Coen Beeker

Spatial planning for housing classes in Port Sudan: an evaluation

workdocument 1

September, 1983

Department of Town and Village Planning
Ministry of Construction and Public Works
Republic of Sudan

Department of Urban and Regional Planning
Free University
Amsterdam, the Netherlands
SPATIAL PLANNING FOR HOUSING CLASSES
IN PORT SUDAN
AN EVALUATION

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PREFACE

The Department of Town and Physical Planning of the Ministry of Public Works in Sudan and the Department of Urban Planning of the Free University of Amsterdam decided in 1981 to start a research-programme in Port Sudan. A first priority in this programme concerns the effects and consequences of the Town Planning Regulations for the urban population in the different housing classes.

In cooperation with the Regional Planning Office in Port Sudan, a first phase of this research was realized in Autumn 1982. Work document no. 1 presents the preliminary results of our interviews with 151 heads of households in 8 neighbourhoods and 12 interviews with representatives of the Town Council.

We are very greatful of all kind help in Khartoum of Mr. M.E. Shingrai, Director for Town and Physical Planning, of Mr. Abdelrahman Ahmed el Agib, Director of the Council for Scientific and Technological Research of the National Council for Research, of Prof. Omer el Agra, Dean of the Graduate College of the University of Khartoum, and for all the assistance in Port Sudan of Mr. Bushra Mohamed Mustafa, Senior Town Clerk and Mr. E. Heyder, Director of the Regional Planning Office and last but not least by his assistant Mr. Mohamed Ousni.

We hope that this first report will be a valuable base for a fruitful debate concerning the Town Planning Regulations and the different planning options which could be chosen in the near future.

Amsterdam, 26th of September 1983
1.1 Introduction

Many people would have to reach for the atlas if they were required to find the name of a Red Sea port in a cross-word puzzle. Lovers of underwater tourism would have less difficulty in finding the answer, as the coral-reef, the exceptionally clear seawater and the thousands of colourful fish in the Red Sea are widely known among these tourists.

The old Sudanese port of Suakin appears on many old maps. In the twentieth century it has, however, become a 'dead' port; the trading centre and the merchants' houses having completely decayed. It has fallen an easy prey to antique hunters (see map 1). In 1905 the railway from Khartum to the Red Sea was completed. The British colonial authorities decided to build a new port, 60 km to the north of Suakin: Port Sudan. This location had been chosen because of the presence of a lagoon, which was also accessible to sea-going vessels.

To this date Port Sudan is the only port that the largest country of Africa (1) can boast of. There are plans to build a container port in the near future and to realize the first phase of 'Port New Suakin'. This should become a new town with a planned population of around 70,000 towards the end of this century. At present one can only guess what the possible consequences of this new harbour for Port Sudan could be.

The region around Port Sudan is inhabited by Nomads (Beja). Many of them have found jobs in the docks; in fact, to a large extent, the members of the Beja population have the monopoly of the work available in this port. The location of industries, businesses, banks and other public services have made Port Sudan into an attractive refuge for many migrants. From an ethnological point of view this has caused the urban population to be quite heterogeneous. After 1970 the mixture of population groups has even expanded as a result of the arrival of thousands of Eritrean refugees. At the moment, in 1982, it is estimated that the town has around 300,000 inhabitants and that the annual rate of growth amounts to 6% as a result of this migration and the natural increase of the population.

(1) Sudan covers an area of 2.5 million km^2 and has a population of about 20 million inhabitants.
This increase of the population has brought about several 'spontaneous' settlements especially at the southern and western sides of the town. The natural inlet with a length of approximately 6 km and a channel of 200 m wide divides the town into a northern and southern part. The harbour has a depth of 18 m and ships can be moored at piers to the north and south of it.

The goods are stored in large sheds or in the open air and then transported by train or by lorry to Khartoum and other destinations.

Besides the dock-area at the north side, there is also an important industrial area.

On the southern side the commercial and service centres of the town are situated. The residential area has been subdivided into four classes on the basis of the existing 'Town Planning Regulations'. These classes are distinguished as follows:

- first class: predominantly tenement houses; dwellings built of durable building materials (1). The houses are connected with the water- and electricity-supply and telephone systems. As there is no sewerage system in the town, a septic-tank is compulsory. The streets are nearly always asphalted/covered with bitumen. The lay-out of the area is spacious and the size of the plots is usually 750 m². The cost per plot was about £1800 in 1982.

- second class: the most important difference with the first class is that the size of the plots is generally 500 m². Although the main roads have been asphalted, the secondary roads are not. Here, too, the use of durable building materials is compulsory. The houses are connected with the water- and electricity-supply systems. Cost per parcel £1400.

- third class: in this class the plots are significantly smaller (ca. 300 m²). Only the main road is metalled. Officially durable building materials have to be used. Connection with the water- and electricity-supply systems is possible, not necessary. Cost per plot £400.

(1) E.g. stones and blocks of cement (etc.,); wood, tin, mats are considered to be non-durable.
fourth class: the plots are usually about 200 m², but sometimes smaller (100 to 150 m²). The roads are not metalled in these areas. For drinking water, people predominantly have to depend on public water-supply points. The residents are advised to build with non-durable building materials because in due time a 'promotion' to the third class might be effected. It has to be taken into account that the plots will then become larger. In that case, any houses will have to be replaced. (cost per plot £ 20.-- (1)).

Apart from recognizing four 'official' residential classes we also see, especially at the southern and western sides of the city, several 'spontaneous' residential areas have arisen. Probably around 20 per cent of the total population of Port Sudan is living in these residential areas which were created relatively recently.

In conclusion we can say that the regulations applied to the urban planning in Port Sudan were aimed at realizing a segregation of the population according to income and profession and at the same time to bring about important differences in relation to the accessibility of urban services.

The prices of the plots included the installation of some infrastructural works (roads, water, electricity, telephone). The level of this infrastructure differs for each residential class.

Moreover, space has been reserved in all areas for the installation of public services (schools, health centres, markets, police stations, etc.). The construction of these buildings must, however, be organized, financed and executed by the residents. The relatively wealthier households in the higher residential classes, must be considered more capable of realizing a broader scale of public services.

1.2 The objectives of this research-project

What advantages and disadvantages are attached to the present regulations for re-allotment on urban and area level? Who are favoured most and which sections of the population are worst affected, i.e. will have to face relatively many disadvantages. What possibilities

(1) In 1982 one Sudanese Pound had about the same value as one
have to be considered to adjust the present planning policy?

Finding an answer to these questions is the main aim of the research-project in Port Sudan. In the following paragraph the three main questions mentioned above will be looked at in more detail in order to further clarify the objectives of this research-project.

As regards the advantages and disadvantages of the present regulations, we may expect that the resulting choice of various residential plots according to size and income, will be an important positive point. As the cost per residential plot in the four classes shows important differences, the lower income groups will have relatively easy access to a low equipped plot.

Households with higher incomes can try to acquire a plot that is more in line with their standard of living and that better meets the demands they make on the physical living conditions in the residential areas.

We think that this system impedes the moving of a household to another residential class, as, according to the register of real property, the market value of the plots shows wide differences.

The criterion in allocating residential plots is the income of a household at the moment of allocation. This income, however, is in a state of flux, as years go by it may improve, remain the same, or decrease. On the basis of an analysis of the actual behaviour pattern of households - from the moment of settlement in a re-allotted area until the present - we may get an insight into the coherence we may expect, between income and plot-size, as well as the effects of the allotment policy adopted so far.

However, as it has to be considered extremely difficult to check actual incomes, especially those of traders, there is an important disturbing factor that wealthier households, at the time of the allocation of plots, also succeeded in acquiring plots in third and fourth class areas.

Officially, the town council registers all applications and notes down the incomes of the households. However, the reliability of these statements, has to be seriously questioned. Even if some wealthier households have not obtained a plot through the town council, they may have tried to buy parcels in these less expensive residential areas on a large scale, whereas they 'ought' to have chosen more expensive plots. It may safely be assumed that the purchasing of
plots has strongly promoted the leasing of dwelling accommodation. The leasing of dwelling accommodation may, however, have contributed considerably to the fact that, as regards incomes, areas have developed a more and more heterogeneous structure.

It will not be easy, however, to determine which groups of the population are especially favoured by the land use policy adopted and which groups are at a disadvantage because of it. Moreover, the result of a 'profit and loss account' does not automatically imply that another planning policy would have led to a 'better' solution. For that matter when do we speak of a better result? On the basis of what criteria do we conclude that a better solution has been reached? These questions have to be considered further when weighing up the proposals for an adjustment of modification of the planning policy adopted at present. For the moment we will only try to make up the balance sheet of this planning policy and try to point out its weaknesses and strong points.
CHAPTER 2  THE PREPARATION OF A RESEARCH CONCERNING LAND USE IN PORT SUDAN

2.1  A theoretical exploration

For a long time it was posed in economics that the use of land was defined by commercial laws. Whoever bid most for a plot in town became its owner; the value of land was always determined on the basis of the supply and demand mechanism (1). One can say that the classical location model of behavioural patterns of residents in towns was founded on the supposition that all households strive after the best dwelling locations at the lowest cost. The decision on the most suitable location was also said to be taken in a rational way (2). A rational decision is described by these economists as a decision taken on the basis of a systematic research of all relevant information. In this way the best choice is made, every other choice would yield a less satisfying result. His research findings in Boston caused Firey to determine that other factors, such as cultural values, attachment to a neighbourhood and devotion to the land were of great of importance in the use of land (3).

The criticism of the classical location model is specifically aimed at the probable shortcomings of the available information. In reality some households will have much more detailed information at their disposal than others. The amount of information and the insight into the risks involved in taking a decision are crucial in the process of decision making (4).

Stuart Chapin has made an attempt to set down a framework in which important elements of human activity in relation to land use may be placed (5).

He stated that 'human behaviour' refers to the way in which people and groups conduct themselves, how they act in the context of the values and ideals they possess'. These values and ideals are the product of human experience in a specific, cultural, economic and planning context.

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(1) David Ricardo - On the Principles of Political Economy and Taxation (1817).
R.M. Hurd - Principles of City Land Values (1902)
(2) J.B. McLoughlin - Urban and Regional Planning (1969), p. 63
(3) N.J.M. Nelissen - Sociale Ecologie (Aula 473, Utrecht 1972, p. 126-127)
(4) Von Neumann en Morgenstern (1944)
(5) P. Stuart Chapin (1985), p. 29-30
On the basis of wishes and needs, objectives can be formulated, alternative planning proposals thought out and decisions about the preferred direction be taken.

In conclusion one can say that over the years more emphasis has been put upon the actual behaviour of individuals and groups in order to explain the use of land.

Of what significance are these theoretical considerations for the study of the effects of the land use policy adopted in Port Sudan? This town was planned according to British planning principles valid in the first half of this century. It may be presumed in this planning model that the wishes and needs of those who had the political power to determine objectives will have had most weight. One may assume that an indirect attempt was also made to create a barrier between the European and the Sudanese population, which is especially noticeable in the dwelling locations of these groups. After obtaining independence in 1956 it was conceivable that the Sudanese towndweller would put forward new needs and wishes, which would then be translated into objectives. It is, however, remarkable that the master plan drawn up for Port Sudan in 1959 was based on a segregation of the inhabitants according to income (1). This meant a confirmation, not a change of the former policy, as the planning of the residential areas would be based on the differences in income of the households.

In this master plan an important objective for the planning of the residential areas was:
"The classification of land within the residential area should follow the distribution of families according to their annual income" (2).

In the period 1960-80 this objective was consistently applied by the local authorities in the planning or re-planning of residential areas in Port Sudan. The resulting land use probably meets the wishes and needs of a part of the population. This part will be satisfied with the acquired space and the possibilities to make use of important public services such as the supply of drinking water, schools, health centres and a bus-connection with the centre. Another part will have responded actively to the possibilities to fulfil more wishes and needs. The wishes may be especially related to the gaining of a better access to urban supplies whereas the needs will be directed more towards the acquiring of sufficient income for immediate needs such as nutrition, water, clothing and housing.

(1) A. Doxiadis - The Masterplan of Port Sudan (1959)
(2) A. Doxiadis - idem, p. 176
In a time span of 10 to 20 years the level of supplies may improve but it is also possible that this level is less and less in accordance with the wishes and needs of the inhabitants. Changes can also take place in the composition of the households in the residential area or in the dwelling blocks (1). Households can move to other parts of the town or to other regions. Other households, possibly with other characteristics as measured by income, level of education, profession, religion or region of origin can fill the available dwelling spaces as new owners or as tenants.

The human relations with the urban environment can be conceived as an ecological system. McLoughlin states that:

"the behaviour of individuals and groups is clearly competitive and is motivated by a constant scanning of the environment which from time to time results in action to modify either activities, spaces, communications, channels or some combination of these or their relationships" (2).

The character and intensity of the human relations in Port Sudan will have been influenced considerably by the criteria chosen for the use of land. Changes will continuously take place in these human relations: this will also be reflected in the participation in activities, the use of dwelling-space and the use made of transport facilities.

The activities of the households are also influenced by the measures taken by the authorities in the field of land use, the location policy as regards plots for businesses, schools etc. and the stimulation of employment in the industrial and service sector. In 20th century planning, extensive attention has been paid to the question whether authorities had to aim at the formation of neighbourhoods to build up the traditional village community in towns.

This was a plea in favour of reinforced social contacts with the surroundings and participation of townspeople in community life (3).

Beside the neighbourhood concept, the zoning of activities of the town has had great influence on the planning of urban space. This functional zoning meant that the urban area was divided up for workshops, residential areas, education, health care, recreation etc. and for traffic routes.

(1) a group of dwellings (10 to 20) delimited by streets
(2) McLoughlin (1969), p. 34
(3) David C. Thorne - The Quest for Community; Social aspects of residential growth - Oxford 1976, p. 137
When planning a new town the town-planner may try to express functional planning ideas and the neighbourhood concept. In the master plan for Port Sudan the urban space was planned in a functional way, but the neighbourhood concept was restricted to the reservation of dwelling space for various income classes in distinct areas. In every area households were to be accommodated that could be reckoned among a certain income class. So, as measured by income a homogeneous area would result from this.

A wider interpretation of the neighbourhood concept, namely an attempt to create a heterogeneous composition of the residential areas as measured by income, profession, ethnic composition and religious conviction, is not one of the objectives in Port Sudan.

In the planning-literature the heterogeneous and homogeneous build-up of residential areas has been considered from various points of view.

Advocates of a more heterogeneously composed population on area level point to the fact that a mixture of population groups will contribute to the realization of the following objectives (1):

a) proximity of lower- and middle-class-income households influences the socializing of the first category;

b) the differences in housing can stimulate the preservation and maintenance of buildings;

c) mixture of groups simplifies the transfer of cultural values from the higher- to the lower-class income-groups;

d) in heterogeneous residential areas there will be greater access to employment and urban services;

e) mixture of groups will promote the development of contacts between various segments of the population and stimulate integration. Social tensions can be lessened and social contacts stimulated;

f) mixture of groups will promote the development of local leadership; this will simplify the adjustment to the urban environment and enable the inhabitants to make use of the facilities of the town;

g) mixture of groups offers ample possibilities to the urban population to make use of the infrastructure and dwelling facilities. Measured by income, areas can be more easily supplied with an efficient transport system, roads, sewerage, water-supply, etc. A better spread of educational and medical services can be achieved as well.

So far, certainly in the case of African towns, support of these criteria in favour of a heterogeneous population can be called weak. However, the main issue in this debate is the question whether it is more desirable to plan a homogeneous build-up of residential areas measured by income (example Port Sudan) or whether a heterogeneous residential population is more

preferable. We can put various question-marks behind the possible advantages of heterogeneously composed residential areas previously mentioned. Is it true that mixing of groups advances the social-economic mobility of neglected groups in society? Does the expectation seem justified to expect that the poorest income groups will invest relatively more if they live among more affluent households? Does proximity of richer and poorer households effect a more harmonious build-up of society or is it a source of conflicts?

Are the more affluent prepared to pay the extra price for the build-up and maintenance of infrastructure and provisions in heterogeneous areas?

It must also be added that areas homogeneous as measured by income have several advantages. There will be less competition in realizing investments in housing, possibly at the cost of sufficient nutrition for all the members of the household than in heterogeneous areas.

In homogeneous areas the residents' contributions to the realization of communal facilities will be better adjusted to particular circumstances. It is also likely that social contacts and mutual assistance are better organized and give cause to fewer frictions.

So far, we have not found any definite answers to these questions in literature on African and Arabic towns. In the research in Port Sudan an attempt has been made to answer at least some of these questions to the best of our ability.

2.2 Phasing of the research

The research in Port Sudan will be carried out in two phases. The first phase, carried out in the autumn of 1982, concerned a first exploration of a number of residential districts in Port Sudan. During this exploration we have tried to get a better picture of the real characteristics of households in various residential areas. We have also tried to get an insight into what the reactions of these households (153 respondents) were to a few crucial alternatives concerning a possible future alteration in their living environment. There have also been discussions with 12 members of the town council concerning the level of provisions, the composition of the population and the location policy as regards shops and businesses.
In this report the results of this explorative survey are presented. Only a limited number of the issues mentioned in the previous paragraph will be discussed. The following research-problems are especially considered in the third chapter:

a) to what extent do we find a homogeneous character of the arbitrarily chosen blocks of dwellings in the various residential classes measured by level of spending?

b) to what extent do we find a homogeneous character of the blocks of dwellings measured by regional origin?

c) to what extent do we find differences between the blocks and dwellings in these residential classes as measured by level of spending, regional origin, housing, right of residence, frequency of moving, social contacts, location of work, and use of provisions?

d) what preferences do the "respondents" express about the character of a future dwelling block especially concerning level of spending and regional origin of the households? To what extent do these preferences differ from the present situation?

So, in the first place, these questions aim at providing a better knowledge and insight into the question whether the basic scheme of locational patterns i.e. the definition of the households in conformity to their level of spending has been realized. An attempt has also been made to find out whether the preferences advanced by the "respondents" differ considerably from the present living conditions.

On the basis of the results obtained we will be able to take these questions into further consideration during the second stage of the research, to be carried out in autumn of 1983 and we could try to obtain a more accurate review of the effects connected with the lay-out model used. We could also try to find out from the members of the town council and the authorized planning institutions within what margins an adjustment of the present planning policy in Port Sudan can be considered possible.
In this chapter we will try to answer the questions asked for this explorative survey to the best of our ability. The results obtained in the selected dwelling blocks cannot be considered representative for the residential areas, but presumably they do give an indication for factors that are important for the analysis of the effects of the actual planning policy.

In the first paragraph of this chapter the most important expectations of this research will be discussed; in the second paragraph the results will be presented. In the third paragraph an attempt will be made to give a summary and formulate a few hypotheses that could be tested during the second stage of the research.
3.1 Expectations of the analysis of the dwelling blocks

On the basis of the questions for this exploratory survey it was expected that:

1. In future the members of the dominating population group (the Bejas) would distinctly prefer a homogeneous character of the residential areas as measured by income and regional origin.

2. In future the members of minority groups would prefer a mixed or heterogeneous character of the residential areas as measured by income and regional origin.

3. In the near future activities in the field of trade and industry will be mainly concentrated in the third class areas. In the first and second class areas the population shows little interest in these activities whereas in the fourth class districts the demand for goods is too limited. We therefore expect that trade and industry have been established especially in the third class districts.

4. The lack of health- and educational provisions in the fourth class and in the "spontaneous" residential areas will result in important differences between these zones and the second and third class areas.

5. The providing of a lease-contract for a dwelling plot for one year for the inhabitants in the fourth class areas is no stimulation for investing in housing. We expected households with a comparable level of spending in the third class areas to have invested far more.

6. The perceived planning policy will be that the households in the various residential classes show distinct differences as measured by level of spending, housing, frequency of moving, social contacts, right of residence, location of work and use of provisions. That is to say that the objective aimed at to set up clearly distinguishable residential classes had been realized.

3.2 Results of the research

3.2.1 Preferences of the households

In discussions with respondents1 their opinion was asked on two crucial questions, which are directly connected with the spatial patterns of households in the near future. The first alternative referred to their preference for living together in a neighborhood with households that belong to the same category of income

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1 See enclosure - "Guideline for an interview in Port Sudan"
or with households that belong to different categories of income. It was the level of income (I, II, or III) of the head of the household that was chosen as criterion in this question.

The second alternative concerned the preference of households to live together with households that can be counted either among the same group of the population or among different groups of the population. In this case too it was the head of the household that was taken as point of reference. With both questions one should realize that the head of the household was nearly always a man.

These men differ from each other because of a different education, profession, area of origin and residence in town. When doing further research it seems important also to examine to which groups of the population the women belong to, what contacts they have through their network in the neighbourhood and the town and what preferences they have considering the alternatives they can choose from.

The results presented in this paragraph must be interpreted with some reservations, because it is not certain at all if the opinion of the heads of the households on both alternatives, is shared by the other members of the households. Finding out how opinions in Sudanese households are divided in relation to the willingness to change locations and to choose a new environment to live in, requires a much more thorough research into the actual patterns of behaviour of the households and the ideas of all their adult members.

In table 3.1 a survey is given per dwelling block of the differentiation considering the level of spending of the households. This is also related to the preferences expressed for the future.

From this table it appears that:

- in the second class district Deim el Shaty half of the households can be reckoned among those with the highest level of spending III. It is remarkable that there is a distinct preference (93%) for living together, in the future too, in a dwelling block with households that can be reckoned among those with the same level of spending.

- in the third class areas the level of spending is lower than in Deim el Shaty. More than half of the households (55%) have level of spending II. In these dwelling blocks two thirds of the respondents appear to prefer living, in the future, in a dwelling block with households that can be reckoned among those with different levels of spending. When we consider the results per area we notice that in El Medina there are households with levels of spending I as well as II and that the residents have chosen almost unanimously for a heterogeneous composition of a dwelling block as measured by level of spending for the future.
As measured by level of spending, the dwelling block Hai el Thawra can be characterized as homogeneous, because two thirds of the population belong to category II. More or less to an equal extent, however, the residents choose for a homogeneous or heterogeneous dwelling block as measured by income (7:7).

- in the fourth class areas more than half of the households belong to the category with level of spending I and 40% to the category with level of spending II. The vast majority of these households think that living together with households that have a level of spending comparable to their own is preferable. This preference is expressed in all dwelling blocks.

- in comparison to the fourth class areas it can be observed that 63% of the respondents in the spontaneous areas can be reckoned among those with level of spending II. This suggests that not only the poorest households live in the 'spontaneous' districts of Port Sudan. A second surprise is that in the future 55% of these respondents prefer a heterogeneous dwelling area as measured by level of spending. This choice is especially important in Dar Es Salaam because at the moment the planning department is working on a re-allotment plan for this zone.

- the cautious conclusion can be that the level of spending of the households does go down from the second to the fourth class but that after that a gradual upward trend can be noticed in the "spontaneous" areas. Furthermore the vast majority in residential classes 2 and 4 appear to prefer a residential area with households having a comparable level of income for the future, whereas in residential class 3 and in the spontaneous zones a heterogeneous character as measured by level of spending is preferred.
It is less easy to explain these varying preferences. First we will attempt to find out what other characteristics the households show and with what arguments the respondents supported their preferences. In table 3.2 the connection is shown between the preference expressed, the duration of residence in Port Sudan and the present residential status (owner or tenant).

| Table 3.2 Preference for dwelling block related to the duration of residence in Port Sudan |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Class           | Area            | Duration of residence from 1971 before 1971 | Number of respondents | Residential status | Number of respondents |
| 2               | Dein El Haty    | A B C A B C                                     | A B C A B C           | owner           | owner           |
| 3               | El Nadaa        | 3 5 17 2 26                                      | 12 3 30 24            | owner           | owner           |
| 4               | Taradimos       | 3 1 10 16                                       | 30 5 9 8 8 8          | owner           | owner           |
| 5               | Hai El Thawer   | 3 2 6 5 3 15                                    | 4 7 2 5 1 15          | owner           | owner           |
| subtotal        |                | 4 6 16 38 3                                     | 69 9 23 1 11 23 2 69  | owner           | owner           |
| 6               | Salahab         | 3 1 3 2 9 1                                     | 15 3 1 1 9 1 15       | owner           | owner           |
| 7               | Fores           | 2 1 4 6                                        | 2 3 1 6              | tenants         | tenants         |
| 8               | El Tarshe       | 5 2 1 22 2                                     | 30 7 2 1 16 2 30      | tenants         | tenants         |
| subtotal        |                | 5 2 1 22 2                                     | 30 7 2 1 16 2 30      | tenants         | tenants         |
| 9               | Dar es Salam    | 7 3 6 9 5                                     | 30 5 14 7 2 28        | tenants         | tenants         |
| 10              | El Plata/Gerden | 1 3 6 10                                       | 10 3 6 1              | tenants         | tenants         |
| subtotal        |                | 1 7 1 9 15 3                                    | 60 8 20 7 1 2 36      | tenants         | tenants         |
| total           |                | 12 17 2                                        | 153 26 45 9 39 28 2 151 | tenants         | tenants         |

| A = Prevalent level of spending |
| B = Different level of spending |
| C = No preference or no owner |

It is conceivable that a longer residence in Port Sudan will influence the respondents in their choice concerning the most desired form of living in future. Supposedly the residents have been better able to experience the differences in the field of provisions. When having a closer look at table 3.2 it becomes clear that the vast majority of respondents (81%) appear to have come to live in Port Sudan before 1971. The respondents that have lived in Port Sudan since 1971 choose for a heterogeneous character of the future dwelling block measured by level of spending more often than do the respondents that already lived there before 1971.

When paying attention to the residential status of the households it appears that the proportion of owners and tenants are different in each class. In the list printed below this is summarized per residential class and expressed in percentages:

<table>
<thead>
<tr>
<th>Dwelling class</th>
<th>owners (%)</th>
<th>tenants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>29</td>
<td>71</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>spontaneous</td>
<td>92</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>54%</td>
<td>46%</td>
</tr>
</tbody>
</table>
In the dwelling block in classes 2 and 4 there is a vast majority of tenants; in class 3 the situation is nearly the same, whereas in the spontaneous zones there is a distinct majority of owners. Of the owners in all residential classes 55% prefer a heterogeneous character of the dwelling block as measured by level of spending in future. Of the tenants 57% choose for a homogeneous character measured by level of spending.

To a large extent the arguments the respondents give for their choice appear to be the same in the various dwelling blocks. If they choose for a homogeneous character of the dwelling block as measured by level of spending, their arguments boil down to the fact that they prefer to live together with households that have at their disposal comparable means, because this causes fewer tensions and jealousy and enables more forms of cooperation (33 times). If they choose for a heterogeneous character of the dwelling block as measured by level of spending, they do so because they suppose one can sooner rely on the help of rich people when those people are their neighbours.

In table 3.3 we present the preferences in relation to the most favourite mixture of the groups of the population in the dwelling block in future. The number of representatives of the different groups of the population in the dwelling blocks can be called fairly large. Only in Salaalab, El Warsha and El Flata Gardens there are only two different groups of the population. In Taradonna, Dar es Salaam and El Medina 9 or more population groups were represented in the dwelling blocks analyzed. The dwelling blocks in Deim el Shatvy, Hai el Thawra and Korea occupy an intermediate position with residents representing 5 to 7 different groups of the population, but if one also takes into account the limited number of respondents, these dwelling blocks also show a very mixed composition.

We would characterize the first group as homogeneous concerning the number of groups of the population represented there, whereas the other dwelling blocks in the remaining 6 districts can be considered heterogeneous. In the second, third and fourth class areas approximately half of the respondents come from the north. This is even more the case with the "spontaneous" zone El Flata/Gardens but it appears that in Dar es Salaam there is only one representative resident from the north. Of the 28 respondents in Dar es Salaam 10 come from Nigeria and the western and eastern parts of the country are represented by 7 respondents. In this area, a vast majority (71%) choose for a heterogeneous character of the dwelling block considering mixture of
population groups in future. Only in the fourth class area the majority of the respondents in Salalab and El Warsha prefer neighbours that belong to their own population group. This choice clearly corresponds with the current homogeneous character of these dwelling blocks. It would be premature to conclude that people in fourth class areas have a greater preference for living together with households reckoned among their own group of the population in future also. It is possible that the choice only reflects the current situation. Moreover, the instructions of the local authorities for fourth class areas indicate that candidates can state their preference for the sort of neighbour they prefer to have (1). It cannot be determined, however, to what degree this instruction has actually been applied.

The respondents have been asked to give arguments for their choice in relation to the mixture of groups of the population. The most important arguments in the case of a homogeneous character were:

- comparable traditions and customs offer better chances of good contacts (12 times)
- better possibilities for mutual help (5 times).

In the case of a choice for a heterogeneous character in the most desired dwelling block in future the following arguments were put forward:

- a heterogeneously composed dwelling block creates more understanding for cultural differences between the groups of the population in the Sudan (18 times)
- people belonging to the same group of the population quarrel more frequently (7 times)
- it does not matter to which group of the population people belong to as long as they are good people (7 times)

It must be added that various respondents did make a choice but did not give a clear argument. The arguments presented are not related to a specific residential class but are given by respondents from all the blocks.

Table 3.3 Present composition considering population groups in the dwelling blocks and preferences for the future

<table>
<thead>
<tr>
<th>Class</th>
<th>Area</th>
<th>Number of various groups of the population</th>
<th>H.F.</th>
<th>north</th>
<th>east</th>
<th>west</th>
<th>south</th>
<th>From abroad known</th>
<th>Preference for future composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Deim el Shaty</td>
<td>14</td>
<td>7</td>
<td>4</td>
<td>9</td>
<td>5</td>
<td></td>
<td>1</td>
<td>13 0</td>
</tr>
<tr>
<td>3</td>
<td>El Medina</td>
<td>25</td>
<td>9</td>
<td>4</td>
<td>11</td>
<td>6</td>
<td></td>
<td>5</td>
<td>1 21 2</td>
</tr>
<tr>
<td>3</td>
<td>Taradonna</td>
<td>30</td>
<td>11</td>
<td>5</td>
<td>12</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>10 20 0</td>
</tr>
<tr>
<td>3</td>
<td>Hai El Thawra</td>
<td>15</td>
<td>6</td>
<td>4</td>
<td>13</td>
<td>2</td>
<td></td>
<td></td>
<td>1 14 0</td>
</tr>
<tr>
<td>subtotal</td>
<td></td>
<td>70</td>
<td>36</td>
<td>15</td>
<td>10</td>
<td>9</td>
<td>12</td>
<td>55</td>
<td>3</td>
</tr>
</tbody>
</table>

| 4     | Salaib        | 15                                        | 2    | 14    |       | 15   |       |                  | 8 7 0                            |
| 4     | Korea         | 8                                         | 5    | 2     | 7    | 1    |       |                  | 0 7 1                            |
| 4     | El Warsha     | 9                                         | 2    | 3     | 7    | 1    |       | 1                | 6 3 0                            |
| subtotal |              | 32                                        | 14   | 17    |       |      | 1     | 14               | 17 1                            |

| 5     | Dar es Salaam | 28                                        | 10   | 10    | 1    | 7    | 7     | 2                | 10 1 6 19 3                      |
| 5     | El Flata/Gardens | 10                                      | 2    | 6     | 9    |       |       |                  | 1 5 5 0                          |
| subtotal |              | 38                                        | 10   | 7     | 7    | 2    | 10    | 2                | 11 24 3                         |

| total |              | 154                                       | 69   | 44    | 17   | 2    | 19    | 3                | 38 109 7                        |

| subtotal |              | 100                                       | 45   | 29    | 11   | 1    | 12    | 2                | 25 71 4                         |

H.F. = Highest frequency of respondents belonging to the same population group
D = Personal population group
E = Different population groups
F = No preference or no answer
3.2.2 Effects of the locational patterns

On the basis of the planned urban areas in Port Sudan the distinguished residential classes could be expected to show a homogeneous character of the population as measured by income. During the research of Hegazi in 1973 this connection between residential class and category of income was clearly determined. Doubling of the urban population, establishing of new activities and limited extension of the planned area motivated an investigation into the question if in the period 1973-82 the homogeneous character of these districts concerning level of income had been affected and if so, to find out the causes and the effects. There is no evidence that during the distribution of dwelling plots (after the neighbourhood plan had been approved) the plots were distributed among households that had the same level of spending. A reference was made, however, to the research of Hegazi, made in 1973, in which the connection between level of income and residential class was determined. The limited number of investigated dwelling blocks in 1982 is insufficient to reject the likely connection between level of income and residential class. One can put forward the hypothesis, however, that this connection has lost significance in the course of years.

The presumable causes of this process are:

a. as too few plots are available in the first and second class areas households with a relatively high level of spending (more than £ 400,-- per month) will try to buy residential plots especially in the third class areas because it is there that the most important basic provisions (drinking water, electricity and a metalled mainroad) are present. Especially the oldest third class areas such as El Medina and Taradonna enjoy a certain preference because of their favourable location close to the centre of town. The plots are bought at the current market value.

b. obtaining residential plots is considered to be one of the most favourable investments. Also because of the strong decline in value of the Sudanese pound as regards international currency the purchase of residential plots, regardless of residential class, can be presumed as a good investment. The building of dwellings to be occupied by migrants looking for accommodation and for townspeople with insufficient financial means at their disposal to build their own living space, can be considered more profitable.

c. households rising on the social ladder will often keep on living in their area because they have built up strong social ties here. The opposite seems also true, because households that get less income in the course of years see no reason for changing their residence in town.
d, as soon as mixing of income groups in dwelling areas has taken place to some extent it is conceivable that this has become a self-sustaining process. Especially in El Medina it appears that various well-to-do merchants and civil servants have built villas and apartments. This will probably have a stimulating effect on other wealthier households that are looking for a residential plot, but don't have the opportunity of obtaining one in the second or first class area.

On these grounds it can be expected that more mixing of households with different levels of spending has taken place. Richer households will have bought residential plots that in their opinion offer sufficient comfort. Tenants will also have looked for a suitable living space, where residential class is less important. A shorter distance between place of residence and work, sufficient provisions and a rent adjusted to their level of spending appeared to be important arguments in choosing the present plots.

Below the existing differences and similarities between the residential classes in Port Sudan will be further considered. This concerns the differences in relation to dwelling space, the characteristics of owners and tenants as to living in town, the dependence on the centre of all the respondents and the investments they have carried out or have planned. In this way an attempt is made to get a better insight into the residential environment, security of tenure, the access to provisions and the means available for investments in the various residential classes.
3.2.2.1 Differentiation considering livingrooms and drinking water supply

Table 3.4 shows to what extent the residential blocks we have investigated show similarities and differences in relation to the number of livingrooms per household and the availability of drinking water on the residential plot.

Table 3.4 Similarities and differences considering livingrooms and private watertap on the residential plot

<table>
<thead>
<tr>
<th>Class</th>
<th>Area</th>
<th>Livingrooms</th>
<th>Private watertap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>≤ 2</td>
<td>≥ 3</td>
</tr>
<tr>
<td>2</td>
<td>Deim el Shaty</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>El Medina</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Taradonna</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>3</td>
<td>Hai el Thawra</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>21</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>Salalab</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Korea</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>El Warsha</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Dar es Salaam</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>El Flata/Gardens</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>87</td>
<td>67</td>
</tr>
</tbody>
</table>

From these results it appears that 68% of the respondents in the second and third residential class have 3 or more livingrooms at their disposal, whereas in the fourth class and in the "spontaneous" areas 86% have 2 or less than 2 rooms at their disposal. It is remarkable that in Taradonna virtually everyone can have the disposal of 3 rooms, whereas in El Medina the majority must be satisfied with 2 or less than 2 rooms. From the registered information it further appears that in all residential classes, also in the fourth class and even in El Flata/Gardens, people can have the disposal of a private watertap on the residential plot. Only in Dar es Salaam this provision is in a poor state.
3.2.2.2 Residential stability and social contacts of owners and tenants

With residential stability we understand the number of years the respondents have lived in the present residential block. Per dwelling block it has been examined how long the residents have lived in the district, how often they had moved within Port Sudan, when they had moved for the last time and what were the reasons for this moving. It has also been examined how regularly owners and tenants pay visits to members of their family or friends in their own area or in other parts of the town. In table 3.5 the results per residential class have been stated.

Sometimes no statement could be obtained about the duration of the residence in the dwelling block or the number of moves. Most of the time only one argument, which was considered important, was given, in some cases more arguments were registered. Considering the contacts in- or outside the area the residents were always asked to state the 2 most important visits paid in Port Sudan during the past month. Often only one visit was registered.

When considering this table one has to take into account the fact that the respondents in the areas have different income levels, that these areas either have or have not been planned, that they were planned in different years and that the households have settled in Port Sudan in different periods of time.

### Table 3.5 Duration of the establishment, frequency of moving and social contacts for owners and tenants per residential class

<table>
<thead>
<tr>
<th>Residential area</th>
<th>Frequency of moving in Port Sudan</th>
<th>Arguments for last move in Port Sudan</th>
<th>Frequency of visits in the last month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per residential class</td>
<td>Property per number of years</td>
<td>Property per number of years</td>
<td>Property per number of years</td>
</tr>
<tr>
<td>Settlement in area</td>
<td>E</td>
<td>H</td>
<td>E</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
</tbody>
</table>

*E* = Owners  
*H* = Tenants  
*NP* = Nonpermanent area

1 This information has been grouped per residential class, because, by the splitting up of owners and tenants, the number of cases per category would become too small if the information would be given per residential area. We especially intend to show the differences and similarities between the residential classes in this analysis too.
It is evident from table 3.5 that the tenants tend to be unwilling to leave their homes. Of 66 tenants 48 (73%) appear to have lived in the present residential area for seven years or more. The reason for this relatively long time can only be guessed at.

The frequency of moves in Port Sudan appears to be almost the same for owners and tenants. It is also remarkable that the arguments given by owners and tenants for their last move are pretty much the same in that they both state easy access to work and provisions. If one does not consider the spontaneous areas then there is hardly a difference to be distinguished considering the frequency in relation to the arguments connected with property and quality of accommodation.

Although the information must be interpreted with some caution one could deduce from table 3.5 that tenants are more interested in social contacts outside the area than owners are. On the basis of this limited material, however, it may be stated that the actual behaviour of owners and tenants in relation to settlements, moving and social contacts does not show any remarkable differences in the various residential classes. The expectation seems to be justified that owners and tenants try to make use of the available housing comfort and provisions in the various residential classes in a comparable way. The supposition that owners are more strongly attached to their residential area as they own the plot and the house could not be proved in this research. Various questions remain such as:

- Does this system of residential classes limit the mobility of owners and tenants?
- Is it difficult for both owners and tenants to change residential class because the threshold (value of real estate or rent of dwelling space) to another residential class is too high?
- To what degree are the households in the various residential classes dependent on the centre for employment, shops or medical provisions?
- Does this system of residential classes limit or promote the settlement of shops and small workshops in the area?

At this stage of the research only a brief answer can be given to these questions. In what way the mobility of owners and tenants took place in the past and where the tenants would like to settle in future is stated in table 3.6. It appears that the present owners of the dwelling plots moved to a lower residential class more often than to a higher one. One has to point out, however,
that 14 owners have settled in a spontaneous district. One may presume that this particularly concerns households that formerly rented dwelling space in a planned area but preferred to buy a residential plot of their own in a spontaneous area.

In the second class one does not observe the move to a lower residential class; in 8 cases there is a promotion to a higher. In the third and fourth classes the opposite can be observed: more people have moved to a lower class than to a higher class. One must realize, however, that of the total number of respondents (154) the total number of changes of residential class in an upward or downward line during their residence in Port Sudan is limited. Only 19 times did a promotion take place to a higher residential class and in 37 cases a move to a lower class could be noted. With regard to the future it appears that of the 73 respondents (tenants) only 17 consider moving to another location, 9 respondents prefer a higher residential class, whereas 3 state a preference for a lower residential class. From the actual registration of the last move it was established that 12 tenants have settled in a higher residential class and 15 have settled in a lower residential class.

Table 3.6 Mobility of owners and tenants

<table>
<thead>
<tr>
<th>Per residential class</th>
<th>Past</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>21</td>
</tr>
</tbody>
</table>

X = Higher residential class after move  
Y = The same residential class after move  
Z = Lower residential class after move  

E = Owners  
H = Tenants
3.2.2.3 Dependence on the centre

Table 3.7 Dependence on the centre per residential class

<table>
<thead>
<tr>
<th>Dwelling class</th>
<th>Location of work</th>
<th>Purchases on central market</th>
<th>Medical provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>W</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>56</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>SP</td>
<td>23</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>36</td>
<td>29</td>
</tr>
</tbody>
</table>

C = Centre
W = Residential area
O = Partly centre, partly residential area
E = Remaining areas
SP = Spontaneous areas

In table 3.7 the dependence on the centre is presented per residential class. In the second and third class a strong dependence on the centre appears, for employment, shopping in the central market and medical provisions. The relatively higher level of spending enables the inhabitants to choose from a more varied supply of food and to consult specialists in the centre. In the fourth class and in the spontaneous areas this dependence on the centre is more limited. More heads of households work elsewhere or in their own area, people buy relatively more food in their own areas and also make use of the health centre in their own areas.

The picture given here actually contradicts the expectations. The lower residential classes appear to avail themselves to a relatively greater extent of the provisions in their own area than is the case with the higher classes.

3.2.2.4 Carried out and planned investments

In great numbers, the 151 respondents declared that they had made few or no investments, neither in their own houses nor in other dwelling spaces, businesses or shops. Only 32 households appeared to have made improvements on their houses during the last 3 years. Here it was remarkable of the 24 respondents in the dwelling blocks in El Medina 13 stated that they had made investments. In the spontaneous zones Dar es Salaam and El Flata/Gardens also 10 of the 38 respondents stated they had made improvements on their houses. The other investors are divided over the remaining dwelling blocks. This very limited information confirms the supposition
that relatively many households in El Medina make improvements on their dwelling spaces. One must add that only 2 respondents stated that they had invested more than £ 1500, in their houses in the last years.

In relation to the statement for investments in businesses or shops the result is nil, i.e. none of the respondents has stated to have made any investment in the last 3 years. One may doubt the reliability of this information. However, it would also be premature to reject the information obtained, if we regard the number of current building activities in the area and in the dwelling plots. On the basis of personal observations it can be agreed for the moment that people don't invest large sums in the improvement of their own houses or the realization of business- and shop-accommodations.

Small investments in houses could possibly be attributed to strict building regulations which the town council imposes on improvements on houses in the various residential classes. The very limited investments in small companies or shops are possibly connected with the fact that many people can be employed in the docks or in the commercial sector in the centre. Besides there is probably also a connection with the regulations of the town council with relatively high standards concerning operating safety, sanitary provisions for small shops, state of health of the shopkeeper etc.

When asked about plans for investments in the near future (coming 3 years) 72 respondents (48%) stated that they intended to make improvements on their houses or possibly build a workshop or shop.

In the second class dwelling block the willingness to invest is high (79%), in the third class it is 36% for all the dwelling blocks, but in El Medina it is higher (46%). This willingness is also higher in fourth class dwelling blocks (47%), where Salalab shows the highest figure. In the spontaneous areas there is also a distinct willingness to invest (58%), in connection with which the comment must be made that this would probably increase if greater certainty of accommodation were offered.

If one compares the actual statement of investments (28 of 151 respondents or 19%) with the planned investments in future (48%) then it is not altogether clear wether the inquirer has often been misled. Presumably the truth lies midway: on the one hand more respondents will have made investments but do not intend to inform
an inquirer, on the other hand for various reasons not all the investments planned at present will be carried out.

3.3 Summary and indications

In this paragraph we intend to return to the questions and expectations of this research. We will make an attempt to point out what can be concluded from the material obtained.

In colonial times as well as after the declaration of independence of Sudan the planning policy in Port Sudan was dependent on a division of the urban population on the basis of the level of spending of the households. The central objective in the structure master plan set up in 1959 was aimed at the division of the town into four clearly distinguishable residential classes. Each residential class would get its own level, i.e. the quality of infrastructure and provisions was determined per residential class. Conditions were also made per residential class for the building of living space. The contents of the building regulations for the first and second residential classes meant in fact that only households with a relatively high level of spending could be considered capable of settling in these areas. Concerning third class areas less lower demands were made and in the fourth class the inhabitants could build a living space with semi-permanent building materials.

So, the lay-out of the planning policy was aimed at localizing the households in Port Sudan in residential classes in accordance with their level of spending. In this explorative research we have made a first attempt to discover some effects of this planning policy. The ultimate objective of this research in Port Sudan aims to present well-founded proposals and recommendations for a possible adjustment of the urban planning of the town.

The first expectation of the research was that the dominating group of the population (Beja) would express for the future also a distinct preference for living together with households with a comparable level of spending and originating from the same area of the country. From the results obtained it appears, however, that 45% of the respondents belong to groups of the population coming from the
northern part of Sudan and that 29% originate from the eastern part. Presumably the Bejas are no longer the dominant group of the population in the town. From all the respondents 71% choose for a heterogeneous composition of the population as measured by regional origin of the population. So one could conclude that an integration of different population groups measured by regional origin does not meet with great objections.

As regards the level of spending of the households the respondents were rather divided in opinion; for the future 47% preferred a heterogeneous dwelling block, 44% choose a homogeneous dwelling block and 9% did not have any preference or did not express it.

The second expectation referred to the respondents belonging to the minority groups. These were supposed to express a distinct preference for a heterogeneous character of the residential areas as measured by level of spending and regional origin.

The number of respondents is in fact too small to give an indication of this, however. We can only state that this expectation is confirmed in the heterogeneously composed dwelling blocks as measured by residential groups (Taradonna and Dar es Salaam).

A concentration of activities in the fields of trade and industry was especially expected in the third class areas. In the first and second classes people would hardly be interested in this whereas in the fourth class area the demand for goods would be too small.

On the basis of information obtained from representatives of the Town Council and personal observation in various parts of the town it seems that this expectation may be fulfilled, i.e. that the third class residential areas near the centre of town may be considered suitable for the establishment of businesses, shops etc.

During the interviews it also appeared that the respondents had not made any investments in the last three years. A more thorough research will be necessary to test the original expectation in a significant way.
The fourth expectation concerned provisions in the field of medical care and education. We expected important differences in connection with access to these provisions in the fourth class and 'spontaneous' areas and in the second and third class areas.

As, according to the representatives, the distribution of primary schools over the town caused no problems, the research was mainly concentrated on the dependence on the centre of the town per residential class. It appeared that the respondents in the second and third classes were dependent more on the centre for shops and medical provisions. In the fourth class and "spontaneous" areas relatively more people make use of the provisions available. The financial means of households in this fourth class and "spontaneous" areas seems too small to make use of the medical care in the hospitals. For the buying of goods in the central market the distance factor will often be decisive.

It was also expected that the inhabitants of the fourth residential class would be at a serious disadvantage because of the fact that they have an official lease-contract for their dwelling plot for one year only. It was presumed that households with comparable levels of spending in the third class areas would invest far more.

From the results it appears that only few respondents stated that they had made investments. A considerable part of these investments was made in the third class area El Medina. On the basis of the material obtained this expectation can be neither affirmed nor rejected. It must also be observed that the lease-contract for one year does not form a real obstacle for building investments in a fourth class area. The local authorities have recently stated that building with permanent materials is permitted in the fourth class areas.

The authorities also aim at promoting the fourth class areas to become third class areas, partly with, partly without changes in the present lay-out of the planned area.

The sixth and last expectation was related to the consequences of the perceived planning policy for the households in the various residential classes. Are there really distinct differences as measured by level of spending, housing, frequency of moving, social contacts, right of residence, location of work and use of provisions?
The answer can be given for each aspect separately:

- Concerning the level of spending one can observe a distinct downward trend from the second to the fourth class but it is remarkable that the level of spending shows an upward trend from the fourth class to the "spontaneous" areas.

- As concerns housing one can indeed observe a decrease in the amount of space available from the (second + third) class to the (fourth + "spontaneous") class.

- As to frequency of moving; this frequency appears to be nearly the same for owners and tenants but the pattern of moving in the various classes does not show any important differences.

- As to social contacts; from the information available at present no significant differences between the residential classes can be deduced. There is the impression that tenants have more social contacts with households outside their residential area than owners.

- As to right of residence; in the second and fourth classes more respondents appeared to belong to the category of tenants whereas in the third class and especially in the "spontaneous" areas there was a majority of owners. It is less easy to explain this, except for the "spontaneous" areas in which tenants are little interested. In a "spontaneous" area it is easier to buy a plot so that renting one is not strictly necessary.

- As to location of work; the respondents in the (second + third) classes appeared to be relatively more dependent on the centre of the town for their day-to-day activities than were the respondents in the fourth class.

- As to use of provisions; in the second class everyone is dependent on the centre of the town for medical care, in the third and fourth class this is also the case for the vast majority but more respondents appear to make use of the medical provisions available in the area whereas in the "spontaneous" areas they especially use the provisions which happen to be present in the area.

As regards the supply for personal nutrition it can be stated that people in the second and third classes make more use of the central market and the shops than in the fourth class and "spontaneous" areas.
If the "spontaneous" areas are left out of consideration because they are not part of the perceived planning policy then it can be affirmed for the time being that there are distinct differences as to level of spending and housing in the planned residential classes.

As the distance to the centre of the town in the fourth residential classes involved in this research is great and the security of tenure is limited to a year it could be expected that the frequency of moving in the fourth class is larger than in the second and third classes. No important differences appear to exist, however, among the respondents in the various residential classes with regard to the frequency of moving.

Concerning the remaining aspects we get a rather varied picture; it seems premature to draw conclusions from this.

Amsterdam, June 1983

Coen Beeker
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