

United Nations Centre for Human Settlements (Habitat)**Settlement Upgrading Programme (SUP)****FIELD TESTING OF ViSP IN THE KWA-RHODA SETTLEMENT
NAKURU, KENYA****Socio-economic and infrastructure survey
Report on Phase 1**

by

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IRC - International Water and Sanitation Centre****1. INTRODUCTION****1.1. Background**

During the period 1990 - 2030, the global population will grow by about 3.7 billion. Ninety percent of this increase will be in developing countries, where ninety percent of population growth will take place in urban areas. In these urban areas, already at present a large part of the population lives in informal settlements, which are usually illegal and therefore largely excluded from basic urban infrastructure and services.

Many governments now accept the fact that these areas provide shelter to an urban population which they cannot reach with formal housing alternatives, and that legalizing and upgrading these areas offers the best solution to improve living conditions of such a large part of the population. One of the constraints faced by governments in initiating this process is the lack of the information that is at the very basis of legalization and improvement: cadastral surveys and reliable information on actual patterns of land use, property and occupation. Traditional methods of surveying are costly and time-consuming, and are therefore inadequate for these settlements. Therefore, over the past few years, UNCHS (Habitat) has been developing a new methodology to be used in the preparation of settlement improvement projects for low-income and informal settlements, resulting in a new approach called Visual Settlement Planning (ViSP).

1.2. ViSP technology

ViSP technology is a computerized approach based on systems integration, using off-the-shelf hardware and software, based on aerial photography, satellite images, or video images obtained from an airplane flying at low altitude. Slides, prints or negatives are scanned into the computer and instantaneous current images of the area are generated.

From these, maps can be made, overlaying the photo-mosaic, and thematic maps highlighting specific features can be obtained. The computer can also enable users to visualize the impact of alternative solutions, such as different possible locations of roads or new locations to establish public facilities. Since the maps are based on aerial photography and later finalized through ground surveys, the application is well-suited for project areas characterized by high densities, irregular lay-out and lack of basic data such as low-income and informal settlements.

1.3. Objective of the project

The immediate objective of the current project is to field test the ViSP technology as part of the first phase of the UNCHS Settlement Upgrading Programme, which envisages the testing and development of approaches and tools to address the information management needs of the informal settlement upgrading process. This not only entails the field testing of the technical approach, but also the testing of the maps as a tool for community participation in planning and improvement.

In this report an overview is given of the present conditions in the Kwa Rhoda area of Nakuru (Kenya), which was selected for the field test. In addition, experiences in upgrading of low-income urban areas are discussed in as far as they are relevant for the field testing of ViSP and the upgrading of Kwa Rhoda. This review is based on recent literature on issues concerning low-income housing and on discussions held on methodologies currently being applied in similar cases by other UNCHS (Habitat) programmes and other programmes concerned with improvement of low-income urban areas.

2. KWA RHODA, NAKURU

2.1. General description of the area

The total area of municipal Kwa Rhoda is 3.2 square kilometres and the population is estimated at around 20,000 people. The land slopes gently towards the south, where a river divides the part of Kwa Rhoda which falls under Nakuru Municipality and the part which falls under provincial authority. There is a power line which divides the municipal part of Kwa Rhoda in two. The area north of the power line (about 60 ha) is developed to a large extent, but is as yet not very congested, especially towards the north-east. South of the power line is a more or less rural area. Many fields are cultivated with maize and the compounds are very large, with few structures. Densities are very much lower than in the northern part.

2.2. Infrastructure provision

The roads are fairly wide and all compounds seem to be easily accessible. Under the power line is a wide road and no structures. However, none of the roads is surfaced, resulting in many potholes and virtual inaccessibility during the rainy season. As there is

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no sewerage and no drains, waste water and rainwater flow in the roads, creating natural drains, which often results in deep ditches due to erosion. Electricity supply is available to those who want a connection. There are two large open-air markets just south of the power line where vegetables, clothes and other sundries are sold. Market stands are erected with wooden poles. Around one of the markets is a commercial area with shops and workshops. There is one public primary school, a number of small churches, and no public health facilities.

There is no solid waste collection, but the roads are fairly clean, as most solid waste is kept within the compounds. In some places, deep pits have been dug along the road for the dumping of solid waste. Traditional latrines are provided in most compounds for the disposal of human excreta. The number of latrines per compound/number of rooms differs considerably, as do the conditions of the latrines. Some have cemented floor slabs, others have slabs made of wood and mud.

There are no public water points and most compounds have their own yard tap. These connections are made on an individual basis, resulting in a myriad of small pipes under ground. As the area is considered illegal, the water department has no main directly leading through the area, to which connections can be made. The individual connections are made to the nearest main or the main with the most regular supply, which explains the fact that some connections have more and more regular water supply than others. Due to a general water shortage in Nakuru, there is no water supply to the area during three days a week, as the supply is diverted for industrial use. Yet, there do not seem to be many compounds with water tanks to provide water during the non-supply days.

2.3. Housing

All compounds consist of rows of rooms which are rented out to tenants. The structures are mostly made of mud and wattle (plastered or unplastered) and have corrugated iron roofs. In some compounds the structures are made of brick (or stone) and mortar. The size of the compounds varies and the same applies to the number and size of the rooms, ranging from 5 to over 200 rooms in one compound. The rents vary between 240 and 700 Kenya Shillings (roughly 5 to 14 US Dollars) and in many compounds there are empty rooms. The turnover of tenants seems to be considerable. It is not clear what exactly determines the level of the rents, but of major influence are location, building materials of the rooms and electricity supply. Location is important in terms of access to public transport, which is only available on the main roads bordering the settlement, and in terms of security. The area south of the power line is considered less safe, as there is no street lighting, and robbers find plenty of hiding places in the maize fields. Of less importance seems to be the regularity of water supply, the number of latrines and the general cleanliness of the compound. There is a greater demand for cheap rooms than for better, more expensive rooms. The hygiene in the compounds is totally dependent on the attitude of the landlord; some compounds are very clean and some are an environmental nightmare with solid waste dumped in an unprotected corner, pools of stagnant water, unkept latrines and even zero-grazing units and heaps of cowdung. Generally, the compounds where the landlord is resident are better maintained than the compounds of absentee landlords. The responsibility for environmental hygiene in the compounds is considered by all, tenants

and landlords, to be a responsibility of the landlords. In some cases, a sweeper is hired by the landlord to keep the compound and the latrines clean.

2.4. Land tenure system

The land is owned by a cooperative, which was established in 1969 under the name of Kalenjin Enterprises. This cooperative owns more than 5,000 acres in six different locations. There are at present more than 4,000 shareholders. Kwa Rhoda is the only land which falls within the municipal area. It was bought as a sisal plantation from a Mr. Rhoda in 1969.

In 1982, Kwa Rhoda became part of Nakuru municipality, which entailed that the land could no longer be used as farmland and was designated as urban land, while urban standards would apply to the construction of houses. At the same time, the land was divided in plots of one acre and half an acre, and the roadnetwork was planned as well as a 6 acre site for a school. No other provisions were made for public facilities. At present all plots have been allocated and therefore creative solutions have to be found for allocation of land for public facilities. Meanwhile, many of the original shareholders have sold their land and/or subdivided it. There is a system of registration with the allocation committee of the cooperative, based on the original numbers of the plots in 1982. If someone sells his plot completely, the name is changed in the registration book. If the plot is subdivided, one part keeps the original number and if needed the name of the owner is changed, while the other part gets a new plot number and the name of the new owner. At the time of registration of sale, the seller, the buyer, one person of the committee and a land surveyor go to the site and agree on the division of land. This is then marked on the map by the surveyor. The problem is that the map is not accurate and therefore will not provide a solution in case of dispute over plot allocation. Sometimes plots which are subdivided are not subdivided in the above way, but simply have more owners. Presently, there are 1,218 registered plots. In the course of the years, because shareholders want to have individual title deeds, surveys have been carried out on their instigation to form the basis of legalization procedures. However, none of these plans were sufficiently accurate for the landowners to agree upon.

Of the landlords, only an estimated 1/3 live in the area. The rest are absentee landlords. It is estimated that at least 80% of the residents are tenants; among the tenants, mobility is very high.

2.5. Community organization

The formal municipal organization in Kwa Rhoda is formed by the Chief (appointed) and the area Councillor (elected). The Chief has appointed a group of village elders who act as a liaison between the community and the Chief. These village elders are mostly resident land-owners and come from different areas in Kwa Rhoda. The task of the village elders is to resolve minor disputes, to inform the Chief of problems and to mobilize people to attend community meetings (barazas) and other local level activities. There are also church organizations, but their number and the extent of their activities is not known.

There is only one registered self-help group in municipal Kwa Rhoda. This is a women's water group. In the rural part of the Kwa Rhoda area (i.e. the part that falls under provincial rather than municipal jurisdiction and is not included in the ViSP-testing exercise) there are thirty registered self-help groups, which are quite active, for instance in water projects. These groups consist of (small) landowners who have title deeds to their land. Although there are many NGOs in the Nakuru area, none is active in Kwa Rhoda. Most of the NGOs only carry out activities in rural areas. Building up a community based activity needs a relatively stable community, which is not the case in the urban low-income areas due to the high mobility of the (mainly tenant) residents. This also explains the lack of self help groups in municipal Kwa Rhoda.

3. ISSUES IN UPGRADING LOW-INCOME URBAN AREAS

3.1. Urban management at the local level

The management of urban areas in Kenya is the responsibility of local authorities and the Ministry of Local Government. Nakuru Municipal Council is the responsible local authority in Nakuru, and is charged with the duty of providing a wide range of services including health, primary education, road construction and maintenance, water supply, sewerage, housing, drainage, markets, solid waste management and social services.

The scope and complexity of urban management functions at local government level demanded by the rapidly increasing population entails a multiplicity of agencies and institutions in both the public and private sectors. Legislation such as the Local Government Act, the Building Code, the Public Health Act, the Land Planning Act and the land Acquisition Act assist local governments in their functioning.

The Municipal Council has a legislative arm, the major function of which is policy formulation, and an executive arm dealing with the implementation of policies. The Council comprises elected councillors, each representing a Ward (electoral area) and councillors nominated by the Minister for Local Government. The Council operates on a committee-system basis. Each committee performs a specific function, such as housing, health or education, and consists of councillors and staff members of the Council. The executive arm of the Council is divided in a number of departments based on the nature of services provided, such as the Public Health Department and the Social Services Department.

Land administration (allocation, registration, leasing) and management (use and control) is undertaken by the Commissioner of Lands on behalf of the Government. The District Land Registrar performs the function of Commissioner of Lands at the local level in liaison with the Physical Planning Department and the Municipal Council.

3.2. Strategies for housing in urban areas

All Municipal Councils are a housing authority and have a primary duty in provision of new houses and rental housing. However, generally, Councils are not able to provide for

their annual housing requirements. In Kenya, more than 80% of urban dwellers live in rental housing and the country has been barely able to provide 10% of its annual housing requirements (this 10% refers to the housing produced by the formal sector). The informal sector accounted for between 40 and 82% of all housing in urban areas, of which a significant proportion is rental housing (Syagga and Malombe 1994).

Housing strategies adopted by the government to cope with the housing crisis have not been successful due to the following reasons:

- the housing units developed by the government were not affordable by the target group under consideration which led to problems of cost recovery and contributed to the non-replicability of the schemes in question.
- the inhospitable climate created by the various regulations and building codes (Syagga and Malombe 1994).

These building codes impose high costs on the builder and developer and ultimately the purchaser or tenant. This not only applies to housing built by the government, but effectively the codes prevent legalization of informal low-income areas because the standards are too high. Thus, there is a direct and reciprocal relationship between informal housing production and government regulations.

The Kenyan Government has established a Task Force to revise the building code and planning regulations applicable to low income housing. In the *Building By-laws and Planning Regulations Review* (Final Report, 1993), a strategy for disseminating and implementing the revised building code as it applies to low-cost housing is given. Apart from proposing changes in the by-laws and regulations, this strategy also gives examples for 'deemed to satisfy' solutions for low-income housing. Unfortunately, these by-laws and regulations have not as yet been gazetted.

In their report on *Reforming Urban Land Policies and Institutions in Developing Countries*, Farvacque and McAuslan (1992) propose the development of a framework for a system of land rights, providing a reasonable measure of security and a simple and efficient system of effecting land transactions, taking into account the traditional and informal systems of tenure. With regard to land-use regulations, the objective is to discard obstructing and costly regulations and promote regulations focusing on essential public health, public safety and environmental factors.

3.3. Land subdivision

In their report 'Development and management of informal housing in Kenya: case studies of Nakuru and Kisumu', Syagga and Malombe (1994) state that in the three areas of their survey in Nakuru, all land is privately owned and no squatting is identified. These settlements were initially farms bought by companies, like in the Kwa Rhoda area. More intensive subdivision has taken place and most settlements are densely developed and very little agriculture is practised. Land subdivision there has taken place since 1960, but became more intense in the 1980s when 65% of owners acquired their land. This trend

has slowed down in the 1990s. There is clearly a high demand for housing in these settlements, as an estimated 70 % of the population of Nakuru town live in these settlements.

Also in the case of Eldoret, one of the fastest-growing towns in Kenya, there is a large number of land-buying companies, self-help groups and individuals who subdivide land. In the past, these activities of subdividing and surveying have been done by unqualified people in a haphazard manner, many of them selling the plots without titles. Consequently, the proliferation of slums and informal settlements without due regard to basic services has been the order of the day. In addition, it has led to uneconomic plot sizes, to roads that are impassable in the rainy season, and to endless land disputes on boundaries and plot sizes (Agevi,1991). In some of the subdivisions, both qualified and unqualified land surveyors were used, and although the plots were beaconed, no titles have been issued by the Commissioner of Lands. The Physical Planning Department, however, has prepared an advisory plan to guide development in several areas. The advisory plan provides land for access roads, public purpose sites and shops. The land for these facilities has been surrendered free of charge to the Government. It is remarkable to note that where companies, societies or individuals had subdivided land without catering for public purpose land, landowners have subsequently cooperated in the provision of the same. Moreover, in Eldoret, the Municipal Council has devised a bottom-up physical planning approach in conjunction with the Physical Planning Department and the administration (Chief, District Officer, District Commissioner), through the creation of neighbourhood-based Area Development Committees (ADCs). The ADCs are established in those areas of the Municipal Council's districts where unauthorized development activities (subdivision, surveying, sale of plots, house construction) are taking place. Usually, an ADC is established in each ward, especially where the informal market is active. The concept is to encourage the plot owners to use the advisory plans as a guide to rationalize development and unit consolidation. The ADC members may include:

- a) a representative of plot owners, elected according to company or society rules;
- b) a representative of the area's community (elected or nominated);
- c) the chairman, secretary and treasurer to be elected from among representatives of plot owners and residents;
- d) Eldoret Municipal Council and Central Government officials;
- e) a representative of the administration (DO/Chief);
- f) area Councillor(s);
- g) a representative of the KANU;
- h) a representative of church or social and/or voluntary organizations.

Once the ADC is formed in an area, the Municipal Council insists on the opening of a bank account for which the Council is signatory. This is because of past mismanagement of funds by previous development committees. The Council has drafted terms of reference for the operational framework for ADCs. The basic proposal is that ADCs should operate within the Municipal Council's planning and development framework, and play a consultative and advisory role on planning and development matters affecting their particular areas. The functions of the ADCs include:

- a) soliciting funds for the neighbourhoods socio-economic development;

- b) coordinating all developments in the area with the Municipal Council and Physical Planning Department. All subdivision and building plans are to be submitted to the Council through ADCs. The latter will confirm the applicants' compliance with the area plan and the community aspirations;
- c) identifying, negotiating and acquiring/exchanging land for provision of required community purposes;
- d) advising landowners and developers on sound planning principles and suitable approaches to development;
- e) holding regular meetings to discuss projects and other welfare matters;
- f) maintenance of roads, lights, open spaces and providing advice on unit consolidation;
- g) overseeing provision of other services by appropriate technology;
- h) accelerating the issuance of titles to plots and advising on means of raising finance for improvement of shelter and related facilities.

Apart from the ADC, there is also the institution of village elders (Wazee wa Mitaa), who are community representatives living within a well defined area. The residents nominate three or four names and forward them to the local Chief, who in turn picks one or two suitable candidates. The village elders resolve minor disputes and also attend ADC meetings and often provide voluntary services. They also mobilize people to attend barazas and other local level events like national celebrations. This institution is similar to the one operating in the Kwa Rhoda area, the only difference being that here the elders are nominated rather than elected.

3.4. Landlords and tenants

Farvacque and McAuslan report that especially in Africa, the majority of residents in informal settlements and in many upgraded areas are tenants of private landlords. In other continents, where tenancy has not traditionally been the common way of housing provision in low-income urban areas, but rather owner occupancy, the tendency can be seen that owners start constructing extra rooms for rental purposes. Growing acceptance by governments, public investment by aid sources which has gone into these settlements and the increasing integration of these settlements within the formal systems of tenure have contributed to this trend. As settlements become more accepted, private capital invested in the settlements becomes more secure. As more private capital is invested, more people will develop an interest in the maintenance and upgrading of the settlements as opposed to demolition. Another important factor is the rate of return of private capital invested in low-income housing. Where there is great pressure for such housing, where too little land is made available for low income groups, rates of return are likely to be high as there is little alternative to the accommodation offered by the landlords. This input of private capital into low-income urban land development raises several issues. On the one hand such an input will increase the amount of accommodation available to low-income groups, so the management of urban land should facilitate the growth of a market in private rented accommodation. On the other hand, it could also lead to densification of the population in the rental market, by putting more people in the houses/plots and thus reducing the space made available to each individual who wants to rent.

This leads to the broader question of the extent to which the market for rented accommodation should be subject to some sort of regulation. Those opposed to any form of regulation argue that there is a need to attract private capital into low-income urban land development and to ensure economic viability of low-income housing schemes funded by public funds. Rented accommodation can meet both those needs and nothing should be done to hinder its development. Also, regulations don't work; they increase cost and bring no benefits to anyone. Exploitation will not be stopped by regulation but by increasing the supply of developable urban land and by expanding the facilities for obtaining title and credit. Does this mean that no form of regulation can be contemplated and that we must rely on the chancy results of market forces or political patronage to ensure fair play for tenants? Lee-Smith comments that it is in the interest of the ruling elite to continue to prevent easy access to land by the urban poor, because controlling access to land as a scarce resource provides a source of cash income and political support (Lee-Smith, 1989).

The appropriate solution given by Farvacque and Mc Auslan is to build on what exists and to develop local forms of regulation rather than try to impose institutions from the centre that are modeled on English, French or other institutions. Informal settlements have bodies that can help settle disputes, including landlord-tenant disputes; neighbourhood councils could play a role in setting rents. Thus, systems of regulating the landlord-tenant relationship should be geared to the type of landlord-tenant relations that exist; on the one hand, small tenancies may need no more than a local reference point, while large scale landlordism may need more formal centralized regulation. To a considerable degree the market may be able to provide adequate protection and tends to be much more sensitive to trade-offs of standards versus price than legislation.

A socio-economic survey in Mathare 4A (GITEC Consult, 1993) found that this location is preferred by persons who have their mainstay in the rural areas and whose major purpose is to earn extra money for the rural home and family. The main interest of this highly significant group (91% of whom are tenants) is to have cheap accommodation in order to maximize remittances to the rural home. It is recognized that this group is not very interested in investing in more permanent and better shelter, although their income may be adequate. However, they are interested in better conditions, if this does not affect their budgets. It is the 'family'-households who have roots in the area and who will be interested in making their stay more permanent who are most willing to contribute to improvements.

Syagga and Malombe found in their survey in Nakuru that the tenant population in informal settlements represents the majority of the residents. Most developers (owners) do not live in the areas but are motivated to develop this type of housing because of the high demand for cheap housing. The survey found that most of the tenants are young men, working in the formal sector (46%), self-employed (37%) or in the informal sector (16%). They have strong ties with the rural areas and only see the urban area as a place of employment. The average number of years the tenants have stayed in Nakuru is 5.8 years, which is lower than that of owners. This clearly shows that this type of housing provides accommodation mainly for people who have not settled in the town for a long time. The main reason for moving to these settlements was said to be cheap rent, the next major reason was to look for employment. The tenants also sent money to the rural areas and most of the tenants intend to return to the rural area after retirement. This indicates

strong rural-urban linkages which further emphasize the need for rental housing as opposed to owner occupation.

Most of the owners of the plots lived elsewhere in the city, but 79 resident landlords were interviewed. Although almost all of them have large families, 41.8% did not live with their families. The families live in the rural areas because they cannot afford to bring them to town. A total of 13.9% of the owners were unemployed, 20% employed in the formal sector, and the highest proportion were self-employed in the informal sector (60%). Almost 50% had lived in Nakuru for 10 years or less, which represents a relatively short period to own land - which is explained by the low cost of land in Nakuru and the fact that some owners inherited the land from their parents. Owners still have strong ties to the rural areas, as many of them also own land there. Even for owners, the town is viewed as temporary residence, despite the fact that they are investing in the urban areas. The average number of rooms per plot is 20, ranging from 2 to 85. Subletting is one of the main sources of income for the family - thus giving an incentive to invest in housing. Apart from lack of services, a problem for owners/developers is lack of access to sources of finance (63%), as lack of a title deed makes it impossible to get a loan from banks.

During discussions on the topic of landlords and tenants and the effects of legalization on these groups, it was stressed several times that legalization may very well lead to replacement of the present tenants as a result of rent increases due to improvement of housing. However, as yet in Kwa Rhoda, there seems to be more supply than demand for rooms, especially for the more expensive kind of rooms (brick walls and cemented floors). What exactly determines the market value of the rooms is as yet not clear, but will be one of the subject matters of the socio-economic survey. Prevailing market conditions may well put a check on rising rents. Moreover, the kind of upgrading envisioned would be a gradual autonomous process rather than a supply-driven, donor-funded project, which often results in displacement of the original residents.

In order to incorporate the views of the tenants in the planning, the possibility of having separate workshops with the tenants to discuss problems and priorities for improvement in Kwa Rhoda was brought up. Improvement of environmental conditions, such as tanks for water supply, sufficient and adequate latrines and hygienic solid waste disposal as a precondition for legalization was thought to be a means of ensuring that the project brings some benefit to the tenants. On the other hand, it may be very difficult to get a tenant committee established, as experience in other low-income areas in Kenya shows that tenants are generally not interested in devoting time and effort to the improvement of living conditions, since they are quite mobile. Another difficulty that is worthy of note is the hostility shown by landlords to any form of involvement of the tenant population in the planning exercise.

At the same time, the landlords are quite likely to be interested in improving the area, and therefore they are the most important group to deal with. That applies specifically to the resident landlords, but also the absentee owners should be involved, as they will have to contribute to future improvements. The work should be based on the principle that landlords need tenants and vice-versa. The dependency is mutual.

Because of the Municipal Council's chronic lack of funds, most infrastructural improvements in Kwa Rhoda will have to be at least partly financed by the community itself. Therefore, it is necessary to ensure that priority for improvement activities is decided upon by the community and that its members are involved in the planning of such activities. This should apply to both tenants and landlords, even though it is of course extremely unlikely that the tenants will financially contribute to improvements, which would not in any case be an equitable proposition. Nevertheless, involvement in planning for this group is necessary, as they constitute the majority of the residents and the involvement may well result in a sense of responsibility for the proper functioning of the improvements (for instance, if improvement of drainage is carried out, they may be willing to keep the drains clean and free of solid waste).

3.5. Experiences in upgrading of peri-urban areas

Priorities for improvement in urban low-income areas are totally dependent on the local circumstances. In the Mathare 4A area of Nairobi, the highest priority was to own toilets and an adequate sewerage/drainage system, followed by the desire for an adequate water supply. This is explained by the present conditions, where only 50% of the residents has access to a latrine and drainage is non-existent, resulting in flooding and high incidence of intestinal diseases. Water is bought from water kiosks and is easily available, but the price is considered too high (Gitec Consult, 1993). In Kibera, another Nairobi slum, one of the main problems identified is the lack of possibility to desludge pit latrines once they are full, while there is hardly any room to dig new pits. Solid waste is also considered a problem as there is no room to dispose of the solid waste and no existing collection system (Wegelin e.a., 1994). From all discussions and available publications, it is clear that the key to sustainable programmes for upgrading and improvement is to involve communities from the start in analyzing the current problems and in prioritizing the activities for improvement. Within UNCHS (Habitat) and in programmes carried out by other institutions, different approaches to upgrading of peri-urban areas are being tried out. Below, a description is given of some of these programmes, in as far as they relate to the ViSP testing and possible implementation of improvement activities by the Nakuru City Council.

The UNCHS (Habitat)/Danida Training Programme for Community Participation in Human Settlements Projects has been carrying out projects in Sri Lanka, Bolivia and Zambia which focus on training of different target groups such as local government officials, NGOs and community based organizations. The objective of the programme is to make training in community participation an institutionalized component of urban low-income housing development programmes. In Sri Lanka, the training programme is based in the Urban Housing Division of the National Housing Development Authority, which has a firm commitment to devolve all operations related to the housing process to community level. The policy is for Government to be a facilitator of shelter development activities. The training activities respond directly to the implementation process in the various project locations and are specific to the actual requirements of single communities. The programme has resulted in a number of innovative concepts for development, such as for instance the **Community Action Planning and Management Approach**. This approach sees people as the main resource for development rather than as an object of the

development efforts or as mere recipients of benefits. The first step and key activity in the process of community action planning and management for an urban low-income settlement is a two day community action planning workshop in which community leaders, representatives of various interest groups in the settlement, staff of the National Housing Development Authority, the urban local authority and other organizations concerned, participate. The objective of the workshop is to identify all problems of concern to the community, to determine the nature, the magnitude and the causes of the problems, to prioritize the problems, to explore possible solutions and determine the resources needed and available to introduce the solutions. Moreover, an action plan is prepared which spells out, inter alia, who is supposed to do what, when and how, to develop a system to monitor the implementation of the action plan and to design ways to ensure that everyone concerned is aware of the plan of action. Once the action plan has been formulated, the community and the external organizations need to discuss more specific problems and issues and to decide on particular actions to be taken to solve these specific problems. This is done in half day issue-specific workshops. Usually the first of these workshops is on planning principles and technical guidelines for regularization and consequent legalization, as this is the basis for all other activities. There are a set of principles set by the Urban Housing Division which cannot be changed by the community (for instance permanent structures and places of economic and social value should be retained ; there should be a minimum and a maximum plot size). But the technical guidelines for the regularization of the settlement (such as for instance up to 25 percent of the settlement area should be used for community buildings and open space; the most appropriate plot size is rectangular) are formulated by the workshop and thus with maximum community involvement (UNCHS, 1993). This regularization is being done following the principle of minimum demolition and maximum retention. For this activity the usefulness of the ViSP approach is obvious, as with the technique alternatives in regularization can be visualized by the community, which may then make better, more informed decisions. Another innovative concept is the system of community contracts. A community contract is an agreement between a government agency and the community of a given area to carry out construction of public facilities or infrastructure improvement in that area. These contracts offer a viable alternative to conventional public works contracts because cost can be reduced, time schedules better adhered to, casual jobs for residents created and administrative and technical skills developed (UNCHS, 1994).

Activities similar to the Community Action Planning approach and community contracting are also being carried out in Dar es Salaam under the **third phase of the Sustainable Cities Programme of UNCHS (Habitat)** in cooperation with participating government authorities and bi-and multilateral external support agencies, as well as UNEP and the World Bank. The principal goal of this programme is to provide municipal authorities and their partners in the public, private and community sectors with an improved environmental planning and management capacity. In the first phase, environmental issues to be addressed are defined, involvement of all actors and stake-holders is agreed upon, and a workplan for the next phase is established. Specialized working groups and a coordinating inter-agency task force are formed in the ensuing action-planning phase for each environmental issue. These working groups consist of representatives from central government ministries, utility parastatals, the private sector and non-governmental/community based organizations. These develop policies for the environmental issues that have been selected, agree on implementation activities and

launch continuing planning and management mechanisms. During the open-ended third phase, follow-up and implementation activities receive continued support.

Another programme within UNCHS (Habitat) which is carrying out related activities is the **Settlement Infrastructure and Environment Programme (SIEP)**, supported by a number of governments and UNDP. The objective of this programme is to develop an integrated human settlements approach to the planning, delivery, maintenance and management of environmental infrastructure and services, to provide governments and communities with practical policy options, planning and management tools and computerized information systems, and to disseminate the results of applied research and pilot projects. Within the environmental health component of SIEP, applied research is carried out on crowding and health in low-income settlements of developing countries. In this research thematic maps are made to map incidence of specific diseases. Also communities are involved in mapping and experience in this project shows that ability to work with maps based on aerial photography can be very different in different countries. For instance, in Indonesia, the community was able to read and work with the maps, while in Guinea Bissau, this was not possible. Here, letting communities make their own maps worked much better, after which this map was integrated in the 'technical' base-map.

The development of an index/ranking system for prioritization of infrastructure improvements based on thematic mapping of health indicators is seen as a distinct possibility for the use of the ViSP approach, provided that the survey on health indicators is done by an experienced professional.

A similar type of research on how to base infrastructure improvements on health priorities is carried out by the **Environmental Health Project of USAID** (formerly WASH - Water and Sanitation for Health Project), which has resulted in the development of a **model for promoting community-based environmental management in peri-urban areas (CEM)**. This model has been developed to facilitate community participation in the identification and resolution of environmental problems that affect the health of residents in peri-urban communities in developing countries. It involves two processes that unfold in parallel. One is the technical process of identifying and evaluating environmental health problems, setting priorities, and designing and carrying out an environmental management plan. The other is the community participation process, in which community representatives, leaders and government officials receive systematic training and other assistance to help establish an effective and sustainable dialogue. There are five distinct groups who participate in the CEM process. These are local government agencies; peri-urban communities; industrial, public and private institutions that contribute to environmental pollution in the community; a credible national NGO; and technical advisors and officials from the development assistance agency sponsoring the CEM effort. Representatives of the first three groups comprise the Environmental Management Committee (EMC), which coordinates the CEM process and is the forum for all negotiations among the groups. The NGO and technical advisors serve as advisors to the EMC. Similarly to the other programmes mentioned above, the model incorporates participatory workshops and activities, so that a sustainable link is established between the communities and the municipal authorities, but in this case with an (initial) key role of the NGO (WASH, 1994).

The Small Towns Development Project is a Kenyan-German technical assistance project providing advisory services and training to the managers of small Kenyan local authorities. In two of the towns covered in the project, Kilifi and Voi, legalization and upgrading of low income areas is being carried out. After initial socio-economic surveys and topographical surveys, the communities of these areas were mobilized to participate in the process of planning for regularization and improvement. This resulted in the establishment of community committees with their own bank account to which the members contribute. One of the activities of the committee was the hiring of surveyors to make a plan of the area as it is at present. As this plan had to be made with conventional technologies, it took a long time and much effort to get the very irregular lay-out of the settlement on paper. It sometimes even resulted in the collapse of houses when holes were made in the walls for the measuring of the plots. The next step was for the surveyors to produce plans for regularization. One of the plans was the lay-out of plots according to the total amount of land available, divided over the total number of plots already occupied and the land needed for public facilities. This resulted in a plan which would call for a lot of demolition. Another plan was made that incorporated the existing situation as much as possible, resulting in narrow roads and irregular plot sizes. When reviewing these plans with the community, the community decided to opt for an in between solution where some demolition had to take place to make way for roads, which they considered to be essential. For those houses which had to be demolished, other plots within the area were found and the community assisted in rebuilding the houses on the new sites. The planning in both towns would have been helped enormously by the ViSP approach, not only because it is much easier to make base maps of informal settlement areas with ViSP technology, but also as a tool for the community decision-making process.

In addition to discussions held with staff from the above mentioned projects, discussions were held with staff from the Ministry of Public Works and Housing, the Nakuru Municipal Council, the Provincial Housing Department, Nakuru, the Green Towns Project (Urban Development Department, Ministry of Local Government), the Mazingira Institute and UNICEF's Urban Programme in Kenya. The comments, remarks and experiences of these professionals have been incorporated in this report. They have also influenced the approach to be used in the socio-economic survey to the extent that this survey will not make use of questionnaires, but will take place in workshops to be held with residents of the community. The methodology to be used and the reasons behind its choice will be discussed in a forthcoming report (Output 2 of this assignment).

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