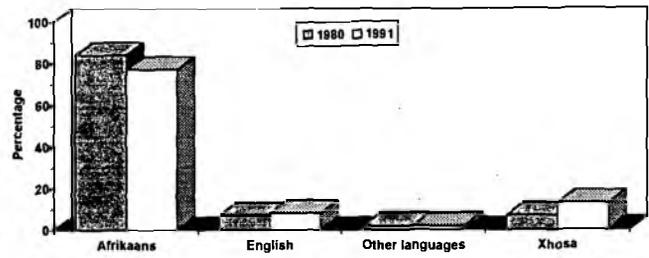
Population group



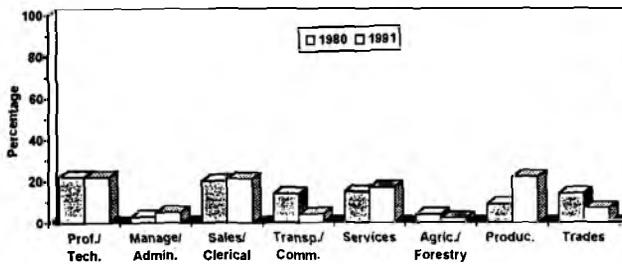
Household size



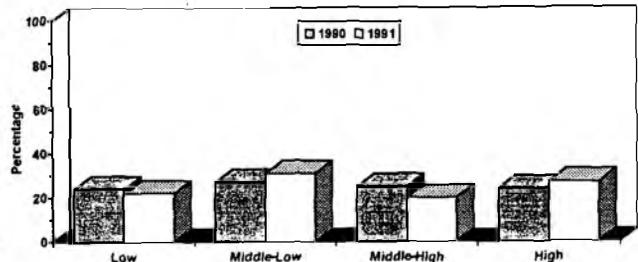
Level of education



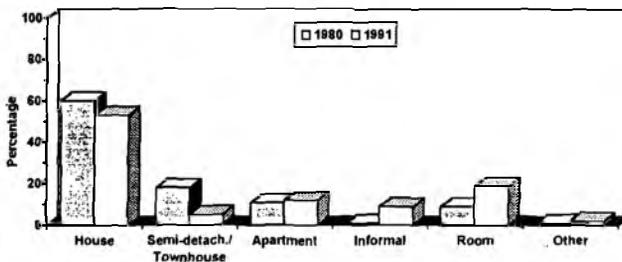
Language



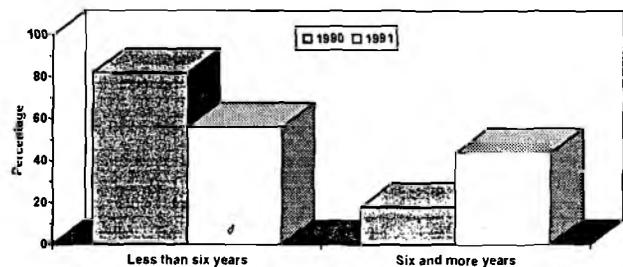
Occupation



Annual personal income



Dwelling type



Duration of stay

FIGURE 2: Changing town character of Stellenbosch: Population composition, 1980-91.

hoods. Similarly, neighbourhood character is unique and in a continuous process of dynamic and differentiated change: "Every individual in an urban area lives in a particular residence and in a neighborhood possessing a character of its own" (Cohen and Shinar 1985:10). Stellenbosch boasts a history of more than three centuries and the outward growth on the periphery of the town continues unabated. The urban area is characterized by both old neighbourhoods that have undergone several life cycles, as well as new neighbourhoods that were developed more recently. Whilst extensive interpretation of all fifteen neighbourhoods (Figure 1) cannot be presented here, the differentiated manifestation of socio-demographic change at neighbourhood level are highlighted by selecting for each indicator those neighbourhoods that experienced the most significant change. This procedure leads to the identification of those neighbourhoods with major change, i.e. significant change in five or more of the ten indicators (Figure 3). An abbreviated summary of the results of the analysis at neighbourhood level is presented in Table 1, together with the results of the town as a whole for purposes of comparison.

Changes in population density on

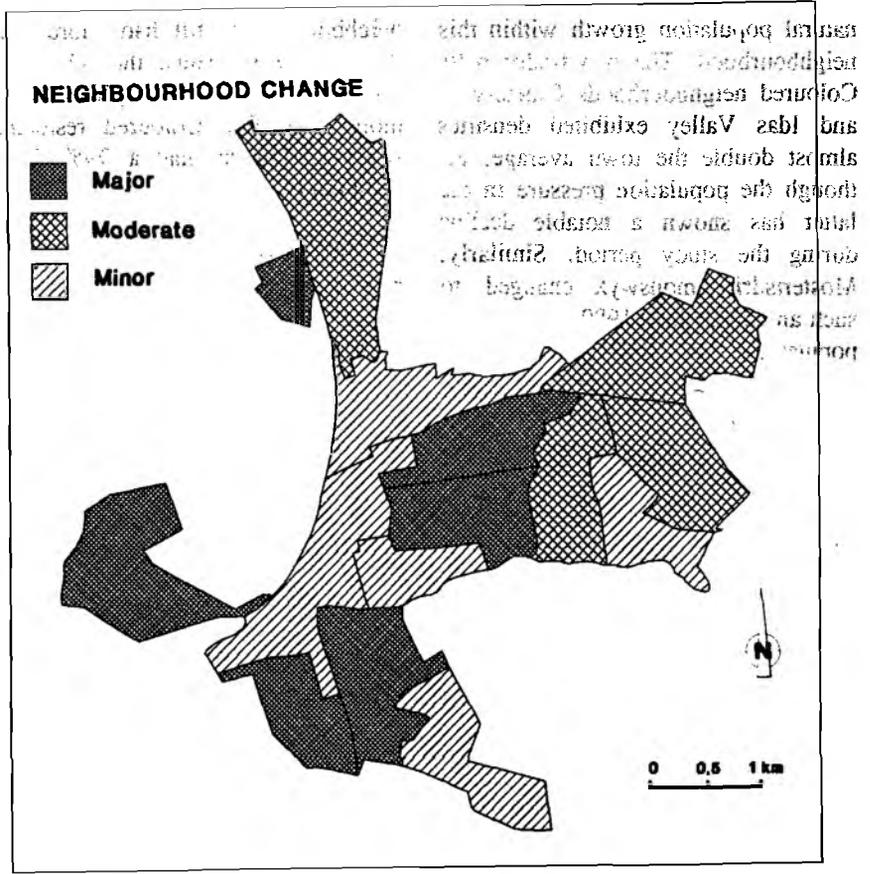


FIGURE 3: Multidimensional neighbourhood change in Stellenbosch, 1980-91.

neighbourhood level between 1980 and 1991 indicate divergent trends. Certain neighbourhoods such as Kayamandi and the Boord witnessed dramatic increases in population density. Kaya-

mandi, the most densely populated neighbourhood in 1980, experienced a further sharp increase in density to nine times the town average. This increase in population pressure is due to new arrivals since the lifting of influx control in 1986, as well as to

Table 1: Socio-demographic profiles of neighbourhoods in Stellenbosch, 1980-91

POPULATION INDICATORS		NEIGHBOURHOODS																
		TOWN AS A WHOLE	BRANDWACHT/WIEGELIEN	CLOETESVILLE	BOORD	DALSBURG/KRIGEVILLE	IDAS VALLEY	US CAMPUS	KURINDAL	KAYAMANDI	WEST END	LA COLLINE	MOSTERTSORF/SIMONSWYK	UNTER-PAPEGAARBERG	UNIVERSITEITS-OORD	CENTRAL TOWN	UNEPARK/ROZENDAL	
Population number	1980	40 280	1620	8 660	220	1 520	8 580	4 780	860	2 940	2 700	2 020	1 340	1 800	900	1 740	800	
	1991	49 550	1 864	12 036	1 732	1 707	7 264	5 518	847	6 711	2 761	1 977	956	2 122	1 014	1 582	1 456	
Demographic	Population density (persons/km ²)	1980	3 029	2 025	5 413	367	1 520	7 150	5 975	1 433	14 700	2 077	2 020	1 675	1 333	1 125	3 480	889
		1991	3 725	2 330	7 523	2 887	1 707	8 053	6 898	1 412	33 555	2 124	1 977	1 195	1 768	1 268	3 164	1 588
	Age (average)	1980	27	28	22	26	36	27	24	28	34	28	25	30	22	31	31	27
		1991	29	33	27	32	31	29	24	34	32	29	30	35	31	29	35	36
Population group (% White)	1980	47	94	0	100	91	1	99	91	0	98	93	99	83	82	100	95	
	1991	45	92	0	98	93	0	99	95	0	93	92	96	72	97	99	97	
Household size (average)	1980	3.9	4.5	5.1	2.8	2.5	4.9	2.1	3.5	NA	2.9	2.6	3.7	3.8	4.0	1.7	3.8	
	1991	3.4	3.4	5.4	3.1	3.3	4.6	2.2	3.4	3.3	2.3	2.3	3.6	3.9	2.6	2.4	3.0	
Socio-cultural	Level of education (% Matric +)	1980	34	83	4	83	43	12	81	83	0	80	41	88	75	67	58	84
		1991	52	87	16	90	87	26	98	91	7	83	72	93	60	90	89	93
Socio-economic	Language (% Afrikaans)	1980	84	72	100	100	90	95	83	95	0	76	88	90	94	82	80	88
		1991	77	80	99	80	73	97	85	84	1	78	87	78	88	82	80	85
Residential	Occupation (% white collar)	1980	45	80	19	83	56	44	58	86	5	83	82	86	74	75	36	88
		1991	48	60	26	86	79	40	75	82	8	73	67	84	55	75	40	88
Residential	Personal Income (% High)	1980	24	71	8	67	36	8	35	57	3	43	33	52	69	45	36	53
		1991	27	64	8	69	54	17	17	64	3	42	31	50	43	46	40	62
Residential	Dwelling type (% House)	1980	60	100	32	100	84	69	82	91	31	47	26	78	99	87	52	100
		1991	53	96	77	83	64	76	4	86	11	33	22	94	89	48	23	86
Residential	Duration of stay (% 6+ years)	1980	18	40	6	50	28	10	15	18	15	36	47	6	32	14	33	34
		1991	44	43	54	29	40	73	3	45	53	17	24	47	59	19	20	61

NA = Not Available

natural population growth within this neighbourhood. The two traditionally Coloured neighbourhoods Cloeteville and Idas Valley exhibited densities almost double the town average, although the population pressure in the latter has shown a notable decline during the study period. Similarly, Mostertsdrif/Simonswyk changed to such an extent since 1980 that it had a population density of only one third of the town average in 1991. The Boord is one of the youngest neighbourhoods in Stellenbosch and was newly developed at the time of the 1980 census. Since then it has rapidly been built up and although still below the town average, population density has increased eightfold. The character of the Boord has changed dramatically from a sparsely populated newly developed neighbourhood with mainly young married couples with small children to a fully developed and settled neighbourhood with a more balanced age and family composition.

An analysis of the *age* indicator underlines the differentiation apparent on the micro-level of neighbourhoods, which is not discernable at town level. For instance, the Boord had no residents older than 45 years of age in 1980. This exceptional age profile has changed since and in 1991 more than a fifth of the Boord's residents were 45 and over. The average age in the majority of neighbourhoods increased, especially in Under-Papegaaiberg and Uniepark/Rozendal, in which the average age increased by nine years. The latter experienced a marked drop in the proportion of children and a doubling of the retired component. However, three neighbourhoods indicate a process of rejuvenation. These are Kayamandi, Universiteitsoord and, most significantly, Dalsig/Krigeville. The latter, in contrast to the town trend, exhibited an increase in the proportion of children while at the same time the proportion of retired residents has halved.

The Apartheid inheritance of Stellenbosch is very conspicuous in its neighbourhoods and as Penderis and Van der Merwe (1994) point out very little *integration has occurred in Stellenbosch* since the Group Areas Act was abolished in 1991. An analysis of the *population group* indicator revealed that in 1991 the ten traditionally White

neighbourhoods still had more than 90% White residents, the two traditionally Coloured neighbourhoods more than 99% Coloured residents, while Kayamandi had a 99% Black community.

The reduction in average *household size* encountered on town level is echoed in only eight neighbourhoods, while the remaining seven show an opposite trend. Dalsig/Krigeville, in particular, exhibited a marked increase in large households of five or more persons in 1991. Indications are that high-income families with children increasingly occupied houses vacated by elderly single residents and improvement of old houses may be a consequential trend in Dalsig/Krigeville. On the other hand, in Brandwacht/Welgelegen and Universiteitsoord a significant drop in average household size has become evident. In the former case this is due to children having grown up and moved out of the parental home, while in the latter neighbourhood apartments, townhouses and lodgings associated with smaller households have become a characteristic feature.

Language composition plays a major role in the creation of the socio-cultural character of a neighbourhood. In Stellenbosch Afrikaans still remains the dominant language in all the neighbourhoods, with the exception of Kayamandi which is 96% Xhosa-speaking. The decrease in the Afrikaans-speaking component in several neighbourhoods is due to significant increases in English speakers, notably in Dalsig/Krigeville, the Boord and Mostertsdrif/Simonswyk. This increased presence of English in certain neighbourhoods is surprising as it was not apparent from the town profile (Figure 2).

The majority of neighbourhoods reflected the town trend with an improved *level of education*, i.e. an increase in the proportion of adults (24 years and older) with Matric or tertiary qualifications. In 1991 however, Kayamandi, Cloeteville and Idas Valley still lagged far behind. The *consistently lower level of education in Kayamandi*, in comparison with the rest of the town, has a direct impact on this community's ability to compete in the labour market and to improve

its quality of life. Conversely, Dalsig/Krigeville, La Colline and Central Town realised exceptional increases in the proportion of adult residents who obtained Matric and/or tertiary qualifications.

An analysis of *occupational status* and associated *annual personal income* revealed that major shifts in neighbourhood character have taken place between 1980 and 1991. In the case of *white-collar occupations*, Dalsig/Krigeville exhibited a remarkable increase of 23 percentage points to 79% in 1991. This change is due to a notable increase in the professional and technical occupations at the expense of transport and clerical occupations and is reflected in the prominent increase in the high income category. Considering the positive changes in personal income, level of education and occupational composition, Dalsig/Krigeville evidently experienced a boost in socio-economic status during the study period. On the other hand, Under-Papegaaiberg demonstrated a notable decline in the percentage white-collar workers, with an accompanying poorer performance in the personal income indicator. Kayamandi and Cloeteville still contained very low percentages of white-collar workers in 1991, while the percentage of factory workers more than doubled. Correspondingly, these two neighbourhoods still had very poor representation in the high income category in 1991.

Dwelling type is usually related to the socio-economic status of the occupants as well as an expression of the opportunities available to them (Cohen and Shinar 1985). The relationship between social space and dwelling space is emphasized in certain studies of neighbourhood change (Berry and Horton 1970; Olson 1982). In Mostertsdrif/Simonswyk the increase in the incidence of 'house' being cited as the dwelling type is due to a decrease in lodging and room-occupancy. In the case of the University of Stellenbosch's campus, the striking turnabout from 82% house residency in 1980 to a meagre 4% in 1991, is directly related to the increased utilization of existing houses for communal university lodging. In Kayamandi the decrease in the percentage of residents citing houses as dwelling type is attrib-

uted to the massive increase in informal housing. Whereas in 1980 two thirds of Kayamandi's residents lived in hostels and squatting was non-existent, more than 43% were living in informal structures in 1991.

Duration of stay gives an indication of residential mobility incorporating intra-urban migration between neighbourhoods as well as inter-urban migration. In Stellenbosch, the latter involves the yearly influx and efflux of students. The US Campus primarily provides accommodation to students and the high level of migration in this area is illustrated by a further drop in longterm residents (with a duration of stay of six or more years) to only 3% in 1991. West End, La Colline, Universiteitsoord and the Central Town had high migratory levels associated with the high incidence of apartments, townhouses and lodging facilities in these neighbourhoods. On the other hand, several neighbourhoods were characterized by a trend of increasing permanency of residence. For instance, in 1991 as many as 73% of the residents of Idas Valley had been living there for six or more years. Significant increases also occurred in Cloetesville, Kayamandi and Mostertsdrif/Simonswyk. This has great significance for the development of a supportive network of friendship ties as well as a sense of kinship and unity within these neighbourhoods (Cohen and Shinar 1985).

CONCLUSION

The evaluation of neighbourhood change by means of ten socio-demographic indicators led to the identification of six neighbourhoods that witnessed major change during the study period, i.e. significant change in five or more indicators (Figure 3). They are Kayamandi, Under-Papegaaiberg, the Boord, Dalsig/Krigeville, US Campus and Universiteitsoord. Four neighbourhoods experienced moderate change (significant change in three to four indicators) while the remaining five revealed minor change (significant change in only one or two indicators).

The disparate nature of neighbourhood change in Stellenbosch between 1980 and 1991 and the unique character of each neighbourhood has specific impli-

cations for urban management, planning and quality of life in the town. The essence of urban management is active involvement in development, management and resource coordination and depends on teamwork and innovation in a continuously changing environment (Davidson and Nientied 1991). One of the most important challenges to urban planning and management is the provision of sufficient land and shelter. The development and provision of more and more living space for communities in Stellenbosch are priorities that are receiving urgent attention from the local government.

Neighbourhoods in Stellenbosch experienced dissimilar changes in their population profiles. While some neighbourhoods reflected processes of rejuvenation or ageing others presented a changed occupational and income profile or a shift in dwelling type. Certain neighbourhoods underwent a significant change of character whilst others remained largely stable. Community needs as regards to infrastructure and service provision therefore vary dramatically between neighbourhoods. It is imperative that the provision of services such as water, electricity, sanitation and health care keep pace with these needs, especially in neighbourhoods with heightened population pressure such as Kayamandi and Cloetesville. The ageing of neighbourhoods such as Brandwacht/Welgelegen and Uniepark/Rozendal implies that there may be an oversupply of schools in these areas, while on the other hand the rejuvenation of Kayamandi requires urgent provision of additional educational and recreational facilities. The concentration of retired persons in Uniepark/Rozendal, Central Town and Mostertsdrif/Simonswyk warrants special attention to their needs: Urban poverty should be addressed through efficient urban management and equitable utilization of resources. Unemployment and job creation are issues demanding urgent attention, especially in Kayamandi where unemployment reached alarming levels.

Neighbourhood change often has significant implications for the quality of life experienced within the neighbourhood. Neighbourhood change characterized by unacceptable levels of population density, unemployment,

poverty and degradation of the living space has an unavoidable negative impact on the quality of life of the residents. These conditions are often accompanied by a high crime level. The results of this study indicate that quality of life in Kayamandi and specifically in the hostel and squatter area, is probably unacceptably low. This poses a challenge which needs to be met with responsible and participatory urban management. On the other hand, a high quality of life is evidently experienced within those neighbourhoods with acceptable population densities, low unemployment levels, durable housing and a certain level of affluence. In 1991, the majority of Stellenbosch's neighbourhoods fell in this category.

The methodology used in this study may be recommended for similar studies in other medium-size towns or even metropolitan areas. The application of a GIS in combination with census data proved particularly valuable. Whilst this exploratory study has outlined major trends in neighbourhood change ample scope remains for further research, especially research aimed at unravelling residents' perceptions of these changes.

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