

APPENDIX 4B

PILOT PROJECTS IN LOW INCOME SETTLEMENTS

APPENDIX 4B-1

NGO REPORT ON THE PILOT PROJECT
FOR IMPLEMENTATION OF NRW
IMPROVEMENT IN THREE LOW-INCOME
SETTLEMENTS (DEC.2000)

THE NON-REVENUE WATER REDUCTION ACTION PLAN THROUGH PUBLIC
PARTICIPATION IN TENEMENT GARDENS IN COLOMBO

Report on
The Pilot Project for Implementation of NRW
Improvement in Three Low-income Settlements

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Report on
***The Pilot Project for Implementation of NRW Improvement
In Three Low-income Settlements***

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On the request of the Government of Sri Lanka, the Japan International Cooperation Agency (JICA) has assigned the Nihon Suido Consultants Company in Japan to do a detailed study for the Reduction of Non-Revenue Water in the Greater Colombo area. It has been planned to carry out this study over a period of 14 months from December 1999. While the project is mainly concentrating on the technical and engineering aspects of the non-revenue water, it has programmed to carry out a pilot project in selected three under-served settlements in Colombo North area for assessing the degree of community participation and their attitude towards the reduction of non-revenue water. As the major technical designing and contractual aspects being done by experts with the Engineers of NWS&DB, the implementation of pilot projects in under-served settlements is carried out in association with a local NGO called SEVANATHA. Activities proposed in the project document of NRW to be carried out by SEVANATHA in selected under-served settlements are indicated below.

- a) Selection of settlements for pilot project
- b) Implementation of community attitude survey
- c) Facilitation of institutional capacity building
- d) Preparation of improvement plan
- e) Formulation of agreement on improvement
- f) Monitoring of construction
- g) Follow-up during initial stage of maintenance

Note:

The word under-served settlements was coined and substituted to low income settlements of Colombo, under World Bank supported Sustainable Township Programme (STP) which was implemented by the Ministry of Urban Development, Housing and Construction during the period 1996 / 1998. An enumeration survey of under-served settlements carried out by the STP during the year 1997 / 98 has identified 1513 under-served settlements belonging into different categories (i.e. slums, shanties, low cost flats, relocated housing, old deteriorated quarters) in Colombo consisting of about 65940 housing units. A majority of these under-served settlements do not have individual water and sanitation services to their occupants. The pilot project sites selected under the present project represent a sample of under-served settlements of Colombo.

During the Stage II of the detailed design project that was called in the project document as "First Work in Sri Lanka" from 14th January to 13th February 2000, six under-served settlements

from Colombo North area were selected on the recommendation of NWS&DB, National Housing Development Authority, and other state agencies involved in city development and service provision including the Sustainable Township Programme.

A Baseline Survey was carried out on 20% of the households to determine the socio-economic conditions and the suitability of the settlements for the pilot project. For the purpose of the pilot project, three settlements out of the six were selected by the JICA Study Team / NWS&DB based on their assessment. They are as follows:

- 323 Aluth Mawatha
- 312 Madampitiya Road
- Kadirana Watta – Stage II

During Stage II of the detailed designing of the NRW project which is known as "Second Work in Sri Lanka" from March 22nd to April 21st 2000, a Community Attitude Survey was carried out involving all households in the three settlements selected for the pilot project.

The objectives of the survey were to collect basic socio-economic data, to identify and assess the capacity of existing Community Based Organisations, and to identify community attitudes to the project and the level of affordability for household water connections.

As part of the above project, during its Stage III of the detailed designing that was called "Third Work in Sri Lanka" from 21st April 2000 to 06th December 2000, the SEVANATHA, Local Partner Organization has been engaged in carrying out community mobilization activities in providing individual water connections to the families of the pilot settlements. In addition it had been planned to upgrade the sanitation and drainage facilities, but this was postponed for the reasons described under section 6.2.1 of this report.

The purposes of the pilot project are:

- To reduce the Non-revenue water (NRW) ratio accounted for at the street stand posts and illegal connections in low-income settlements by promoting individual water connections.
- To formulate a community involvement process in the project and planning of a scheme which could be applicable for the expansion of individual connections in other low-income settlements.

The project was implemented and monitored through a participatory approach whereby the community, the NGO and the officials together discussed issues and decided courses of actions which is a different concept to the conventional provider based approach.

3.1 NWS&DB

- Planning and designing the water supply scheme (Engineering Designs)
- Providing legal and technical assistance to the project team.
- Carrying out the offsite construction and the supply line construction within the community
- Facilitate applications for connections and the agreement signing process
- Provide the individual water connections

3.2 NGO SEVANATHA

- Support and guide the community to established a community based organization which consists of active neighborhood groups
- Carryout awareness raising among the community to change their attitudes to support the project.
- Create a demand in the community for applying for an individual water connection
- Help community to participate in the decision making process
- Assist both the NWS&DB and community to prepare an Action Plan for water project
- Mobilize the community to contribute unskilled labor for construction works
- Mobilize the community to pay for individual water connection charge
- Coordinate the work between CDC and other relevant agencies

3.3 CDC (Community Development Council)

- Fully participate in planning, implementation, operation and maintenance and management of the water supply scheme.
- Create awareness and involve all the households in the community on the water supply improvement.

- Facilitate the community to resolve their problems such as getting the municipal assessment numbers, pay for assessment tax, clearing the household lot boundaries, taking the necessary letters from the government agencies.
- Liaise with all the agencies concerned with water supply i.e. NWS&DB, NHDA, SLLR&DC, CMC and NGO
- During the implementation period organize the community into water committees to provide the unskilled labour required

3.4 Water Committee Formed within the Settlement

- Organize the group meetings
- Organize the members in providing unskilled labour for construction works
- Mobilize the community to pay for individual connections

3.5 Individual Households

- Participate at meetings
- Complete the relevant documents
- Provide unskilled labour for trench excavation work and backfilling
- Pay for individual connection
- Pay for monthly water charges

4.1 323 Aluth Mawatha

This is an upgraded shanty settlement located on both sides of Mutwal Canal under the Slums and Shanty Improvement Programme by the Urban Development Authority (UDA) in 1979. An international NGO called Norwegian Save the Children (Redd Barna) had been involved in the implementation of basic infrastructure provision and shelter improvement activities in the settlement over a period of 10 years.

The settlement has been upgraded based on a planned layout under the relaxed regulations. According to the settlement layout each household has received a plot of 50 sq.m. of land in extent. Total number of housing units in the settlement is 87. Each house has an assessment number given by the Colombo Municipality. The NHDA has arranged recently to grant 50 year leasehold rights for all housing lot allottees.

The improvement of the settlement has included the provision of a main access road covering the canal, paved access road to each housing lot, storm water drains, common toilets and water standposts. Almost all houses were built with permanent materials on self-help basis with the housing loans arranged by the NHDA. Housing improvements done by the people over a period of 10 years are very satisfactory. Nearly one-fourth of the families in the settlement have built two storied individual detached houses.

4.2 312 Madampitiya Road

This is an upgraded shanty settlement located in a low-lying area bordering the Madampitiya Road. Under the Urban Housing Programme of the Million Houses Programme implemented by the NHDA, the settlement had been declared a special project for on-site upgrading during 1980s. NHDA had mainly intervened in allocating a minimum size of plot of land that is 2 perch (50 sq.m.) in extent to each household.

One of the challenges of the on-site upgrading and land regularization was to get the people's participation in land subdivision and plot allocation. Total number of housing lots allocated for 120 families and almost all houses are fairly good permanent houses.

4.3 Kadirana Watta – Stage II

This is a new shanty relocation scheme implemented by the Sri Lanka Land Reclamation and Development Corporation (SLLR&DC) jointly with the National Housing Development Authority. It is a part of a large relocation site developed by SLLR&DC under the Greater Colombo Canal Rehabilitation Project.

The settlement is bounded by the Kelani River on one side and all other sides by the large Kadirana Relocation Project. In comparison to the adjoining settlements, it was observed that Kadirana II is located at a lower elevation. Originally this area was low-lying land that had served as a flood retention area of the Kelani River.

The area has been developed by land filling to a required level that would not flood during the rainy season. It is a narrow strip of land subdivided into an average of 50 sq.m. plots of land. All the housing lots are served by narrow access roads, which are connected to a wider motorable road. Total number of housing lots allocated for families is 61. Almost all houses in the settlement are in temporary nature.

Chapter 5

EXISTING SETTLEMENT FACILITIES

The most important basic need of low-income people in the city is to have access to water supply and sanitation facilities. As there is a shortage of drinking water in Colombo north area, people in general are used to obtaining water through several improvised sources.

According to the data gathered on communities it was revealed that the most common source of water supply in the three settlements has been the common water taps (standposts) provided by NWS&DB or other agencies involved in shelter upgrading and service improvement programmes in the city.



Women Awaiting in a Long Queue to Fetch Water in Kadirana Walwa Stage II

The existing water, sanitation and drainage facilities at each settlement are given below:

5.1 323 Aluth Mawatha

h) Water Supply

While the majority of people in this settlement are still getting water from common taps, nearly 25% of families have access to other water sources such as common wells and shallow tube wells. It was interesting to note that the survey revealed that about 76.8% families have individual water connections, even though the people are still considered to be those who enjoy the common water facilities. Therefore, most of these individual water supply connections have to be considered as illegal.

ii) Sanitation and Drainage

There are three blocks of common toilets, two discharge into the main sewerage system and one into the canal. Due to the high incidence of illegal household connections, about 65% have individual toilets, most of which are connected to the main sewerage system. Many of these are thought to be illegal.

There are open drains and paved footpaths throughout most of the settlement and due to community involvement in maintenance, they remain in good condition.

5.2 312 Madampitiya Road

i) Water Supply

All residents in this settlement obtain drinking water from common water taps. As in the case of above, the survey revealed that about 34.8 % of families have individual water connections even though they are supposed to enjoy the common water facilities. Therefore, most of these individual water supply connections have also to be considered as illegal.

ii) Sanitation and Drainage

The common toilet is the main sanitation system, but about 20% of households have individual private toilets most of which are single pit systems.

As in the settlement 323, there are open drains and paved footpaths found in good condition over most of the settlement.

5.3 Kadirana Watta – Stage II

i) Water Supply

All residents in this settlement obtain drinking water from the two common water taps available in the settlement. During the daytime, water pressure in the supply line is very low. This has been a major problem in the settlement. According to the survey findings, each household spends more than four hours per day collecting water from the common water taps. Due to this situation, SLLR&DC has arranged to provide drinking water by using water bowsers. People are not satisfied with this arrangement due to irregularity of the water supply by bowsers.

ii) Sanitation and Drainage

All households in this settlement use common toilets of the pit latrine type, which were built by SLLR&DC. The quality of construction of these toilets is poor.

There are no drains or paved areas, and drainage is a problem particularly during the rainy season.

6.1 Implementation of Community Capacity Building

i) Community Familiarisation Visits

After the identification of the pilot settlements, Field staff of SEVANATHA visited the sites.

The objective of the visit was:

- To familiarize with the community and its context
- To see the existing situation of the settlement with respect to the water supply, sanitation and drainage
- To identify and familiarize with the Community Leaders and the community
- To fix a date and time for the first community meetings



Community Survey for NRW Project in Kadirana Watta Stage II

ii) Form/Strengthen Community Based Organisations

During the Community Attitude Survey, it had been established that Community Development Councils (CDC) existed at all settlements. A CDC is a body organised through, and registered with, the Colombo Municipal Council (CMC)

The first series community meetings were held with the members of the CDCs of the three settlements in the month of May 2000. At this meeting, field staff of SEVANATHA took time to explain the proposed project to the community leaders.

However, it was difficult to come to agreement with the community leaders at such a meeting due to bad experiences by the community through their involvement with past development activities and due to the lack of faith in government projects as well as the out side agencies.

Hence, another few informal discussions were held in order to explain the project to the CDC leaders and to build up a trust with the CDC leaders.

After convincing the CDC leaders, the first community meeting was held with all the people of the settlements, towards the end of May 2000. The CDC leaders organized this meeting and the field staff of SEVANATHA explained the project to the community. The community members were interested on the project and made many comments and requests at the meeting and finally, showed their commitment to participate in the project.

However, it was realized that the necessity to strengthen the CDCs of all three settlements since it was not actively involved in comprehensive programme since long time.

Based on the initial meetings with the community, the field staff of SEVANATHA had identified that:

- The CDC plays an active role in service provision of the settlement
- At present, the CDC was inactive due to the absence of development activities for them to participate.
- There was a poor relationship between the CDC and the people.

The above situation was explained to the people at subsequent community meetings and agreed to strengthen the existing institutional structure of the CDC by way of organizing the community into clusters or functional units and named the groups as “Water Committees.”

Thus, in consultation with the community the following institutional setup was identified for implementation of the project activities:

CDC: The CDC needs to function as the key organization responsible for implementation of project activities in the settlement. It is an annually elected body by the people of the settlement. After introducing the water committees, some executive members of the CDC were appointed as the leaders of water committee. Therefore, no conflicts of interest took place between the CDC and the Water Committee.

Water Committee: Committee consists of 5 to 20 households located in the same geographical boundary, lane, or people who share the same common stand post. Each committee appointed a committee leader to present its interest at the CDC meetings.

Household: A Household is one or more families living in a housing unit. Household was a member of the water committee as well as the CDC

With the establishment of the above Institutional Framework for project implementation at settlement level a detailed Community Facilitation and Institutional Building plan was drawn up to guide and monitor the activities from settlement identification to implementation. The plan is shown in Annex A.

An Action Plan was then drawn up and workshops were held with the community's at all three settlements. A Discussion note on The Community Action Planning Workshop for Kadirawatta Stage II are given in Annex B.

Regular community meetings and discussions were then held in accordance with the Action Plan.

6.2 Preparation of Improvement Plans and Cost Estimates

i) Layout Plans and Cost Estimates by NWS&DB, CMC and SLLR&DC

Whilst the facilitating of the communities was in progress, the JICA Study Team organised regular meetings with the agencies responsible for water supply, sanitation and drainage. SEVANATHA participated in these meetings in order to be fully briefed on all aspects of implementation and to coordinate the planning and design input of the community together with the necessary degree of community participation. The Agency meetings resulted in the postponement of sanitation and drainage works, mainly due to the high costs and donor dependency, and site works commenced with the water supply only. Details of the agency's involvement in the project are more fully described in the Study Team's Report.

ii) Introduction of NWS&DB to the Communities

Following the restructuring of the institutional framework of the settlements, the field staff of SEVANATHA assisted the CDC to organize the first official meeting under the project. The project officers of NWS&DB participated at the community meeting and the project objectives and activities were introduced.

The meeting was very successful in that the community clearly endorsed the project concept. The project team distributed hand written notes, which explained the project activities in the local language for clarity and for further information.

A date was then fixed for the initial planning of water supply.

iii) Planning/Design of Individual Water Supply Schemes

The staff of NWS&DB, and SEVANATHA carried out field investigations in the community with the committee leaders, enabling them to identify the existing situation of the water supply system in the settlement. This exercise was helpful for the community to understand the water problem in very systematic manner, and it was also helpful for the officers of the NWS&DB for their design purposes.



Community Action Planning Workshop for NRW Project in Kadirana Watta Stage II

Subsequently, a second community meeting was organized to finalize the layout plans and engineering designs. The meeting was helpful for further clearing the community on the project and procedures that need to be followed for getting individual water connections.

iv) The Application Process for obtaining a New Water Connection

The Application process is a fairly lengthy procedure and requires the presentation of original documentation related to ownership and residency of the property to be provided with an individual water connection. The NWS&DB issued an instruction sheet to assist the process and this is reproduced in English together with copies of all other documentation related to obtaining a new household connection, in Annex C.

SEVANATHA assisted NWS&DB with the issuing and submission of completed Application Forms, and with the preparation of the necessary Household Files as described below:

- The application forms were collected from the Area Engineers Office of the NWS&DB.
- The application forms were then distributed among the households at the settlements
- The households were advised on how to fill in the Application Form and of the documents to be attached, together with all other information to be provided.
- If the application is completed with all the necessary documents voucher issued by the NWS&DB for making the initial payment for individual connection. The amount to be paid is Rs. 50 as application fee and another Rs. 1000/- being the connection deposit.
- After making the initial payment, the NWS&DB requests the qualified households to get ready to sign the agreement to obtain individual water connection.
- SEVANATHA field staff arranged a mobile office service at the settlements and provided support for filling up the applications, and advice on the documentation to be attached.
- The completed application forms were then handed over to the NWS&DB at a community meeting
- Preparation of the household file took much longer to finalise than anticipated mainly due to the following reasons:



Beneficiary Families Receiving Application for Individual Connections at 312 Watta, Madampitiya at a Mobile Office



Submission of Completed Application Form to Water Board Officials by the Beneficiaries in 323 Watta, Aluth Mawatha



Field Staff of the NGO SEVANATHA Explaining the Community to Organize Householder File

- Some families did not have the municipal assessment numbers for the houses
- Families had to pay the arrears of assessment tax to validate their occupancy
- Some families had to resolve boundary disputes of their land lots with their neighbors and had to seek the support of relevant agencies

The process is further complicated when the householder is a tenant. It was difficult to contact the house owners and they were often not interested in applying for a connection, leaving the tenant with even more paperwork and requiring to pay an extra deposit of Rs 1,000. This extra deposit is to cover at least three months of water bills in the event of a none payment by the tenant.

6.3 Concluding Community Agreements

As stated previously, the implementation so far has been limited to water supply only and NWS&DB has a set procedure for community participation in construction work which does not requires a formal agreement. NWS&DB require the community to excavate and backfill for the pipe laying work within the settlement and for the individual connections to all households. In addition, the community is required to pay for the reinstatement work for the connection to the main pipe outside the settlement. With no formal agreement the NWS&DB has carried out many successful projects throughout Colombo Municipal Council (CMC) area on this basis.

However, a letter of consent is required from each household to disconnect the standposts and bathing taps before the individual connections are activated. Toilet taps are allowed to remain where all households do not have their own toilet.

6.4 Monitoring of Construction

Before starting the construction works, a meeting was organized with the community and NWS&DB to draw up an action plan. The construction work was organized as follows:

Level -I (Offsite construction):

The NWS&DB implemented the laying of water pipes to the settlement. The total cost of the activity was borne by NWS&DB.

Level - II (On-site Construction):

The community and NWS&DB shared the project cost for laying water pipes inside the settlement. The community provided unskilled labour for excavation and backfilling in inner lanes. The community paid the cost of the road cutting and reinstatement for the off site connection by CMC. The NWS&DB incurred costs for



Beneficiary Families Engaged in Digging Trenches for Laying Service Lines in the Settlement

materials and skilled labour for the installation of the distribution pipework. The NWS&DB's original cost estimates for its part of the work were:

□	323 Aluth Mawatha	Rs 102,278
□	312 Madampitiya Road	Rs 328,918
□	Kadirana Watta – Stage II	Rs 118,161

Level - III (Individual Connections):

Each and every family was provided with an individual water connection with a water meter. The community provided unskilled labour for excavation and backfilling. NWS&DB implemented the work which required skilled labour. The cost of individual household connections was paid for by each householder at a subsidised rate with an initial deposit and a thirty-month repayment period for the balance. Details of the connection fees to each household are as follows:



Giving an Individual Water Connection

Application Fee	Rs	50
Connection Deposit	Rs	1,000
Connection charge (payable over 30 months)	Rs	3,000
Agreement for 30 month repayment (Stamp Duty)	Rs	10
Connection Agreement (Stamp Duty)	Rs	100
Total	Rs	4.160

Note:

- A total charge of Rs. 1,000 has to be paid by the settlement to CMC for road cutting and reinstatement where the connection is made to the main distribution pipeline.
- Where a Tenant applies for a connection (not the house owner) a further Rs 1,000 must be paid as a guarantee against monthly billing payment default at once along with the connection deposit.

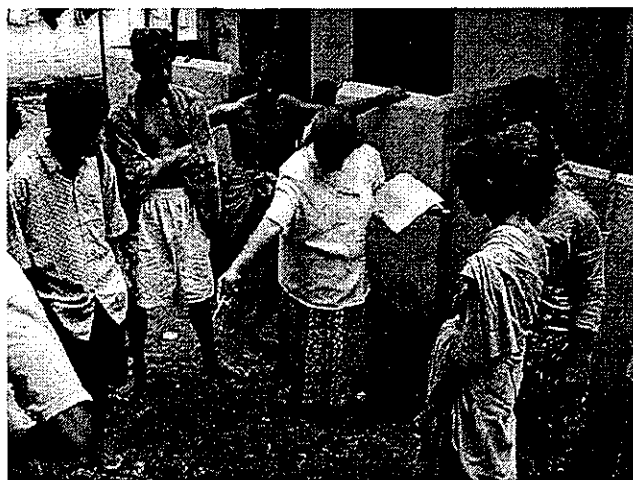
During the initial work in 323 Aluthmawatha and in 312 Madampitiya Road, it was discovered that there were many illegal connections. Those with such connections were only too willing to legalise their status and NWSDB were happy not to take the matter any further. Those with

legal connections were required to sign letters of consent to reconnect to the new distribution system, and no further connection charges were levied.

Where toilet taps were to remain, and these taps required connection to the new mains, the community once again provided unskilled labour for excavation and backfilling.

6.5 Follow-up during Initial Stages of Maintenance by the Community

Following the construction work in 312 Madampitiya, another community meeting was organized to ensure that everyone was in agreement with the need to disconnect the standposts and bathing taps, and to agree on the retention of the toilet taps for the common toilets. At a subsequent meeting organized by SEVANATHA, the issues such as careful use of individual water connection and the water taps at



Water Board Engineers Providing Technical Advice to the Community

common toilets need to settle monthly water bills etc. were discussed with community.

6.6 Programme and Progress

The original programme set for the pilot project is shown in Figure 6-1. This programme followed on from the completion of the Baseline Survey to identify the pilot sites, and the Community Attitude Survey to collect basic socio-economic data, identify CBO's and assess community attitudes to the project including affordability.

Whereas the programme provided a firm base for the implementation process, modifications were made to accommodate the facilitation of the communities, as this is a continuous process throughout the whole of the project. The preparation of improvement plans extended slightly to meet the needs of the agencies concerned, as they had planned routine work to attend to in addition to this project.

The construction phase took longer than anticipated due to the fairly complex nature of the system for obtaining a connection, involving applications, payments, documentation and various letters of consent etc. In addition the build up to the national parliamentary election, the election itself, and the aftermath, had an effect on the construction process.

The actual progress is given in Figure 6-2, and the accomplishment of the various activities is given in the following chart:

Project Activities Accomplishment Chart

Activity	312 Madampitiya Road	323 Aluth Mawatha	Kadiranawatta Stage II
IMPLEMENTING OF COMMUNITY CAPACITY BUILDING			
Activity 1 Familiarization visit to the community	21 st April to 10 th May 2000	21 st April to 10 th May 2000	21 st April to 10 th May 2000
Activity 2 First community meeting at the settlement	15 th May 2000	12 th May 2000	16 th May 2000
Activity 3 Strengthening and re-structuring the CDC institution	20 th May 2000 to 10 th June 2000	20 th May 2000 to 10 th June 2000	20 th May 2000 to 10 th June 2000
Activity 4 First official Meeting at the community	15 th June 2000	06 th June 2000	21 st June 2000
PREPARATION OF IMPROVEMENT PLAN AND COST ESTIMATES			
Activity 5 Conducted a community survey and planning workshop	15 th June 2000 to 30 th June 2000	15 th June 2000 to 30 th June 2000	15 th June 2000 to 30 th June 2000
Activity 6 Community meeting for finalized the layout plans and designs	03 rd July 2000	01 st July 2000	02 nd July 2000
CONCLUDING COMMUNITY AGREEMENTS			
Activity 7 Issuing applications forms to families for individual connections	01 st to 03 rd July 2000	03 rd to 05 th July 2000	02 nd to 03 rd July 2000
Activity 8 Submission of the completed application forms to NWS&DB	09 th to 10 th July 2000	07 th to 08 th July 2000	07 th to 10 th July 2000
Activity 9 Completion of Household files	07 th July to 15 th August 2000	07 th July to 15 th August 2000	15 th October 2000 to 31 st October 2000
Activity 10 Payment made and agreement signed	05 th September 2000 to 10 th September 2000	05 th September 2000 to 10 th September 2000	20 th November 2000 to 09 th December 2000
MONITORING OF CONSTRUCTIONS			
Activity 11 Construction work commenced	15 th September 2000 to 30 th September 2000	Work in progress	Work in progress
FOLLOW-UP DURING INITIAL STAGES OF MAINTENANCE BY THE COMMUNITY			
Activity 12 Consolidation period	To be commenced	To be commenced	To be commenced

The success of the project in dealing with NRW as well as enhancing the health and well being of the people is given in the following tables:

323 Aluth Mawatha (Expected output by end of December 2000)

Description	Before the project	After the project
Total No of Housing Units	86	90
Individual water with meter	12	86
Illegal connections	53	00
Common taps (standposts) available	02	00
Bathing Taps	02	00
Toilet Taps	03	03

Note:

Work in progress. I.e. pipe lying work completed. Agreements have been signed by all the applicants. Individual connection is to be given.

312 Madampitiya Road (Situation as at 01st December 2000)

Description	Before the project	After the project
Total No of Housing Units	120	120
Individual water with meter	22	115
Illegal connections	31	00
Common taps (standposts) available	01	00
Bathing Taps	03	00
Toilet Taps	03	03

Note

05 Units still not got individual connection which included 04 shops and 01 house.

Kadirana Watta – Stage II (Expected output by end of December 2000)

Description	Before the project	After the project
Total No of Housing Units	77	77
Individual water with meter	00	77
Illegal connections	00	00
Common taps (standposts) available	02	02
Bathing Taps	00	00
Toilet Taps	00	00

Note:

Work in progress i.e. inner pipe laying work completed arrangements have been signed. Main line is to be laid and individual connection is to be given.

COMMUNITY WILLINGNESS TO PAY FOR INDIVIDUAL WATER CONNECTION

Willingness to pay for any services largely depend on the necessity as well as the affordability one has to fulfill that necessity. The community attitude survey carried out in the three settlements revealed that the communities of all the three settlements have indicated obtaining individual water as their first priority. Toilet facilities and drains for waste water discharge have been ranked as second and third priorities. Thus, it was able to conclude that individual water supply was their first demand.

Subsequently, it was inquired whether the households of the three settlements were willing to make cash contribution to obtain individual water connection. The responses received revealed that 91.3% of families in 323 Aluth Mawatha, 94.4% in 312 Madampitiya Road and 86% in Kadirana Watta Stage II have shown their interest in making cash contribution to obtain individual connections. This demand can be seen as an effective one as the average monthly income of the families of three project settlements stands well above the average low income family in the city. The average monthly income per family in 323 Aluth Mawatha was Rs. 9,935 while it was Rs. 5,667 in 312 Madampitiya Road and Rs. 7,974 in Kadirana Watta Stage – II. Thus, the project communities fulfilled the preconditions for creating an effective demand for individual water as being their basic priority need for which a majority was able to and willing to contribute.

LESSONS LEARNED

The following lessons were learned from the pilot project.

- Active participation of the community has been at a satisfactory level throughout the project. One of the major factors contributing to this was the strong social mobilization activity carried out for changing the attitudes and behavior of the pilot community towards obtaining individual water connections.
- Motivating the community, strengthening the CDC and forming of Water Committees and developing effective partnership with NWS&DB prior to starting the implementation work helped in winning the community confidence.
- It was proved that promoting the idea of getting individual water connection by the households of low income communities was possible since it is one of their first priorities
- Another lesson learned through the pilot project was that a strong CDC is necessary for successful implementation of the project within a limited time frame in order to assure the cooperation of the community members to the project activities.
- The women are the key players actively involved throughout the project. Their participation was prominent in planning, implementation and collecting the community contribution etc. Because, it was found that women are the ones who suffer most due to lack of water and having to wait in long queues for hours to draw water from the common standposts.
- It was interesting to note that the people have demonstrated their strong commitment and willingness to pay for progressive improvement of water service. But it will largely depend on the satisfaction with the present level of the service, costs incurred on obtaining the connection, pricing system and income level of the community.
- It was noted that almost all the community members had indicated their preference to acquire individual connections rather than depending on a communal shared water supply system.
- Education, Training and Information provided to the people were very vital inputs in the process to convince the target groups of the project objectives. In this process, the NGO's role as a facilitator between the community and the NWS&DB was extremely important.
- It was observed that the commitment, flexibility and willingness to pursue and the adaptability to the situations by the Government Officers were extremely important conditions for dealing with the communities.

Finally, it was realized that follow-up meetings are vital to explain the water chargers, monthly billing process and other relevant information on payments etc. to the community, with the Area Commercial Manager and Area Billing Officer of the NWS&DB in order to maintain and sustain relationships between the community and NWS&DB for proper maintenance of the user aspects of water supply particularly in under-served settlements.

- Persuading the low income communities some of whom have been used to obtain illegal individual connections as well as use of free water through standposts is a challenging tasks for officials as well as for NGOs. Because it is an attitudinal change of behaviour that has direct impact on the family budget. Therefore, highlighting on positive effects of obtaining individual connection has been useful while encouraging the demand to come from the people.
- Raising community awareness on the project as well as obtaining community participation for project activities are to be carried out with maximum community participation. This means respecting community views and suggestions and compromising with other partners' interests.
- The partnership approach adopted in the pilot project provided a platform for all the stakeholders to agree on their responsibilities and to perform them accordingly. Such a partnership approach seem to have been more appropriate than that of a provider based approach generally preferred by government institutions.
- Concessionary payment system offered to the low income people in obtaining individual water connections as well as the flexibility that disclosed by the officials of the NWS&DB in programme implementation had raised hopes and confident in the minds of the people of pilot projects. Thus, they have consented to participate in the project activities.
- Deep and extensive community consultation and mobilization work carried out by SEVANATHA had created the necessary background for the community to fully participate in the project, Understanding the limitations as well as opportunities that exist in the project communities were correctly through close and faithful relationship developed by SEVANATHA with the project communities enabled tackling most of the settlement level problems.
- The SEVANATHA as the project facilitating organization had understood the limitations, and strengths of NWD&DB, the CMC, the NGO itself and the community with regard to the delivery of project outputs. Therefore, it was able to act within such limitations and realize the project objectives.

- Considering the complex nature of the real life situation of under-served settlements, there is essentially a vivid role for the NGOs to play. The role of a community facilitator who could effectively translate hard official rules into digestible community involvement was played by the SEVANATHA.
- It was also realized that having identified responsibilities of each partners, they should respect each others limitations and weakness while progressing towards achieving project objectives
- The importance and added value of the officials of NWS&DB to the project was their preparedness having met and to address the issues of the project with the participants in the settlements which was appreciated by the community leaders as well as the NGO.

Community Profile: 323 Watta, Aluth Mawatha, Colombo

A Brief Note on the Settlement (as per January 2000)

The settlement is 30 years old upgraded shanty settlement located by the side of the Mutwal canal, in Colombo North area. It was selected for on-site upgrading under the Slums and Shanty Improvement Programme by the UDA in 1979 with assistance from the Norwegian Save the Children Fund.

Population

Male Population	-	194
Female Population	-	182
Total Population	-	376
Average Monthly Income per Family	-	RS. 9935.00

Housing

No of Housing Units	-	86
Average Plot Size	-	2 perch (50 sq.)
Type of Land Tenure	-	A 50 years leasehold deed from NHDA

Service Availability

Water Supply

Individual Water Connections with Meter	-	12
Individual Water Connections without Meter	-	53
Common Stand Post users	-	31
No of Common Taps available	-	05

Sanitation

Individual Toilet Users	-	62
Common Toilet Users	-	24
No of Common Toilets Available	-	07

Drainage

Open Drains are Available
Need some Improvements

Electricity

Main Electricity Line is Available	-	64
No of Families have Individual Connection	-	64

Telephone

Telephone Service is Available	-	16
No of Families have Individual Connections	-	16

Solid Waste Collection

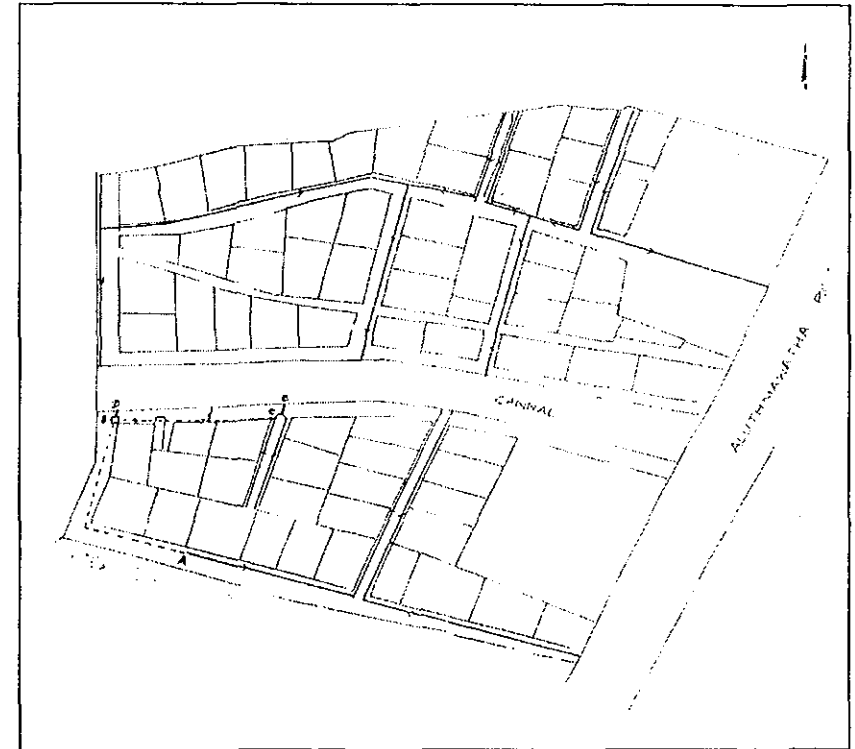
Municipal Collection Service is Available
Daily Collection System is practiced

Community Centre

Not Available

Existing Community Based Organizations

Community Development Council (CDC) functioning



Community Profile: 312 Madampitiya Road

A Brief Note on the Settlement (as per January 2000)

The settlement is an up graded shanty settlement located in a low-lying area bordering the Madampitiya Road in Colombo North Area. It was developed under the UHSP implemented by the NHDA in 1980.

Population

Male Population	-	290
Female Population	-	271
Total Population	-	561
Average Monthly Income per Family	-	Rs. 5667.00

Housing

No of Housing Units	-	120
Average Plot Size	-	2 perches (50 sq.m)
Type of Land Tenure	-	A letter from NHDA

Service Availability

Water Supply

Individual Water Connections with Meter	-	22
Individual Water Connections without Meter	-	31
Common Stand Post users	-	67
No of Common Taps available	-	07

Sanitation

Individual Toilet Users	-	65
Common Toilet Users	-	55
No of Common Toilets Available	-	03

Drainage

Open Drains are Available
Need some Improvements

Electricity

Main Electricity Line is Available	-	67
No of Families have Individual Connection	-	67

Telephone

Telephone Service is Available	-	13
No of Families have Individual Connections	-	13

Solid Waste Collection

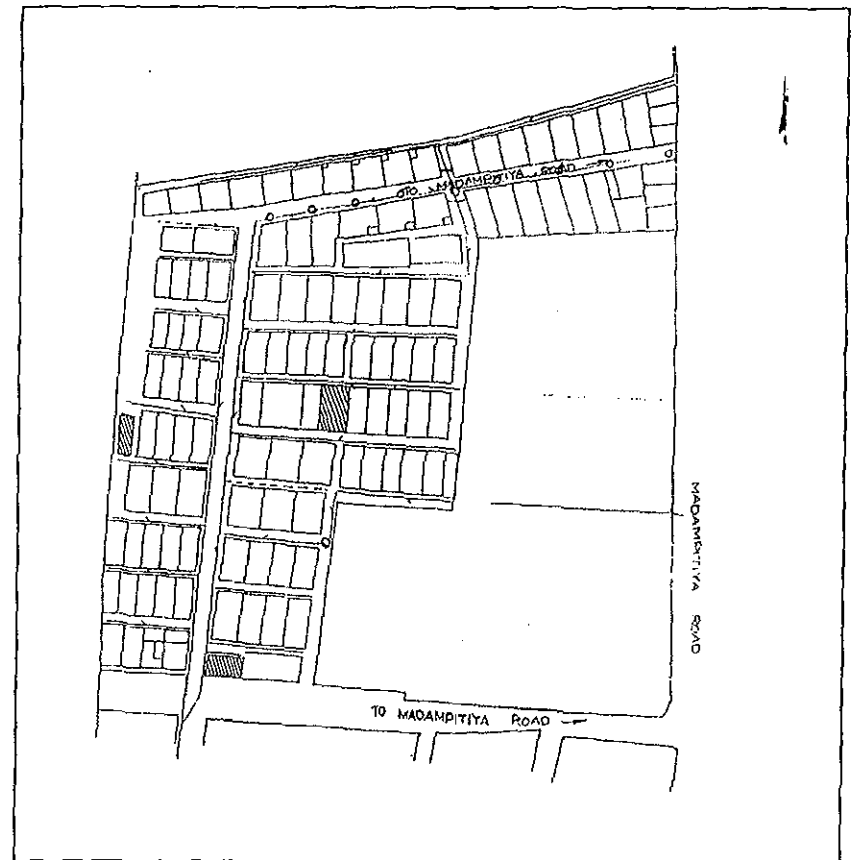
Municipal Collection Service is Available
Daily Collection System is in practiced

Community Centre

Not Available

Existing Community Based Organizations

Community Development Council (CDC) functioning



Community Profile: Kadirana Watta - Stage II, Colombo

A Brief Note on the Settlement (as per January 2000)

This is a new shanty relocation scheme implemented by the SLLR&DC jointly with the NHDA as a part of a large relocation site developed under the Greater Colombo Canal Rehabilitation Project. The settlement is located on a low-lying area which was earlier served as a flood retention area of the Kelani River.

Population

Male Population	-	141
Female Population	-	134
Total Population	-	275
Average Monthly Income per Family	-	Rs. 7974.00

Housing

No of Housing Units	-	77
Average Plot Size	-	2 perches (50 sq.m)
Type of Land Tenure	-	A letter from SLLR&DC

Service Availability

Water Supply

Individual Water Connections with Meter	-	Nil
Individual Water Connections without Meter	-	Nil
Common Stand Post users	-	77
No of Common Taps available	-	02

Sanitation

Individual Toilet Users	-	Nil
Common Toilet Users	-	77
No of Common Toilets Available	-	02

Drainage

Not Available
Need some improvements

Electricity

Main Electricity Line is Available

Telephone

Telephone Service is not Available

Solid Waste Collection

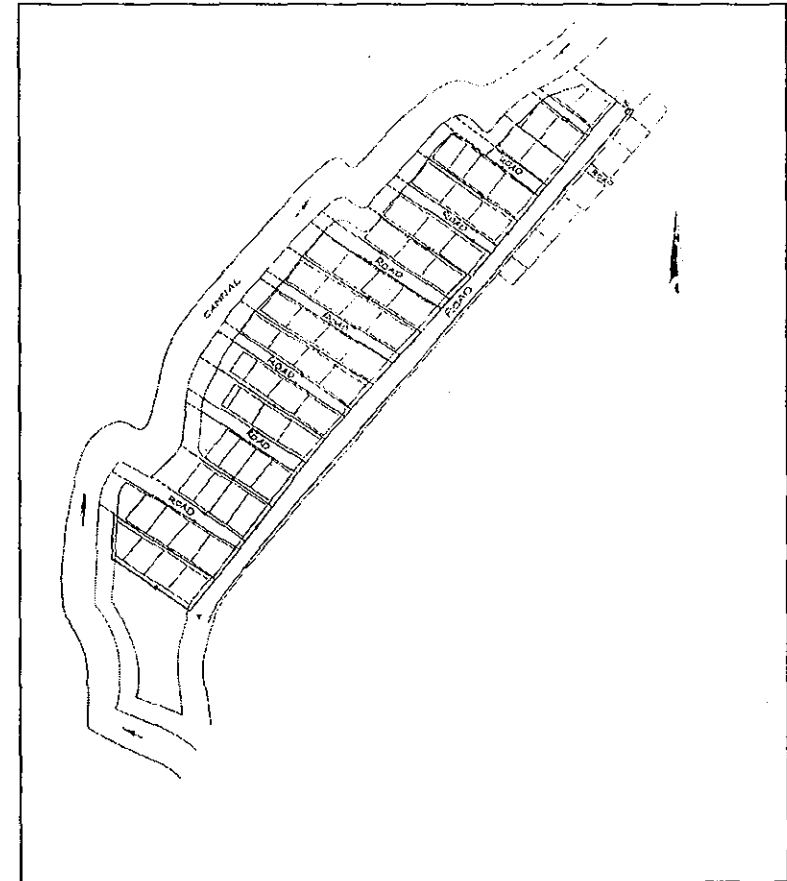
Municipal Collection Service is not Available
Use to dump in to the nearest Canal and Open Spaces

Common Facilities

Community Center is Available

Existing Community Based Organizations

Community Development Council (CDC)
Youth Group
Women Group



Community Facilitation and Institutional Building

Activity	Output	Indicators
1. Settlement/ Community Identification (May 2000)	<ul style="list-style-type: none"> • Maps 	<ul style="list-style-type: none"> ▪ Location maps ▪ Layout plans-site plans
	<ul style="list-style-type: none"> • Structure of Existing CBOs 	<ul style="list-style-type: none"> ▪ List of CBOs ▪ No. of members ▪ Structure ▪ Financial capacities
	<ul style="list-style-type: none"> • Settlement Improvement Coordination Committee (CMC, NWS&DB, NGO, CBO, NHDA, SLLR&DC etc.) 	<ul style="list-style-type: none"> ▪ Settlement improvement coordination committee
	<ul style="list-style-type: none"> • If there is no active CBO, Action Plan for CBO Strengthening 	<ul style="list-style-type: none"> ▪ Action plan
2. Introductory Community Meetings (May /June 2000)	<ul style="list-style-type: none"> • Increased Community awareness on NRW Project 	<ul style="list-style-type: none"> ▪ No. of meetings
		<ul style="list-style-type: none"> ▪ Participant list
		<ul style="list-style-type: none"> ▪ No. of women participants
	<ul style="list-style-type: none"> • Active CBOs 	<ul style="list-style-type: none"> ▪ Name of community leaders, their addresses and contact nos.
	<ul style="list-style-type: none"> • Recognized Community Leaders 	<ul style="list-style-type: none"> ▪ Name of community leaders, their addresses and contact nos.
	<ul style="list-style-type: none"> • Savings Groups in Operations 	<ul style="list-style-type: none"> ▪ No. of meetings
		<ul style="list-style-type: none"> ▪ Participant list
<ul style="list-style-type: none"> • Hygiene Education / Training 	<ul style="list-style-type: none"> ▪ No. of meetings 	
	<ul style="list-style-type: none"> ▪ No. of participants / list 	
	<ul style="list-style-type: none"> ▪ No. of women/ children participation 	

Activity	Output	Indicators
3. Community Mobilization		
<ul style="list-style-type: none"> • Information Collecting at Community Level <p>(June 2000)</p>	<ul style="list-style-type: none"> • Organization of participatory survey • Report of Participatory Survey • Hygiene Education / Training • Savings Groups in Operations 	<ul style="list-style-type: none"> ▪ Identify the list of participatory survey group and train them ▪ No. of meetings ▪ Participant list ▪ Report ▪ No. of meetings ▪ Participant list
<ul style="list-style-type: none"> • Community Action Plan <p>(June / July 2000)</p>	<ul style="list-style-type: none"> • Strengthening / Reorganization of Existing CBO • Form New CBO • Report on Community Self Evaluation • Hygiene Education • Savings Groups in Operation • Training for CBOs • Community Action Plan • Community Action Process • Activity for Community Motivation 	<ul style="list-style-type: none"> ▪ Action plan ▪ List of CBO leaders ▪ No. of meetings and participant list ▪ Report ▪ Method for information dissemination for community ▪ Method of hygiene education programme ▪ Action plan (support from CMC) ▪ No. of meetings ▪ Participant list ▪ Savings amount ▪ List of training needs ▪ No. of training programmes ▪ Community action plan report ▪ List of community needs ▪ Priority list ▪ Action plan

Activity	Output	Indicators
<ul style="list-style-type: none"> • Detail Designs (July /August 2000) 	<ul style="list-style-type: none"> • Registration of CBOs 	
	<ul style="list-style-type: none"> • Implementation of early Community Activity 	<ul style="list-style-type: none"> ▪ List of community needs ▪ Action plan / progress report
	<ul style="list-style-type: none"> • Discussion / Report on CAP Implementation 	<ul style="list-style-type: none"> ▪ Progress report
	<ul style="list-style-type: none"> • Saving Groups in Operation 	<ul style="list-style-type: none"> ▪ No. of meetings ▪ Participant list
	<ul style="list-style-type: none"> • Hygiene Education 	<ul style="list-style-type: none"> ▪ No. of meetings ▪ Participant list
	<ul style="list-style-type: none"> • CBO Participation in Technical Designs 	<ul style="list-style-type: none"> ▪ Methodology for participation
		<ul style="list-style-type: none"> ▪ Action plan
<ul style="list-style-type: none"> ▪ Progress report 		
<ul style="list-style-type: none"> • Community Proposals / Implementation (Aug /Sept /Oct / Nov. 2000) 	<ul style="list-style-type: none"> • Community Proposals for Social and Infrastructure Development 	<ul style="list-style-type: none"> ▪ Agreement for approving the final designs and to community contribution
	<ul style="list-style-type: none"> • Detail Designs 	<ul style="list-style-type: none"> ▪ Detail designs / estimates technical drawings
	<ul style="list-style-type: none"> • Organize Community Contributions 	<ul style="list-style-type: none"> ▪ Collect community contribution
	<ul style="list-style-type: none"> • Offer Community Contracts 	<ul style="list-style-type: none"> ▪ Copy of agreement letter
		<ul style="list-style-type: none"> ▪ Progress report
	<ul style="list-style-type: none"> • Savings Groups in Operation 	<ul style="list-style-type: none"> ▪ No. of meetings ▪ List of participants
	<ul style="list-style-type: none"> • Hygiene Education 	<ul style="list-style-type: none"> ▪ No. of meetings
<ul style="list-style-type: none"> ▪ List of participants 		

ANNEX B

THE COMMUNITY ACTION PLANNING WORKSHOP

For Kadirana Watta – Stage II , Mattakkuliya, Colombo

21 June 2000

SEVANATHA - Urban Resource Centre
23/1, Narahenpita Road, Nawala
Tel / Fax: 878893
E-mail: sevanata@sri.lanka.net

PROBLEMS IDENTIFIED BY GROUP MEMBERS

Group I	Group II	Group III
<ol style="list-style-type: none"> 1. Not enough water stand-posts 2. Low water pressure 3. Lack of individual water connections 4. Poor maintenance of the common toilets 5. Difficult to obtain the Toilet Gully Sucker from the District office of CMC 6. Outlet of common toilet is connected to nearest canal 7. No common sewer system 8. No electricity polls on inner roads 9. No street lamps 10. Community dose not know how to apply for individual service connections 11. No proper storm and waste water drains 12. Back alleys are encroached by some families 13. Poor maintenance of main canal 14. Quality of construction is poor of the retaining wall built along the main canal 15. Condition of main and inner access roads are very poor 16. Access roads are encroached by some families 17. No housing loan available 18. Bathing place at the Kelani riverbank is dangerous 19. No proper system for garbage collection 20. 3 unauthorized housing units have been built 	<ol style="list-style-type: none"> 1. Low water pressure 2. No sufficient common water taps 3. No individual service connections 4. Bad condition of common toilets 5. Poor maintenance of the common toilets 6. Difficult to obtain a Toilet Gully Sucker from the CMC – District Office 7. No storm and waste water drains 8. Some houses go under water during rainy times due to the absence of proper drain system 9. Mosquito problem due to the absence of proper drain system 10. Canal on the boundary is health hazard 11. Poor maintenance of the main canal 12. Poor condition of the main and inner access roads 13. Some families have encroached road space 14. No housing loan facilities available 15. No electricity polls in inner roads 16. Lack of street lamps 17. Insecure bathing place at the river bank 18. Absence of a proper waste collection system 19. Delay in construction of community center 20. Community health services not available from CMC 21. Lack of recreational facilities for youth. 	<ol style="list-style-type: none"> 1. Insufficient common water taps 2. Low water pressure 3. Lack of individual water connections 4. No proper maintenance system for common toilets 5. Difficult to obtain a Toilet Gully sucker from the CMC – District Office 6. Lack of drains for the waste water and storm water discharge from the houses 7. Lack of street lamps 8. Poor condition of the main and inner access roads 9. Absence of proper garbage collection system 10. Problems in obtain a housing loans from NHDA 11. Presence of health problems (mosquito etc) 12. Delay in construction of Community Center 13. Lack of pre-school for children

LIST OF COMMON PROBLEMS

Common Problem Area	Why it is a problem?
1. Water shortage	<ul style="list-style-type: none"> • Low water pressure • Insufficient of existing common water taps and the diameter of the existing water line • Lack of individual connections • No proper maintenance of common water taps • Insecurity of the bathing place of the river
2. Poor sanitation	<ul style="list-style-type: none"> • Bad condition of the common toilets • Poor maintenance of the common toilets • Difficult to obtain the Toilet Gully from the District office of the CMC • Connect the common toilet of-flow line to the nearest canal • Lack of common sewer system
3. No Storm and Waste Water Drains	<ul style="list-style-type: none"> • Lack of proper storm and waste water drains • Some families are encroached the back spaces • Some families getting flood due to the absence of proper drain system • Presence of mosquito problem due to the absence of proper drain system
4. No Electricity	<ul style="list-style-type: none"> • No electricity polls in inner roads • No street lamps • Lack of education to apply for the individual connections
5. Poor Access Roads	<ul style="list-style-type: none"> • Poor condition of the main and inner access roads • Some families are encroached the access roads
6. Poor Housing	<ul style="list-style-type: none"> • No housing loan facilities • Presence of 3 unauthorized housing units • Lack of technical guidance on house construction • Insecurity of housing rights
7. No Solid Waste Disposal system	<ul style="list-style-type: none"> • Lack of proper system for garbage collection
8. Poor condition of main canal	<ul style="list-style-type: none"> • Poor maintenance of the boundary canal • Bad construction of the boundary canal
9. No Recreational/Health	<ul style="list-style-type: none"> • Delay the construction of community center • Absence of the community health services of the CMC • Lack of recreational facilities for youth.

COMMUNITY ACTION PLAN

Problem	Solution	Action	Period	Responsible Agency
Water Shortage and absence of individual water connection	Private water connection for each housing unit	- Preparation of preliminary list of occupants	Short Term	CDC, SEVANATHA
		- Create awareness	Short Term	CDC, SEVANATHA
		- Educate people on the water supply process	Medium Term	CDC, SEVANATHA
		- Collect the community contribution		NWS&DB
		- Preparation of basic design and estimates	Medium Term	NWS&DB
		- Laying the main water line	Long Term	NWS&DB, Community
		- Laying the water lines on inner roads	Long Term	NWS&DB
		- Provide individual connections	Long Term	CDC, Community
		- Pay monthly water bill	Long Term	
Bathing Place Insecure bathing place at the Kelani riverbank	Improve the bathing place	- Discuss with the relevant agencies	Short Term	CDC, SEVANATHA, SLLR&DC
		- Preparation of the basic design and estimate	Medium Term	SLLR&DC
		- Collect community contribution	Medium Term	CDC, SEVANATHA
		- Improve the bathing place	Medium Term	CDC, SLLR&DC
Poor Sanitation Bad condition and poor maintenance of the common toilets	Improve the sanitation condition	- Discuss with the relevant agencies	Short Term	CDC, SEVANATHA, SLLR&DC
		- Improve the common toilets through Sramadana	Short Term	CDC, Community
		- Prepare a proper system for obtaining Toilet Gully Sucker regularly	Short Term	CDC, SEVANATHA, CMC
		- Educate community to build individual toilets	Short Term	CDC, SEVANATHA
		- Remove the		

No main sewer system	Construction of a shallow sewer system connected to each housing unit	common toilets when they are not needed	Long Term	CDC, SLLR&DC
		- Discuss with the relevant agencies	Short Term	CDC, SEVANATHA, CMC, SLLR&DC and NWS&DB
		- Prepare a basic design and estimates	Short Term	SLLR&DC, CMC
		- Collect community contribution	Medium Term	CDC, SEVANATHA
		- Construct a shallow sewer system	Medium Term	CDC, SLLR&DC, CMC
		- Mobilize community to build individual toilets	Medium Term	CDC, SEVANATHA
- Train CDC to maintain common sewer system	Medium Term	CDC, SEVANATHA, SLLR&DC, CMC		
No Storm and Waste Water Drains Lack of drains for waste and storm water discharge from housing units	Construction of a storm and waste water drainage system	- Preliminary discussions with relevant agencies	Short Term	CDC, SEVANATHA, SLLR&DC, CMC
		- Preparation of basic designs and estimates	Medium Term	SLLR&DC, CMC
		- Collect community contribution	Medium Term	CDC, SEVANATHA
		- Clear boundary dispute and other constraints	Medium Term	CDC, Community, SLLR&DC
		- Construct the storm and waste water drains	Medium Term	CDC, SLLR&DC, CMC
		- Mobilize community for carrying out maintenance work	Long Term	CDC, SEVANATHA
			Long Term	

No Electricity Lack of electricity polls in inner access roads and Lack of street lamps No individual connections	Provide electricity polls in inner roads and street lamps for main roads	- Discuss with Municipal Members on fund availability - Request CMC to make an estimate - Coordinate the progress	Medium Term	CDC
			Medium Term	CDC, SEVANATHA
	Provide individual connection	- Educate community about the process of obtaining the electricity connection	Medium Term	CDC, SEVANATHA, CEB
			Short Term	
Poor Access Roads Poor condition of the access roads	Improve the condition of access roads	- Remove unauthorized construction and fence road space to avoid encroachments - Discuss with the relevant agencies to find out fund availability - Request MMCs to allocate their fund - Improve the condition of main and inner access roads - Coordinate the progress	Short Term	CDC, SLLR&DC
			Short Term	CDC, SEVANATHA, SLLR&DC, CMC
			Short Term	CDC
			Medium/Long Term	CDC, SLLR&DC, CMC
			Long Term	CDC, SEVANATHA
Poor Housing No housing loans and technical guidance	Introduce housing loan system and technical support service	- Clear boundary disputes of the housing plots - Discuss with the relevant agencies for introducing a housing loan scheme - Provide technical support - Regularize unauthorized housing units	Short Term	CDC, SLLR&DC
			Short/Middle Term	CDC, SLLR&DC, NHDA
			Medium Term	CDC, SEVANATHA, NHDA
			Short Term	CDC, SLLR&DC, CMC
No Solid Waste Collection and Disposal system	Introduce proper waste collection system	- Understand the existing system - Study the alternative solutions - Creating a awareness and launch education programme - Introduce community managed	Short Term	CDC, SEVANATHA
			Short/Middle Term	CDC, SEVANATHA, CMC
			Medium Term	CDC, SEVANATHA
			Medium	CDC, SEVANATHA

		waste collection system	Term	
Poor condition of main canal Poor condition and bad maintenance of the main canal	Improve the condition	<ul style="list-style-type: none"> - Request SLLR&DC to improve the main canal - Mobilize community to maintain the canal - Introduce a tree planting project along the canal bank 	Short Term	CDC
			Short/Middle Term	CDC, SEVANATHA
			Medium/Long Term	CDC, Community
Poor Health /Recreation Facilities Absence of community health services and recreational facilities	Improve community health services and recreational facilities	<ul style="list-style-type: none"> - Make a request to CMC to provide necessary health facilities - Discuss with the SLLR&DC to find out the reasons for delay of community center construction and find solutions - Identify the possible land close to river for a children park and improve. 	Short Term	CDC
			Short/Middle Term	CDC,SEVANATHA
			Medium/Long Term	CDC,SLLR&DC

**DOCUMENTATION REQUIREMENTS FOR A WATER
CONNECTION**

**INSTRUCTIONS TO APPLICANTS
FOR OBTAINING NEW WATER CONNECTION**

01. Rs. 50/= to be paid for the application fee.
02. If the applicant is the owner of the premises, duly filled application to be submitted with the following documents.
 - a. A copy of the assessment notice or copy of the deed.(Originals also should be forwarded to certify the copies).
03. If the applicant is not the owner, the following documents will have to be submitted.
 - a. Copy of the assessment notice or the deed, which is written in favor of the owner.
 - b. If the service connection want to be taken in favor of the applicant, consent letter from the owner, attested by a Justice of Peace (J.P) will have to be submitted.
04. If there is no assessment no. or a deed for the respective premises,
 - a. You are requested to produce a letter issued by Grama Niladari to certify your residency. This letter should be counter signed by the Divisional secretary.
 - b. A refundable deposit of Rs.1000/= to be made with the application. This will be refunded on submission of the assessment notice issued in favor of the applicant.
05. On submission of the application, the premises will be inspected by an officer and a voucher will be issued for payments.
06. Payments for water connections be made to the cashier at the National Water Supply and Drainage Board (N.W.S&D.B.) office at Welicada Plaza, Rajagiriya.
07. On production of payment receipt to the respective office, the applicant will have to produce his/her National Identity Card together with stamps to the value of Rs.1000/= and enter into an agreement with the N.W.S.& D.B . Additional stamp to a value of Rs.10/= will have to be produced if the payments made in installments.
08. It is your responsibility to safe guard the water meter installed for the service connection. If any damage is caused, incurring cost for installing new water meter to be bear by the consumer.
09. Average water consumption for a person of an ordinary house is 135 liters (30 gallons) for a day. You can regulate the flow by throttling the valve near the water meter, there by you may able to maintain the monthly water bill around Rs 100/=.
10. On having provided service connections, action will be taken to disconnect the water supply to stand posts, bathing places etc.. A consent letter will be required with regards to this matter.

Non Revenue Water (N.R.W.) Reduction Section

N.W.S & D.B.

Telawala Rd., Ratmalana.

ජල සම්බන්ධයක් ලබා ගැනීම සඳහා ඉල්ලුම් පත්‍රය
ජාතික ජල සම්පාදන හා පලාපවහන මණ්ඩලය



ඉතා වැදගත් : සම්පූර්ණ කිරීමට පෙර උපදෙස් සම්පූර්ණයෙන්ම කියවන්න.
 (සිකුන් කළ දින පිට මාස හයක කාල සීමාවක් වලංගුය)

අයදුම් පත් අංකය : 1200/19/53/11/054/0

01. අයදුම්කරුගේ නම : Elandari Padige Puspar Nandani
 (ඉංග්‍රීසි බසින් සම්පූර්ණ කළ යුතුය)

02. ජල සම්බන්ධතා අවයව ස්ථානයේ ලිපිනය : 1/3E 81, III Stage
Kadliwara Walaha
Mattakbuliya
 (ඉංග්‍රීසි බසින් සම්පූර්ණ කළ යුතුය)

ලිපි යැවිය යුත්තේ චෙතන් ස්ථානයකට නම් එම ලිපිනය : _____

03. ජලසම්බන්ධතා අවයව ස්ථානය පිළිබඳ විස්තර : 1/3E 81, කද්ලිකොට්ටා

4.1 වර්ජනම් අංකය :- මහලක්කොට්ටිය
 (වර්ජනම් අංකය නොමැති ප්‍රදේශවල ගෘහභූමික අංකය)

4.2 ඉල්ලා සිටින ජලසම්බන්ධතා ප්‍රභේදය : (ගෘහ / මානිෂ්, කර්මාන්ත / ආයුර්ග) ගෘහ
 (ජලසම්බන්ධතා ප්‍රභේද නිර්ණය කිරීමේ අවසාන තීරණය මණ්ඩලය සතුය)

4.3 අවයව කරන ජල ප්‍රමාණය දිනකට ලීටර : _____
 (ගෘහ සම්බන්ධතා සඳහා අදාළ නොවේ)

4.4 අයදුම්කරු එම ස්ථානයේ අයිතිකරු / බදුකරු / කුලීකරු යන වග : අයිතිකරු

05. ජලසම්බන්ධතා අවයව ස්ථානය පහසුවෙන් සොයා ගැනීම සඳහා අවයව සම්පූර්ණ විස්තර සහිතව එම ස්ථානයට ලඟාවිය හැකි මාර්ගය කෙටි සටහනකින් පසු පිටෙහි දක්වන්න.

මෙම අයදුම්පතේ ඇති ස්ථානයට ජල සම්බන්ධතාක් ලබා ගැනීම ඊට අනුකූල උපදෙස් මාලාව කියවා නොදිත් තේරුම් ගත් අතර, මෙම අයදුම්පතෙහි සඳහන් සියලුම කරුණු සත්‍ය වන අතර, අසත්‍ය තොරතුරු සැපයීම තිසා ඉදිරියේ දී ජල සම්බන්ධතා විසන්ධි කිරීමට මණ්ඩලයට බලය ඇති බව නොදිත් දැනිමි.

දිනය : 2022/02/11

ඊ. ජිනන්දරත්න
 අයදුම්කරුගේ අත්සන

කාර්යාලීය ප්‍රයෝජනය සඳහා පමණි.

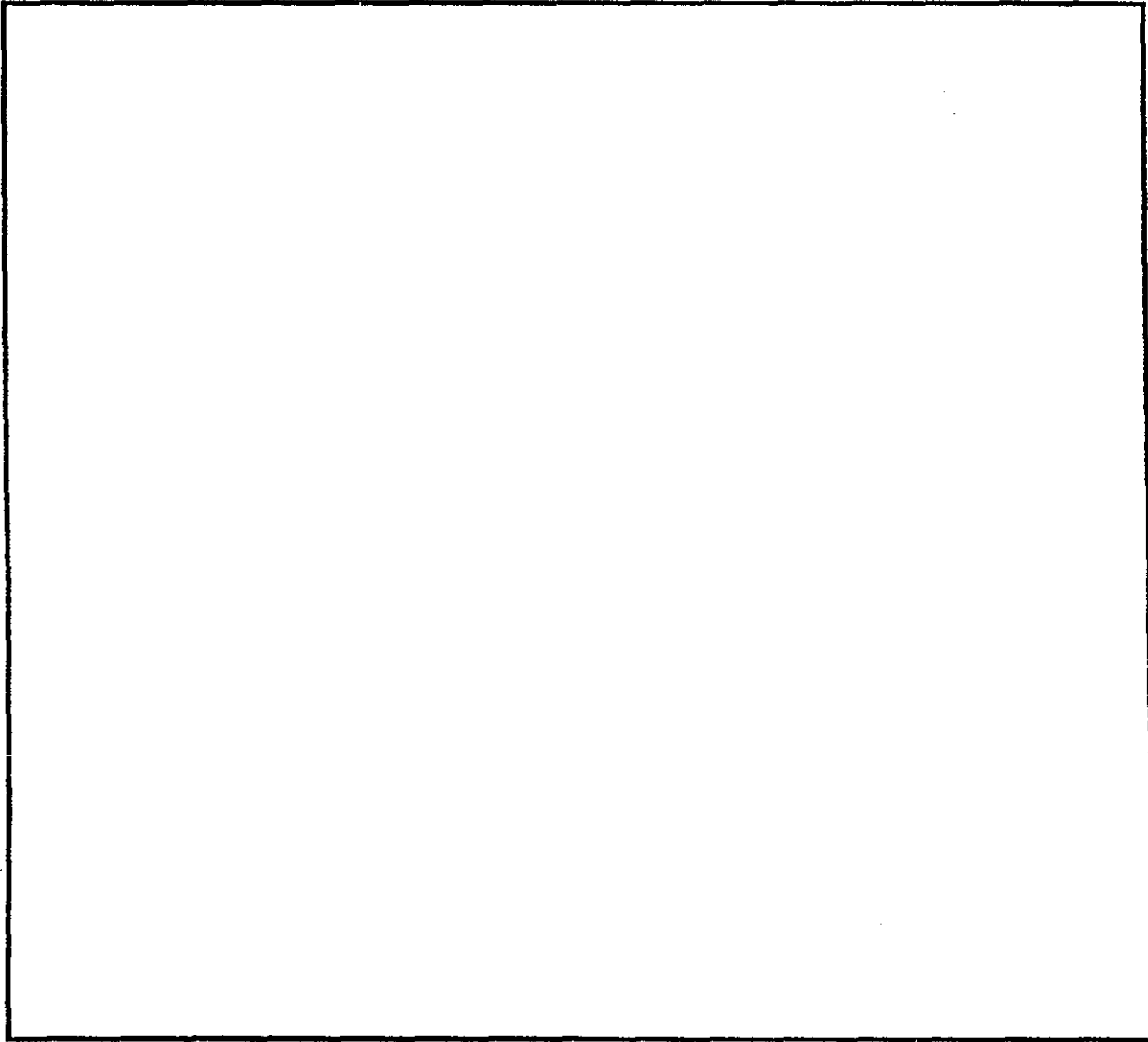
සිකුන් කළ දිනය : 2022/02/11

අයදුම්පත් අංකය : 1200/19/53/11/054/0

සිකුන් කළ ස්ථානය : මහලක්කොට්ටිය

ඉදිරි සේවයේ ඉටු සටහන :

ඊල සමීඛන්ඛනස අවසන් ස්ථානස පෙන්නවන දල සැලැස්ම.



මගේ අංකය: 88/31/14/54 22 - II
 1997/11/23. 07/03

විද්‍යාලය: 15/73
 විෂය: 1/2

මාගේ අංකය: 88/31/14/54 22 - II
 1997/11/23. 07/03

මාගේ අංකය: 88/31/14/54 22 - II
 1997/11/23. 07/03

මාගේ අංකය: 88/31/14/54 22 - II
 1997/11/23. 07/03

මාගේ අංකය: 88/31/14/54 22 - II
 1997/11/23. 07/03

මාගේ අංකය: 88/31/14/54 22 - II

- I. මාගේ අංකය: 88/31/14/54 22 - II
- II. මාගේ අංකය: 88/31/14/54 22 - II

විද්‍යාලය: 15/73
 විෂය: 1/2

1. මාගේ අංකය: 88/31/14/54 22 - II
2. මාගේ අංකය: 88/31/14/54 22 - II
3. මාගේ අංකය: 88/31/14/54 22 - II
4. මාගේ අංකය: 88/31/14/54 22 - II

මාගේ අංකය: 88/31/14/54 22 - II
 1997/11/23. 07/03

TREASURER'S DEPARTMENT - PROPERTY RATE DIVISION

SERIAL No. 422/4/2001
 WARD: No. 7/k
 TYPE:
 RATE: 2
 PAID BY: M.S. E. P. N. S. S.

AC No. 12565993
 CODE
 ASSESSMENT No. 1/3 E 91
 ROAD: F... Rd
 ANNUAL VALUE: Rs.
 QUARTERLY RATE: Rs. 15/-

PAYMENT

CURRENT RATES: Rs. 15.00
 QUARTER: 4 YEAR: 2000
 DEDUCT 5% / 10% DISCOUNT Rs. _____
 NET CURRENT RATES Rs. 1
 ARREARS: Rs. _____
 QUARTER: YEAR: 1
 ADD WARRANT COST 15% / 20% Rs. _____
 TOTAL PAYABLE: Rs. 45.00
 ISSUED BY: _____
 PAYMENT RECEIVED: 01. 11. 2001

NB. Whose payment is made by cheque, the cheque is accepted on condition that it is realised on the first presentation. Whenever such presentation is made, if for any reason whatsoever the cheque is not then realised, the amount shown on the receipt will be treated as due and unpaid.

01-11-1980 10:15
 45.00 01
 CASH
 MIN. OF ST. OF PREMISES: 173E81
 SHROFF, C.M.C.

FOR MUNICIPAL TREASURER

TOPPAN FORMS (COLOMBO) LIMITED TEL. 68711108/09 11/08

பேரரசாங்க அமைச்சர் உத்தரவு

சோதனைக்காரர் வரிப்பணத்திற்கு பாத்திரவாளியாய் இருந்தால் அவருக்கு தயவு செய்து அனுப்பவும்

PLEASE PASS ON TO OWNER IF HE IS RESPONSIBLE FOR RATES

பேரரசாங்க அமைச்சர் உத்தரவு

தஞ்சை நகர அரசாங்க அமைச்சர் உத்தரவு. தஞ்சை நகர அரசாங்க அமைச்சர் உத்தரவு. தஞ்சை நகர அரசாங்க அமைச்சர் உத்தரவு.

பேரரசாங்க அமைச்சர் உத்தரவு

(i) உலக சுகாதார நெய்தல் நகராட்சி அமைச்சர் உத்தரவு.

(ii) 1978 ஏப்ரல் 42 ஆம் ஆண்டு நகராட்சி அமைச்சர் உத்தரவு.

(a) கிராம பஞ்சாயத்தாட்சி அமைச்சர் உத்தரவு.

(b) வருமான அமைச்சர் உத்தரவு.

பேரரசாங்க அமைச்சர் உத்தரவு

பேரரசாங்க அமைச்சர் உத்தரவு.

பேரரசாங்க அமைச்சர் உத்தரவு.

வரியியற்பாளர்களுக்கான நிபந்தனைகளும் அறிவுறுத்தல்களும்

- வரியியற்பாளர்களுக்கான நிபந்தனைகளும் அறிவுறுத்தல்களும்
- மொத்த வரிப்பணமாக அல்லது நான்குகாலாண்டு தவணைப்பணமாகக் செலுத்துதல்.
 - உங்களால் காட்டப்பட்ட ஏதும் எதிர்ப்புகளுக்கு தீர்வு காணும் வரை அறிவித்தலில் கூறப்பட்ட மாதிரி அங்கு குறிப்பிடப்பட்ட நிகழ்வுக்கு அல்லது முன்பாக வரிப்பணம் செலுத்தப்பட வேண்டும். அவ்வாறில் அழைப்பாணை உங்களுக்கு வழங்கப்படுமீடத்து நீங்கள் மிகை அறவீடு செலுத்துவதற்குட்பட்டவராவீர்கள்
 - 1979ம் ஆண்டில் 42ம் இலக்க மாநகராட்சி மன்றங்கள், நகராட்சி மன்றங்கள் திருத்தச் சட்ட ஏற்பாடுகளுக்கு உங்களது கவனம் வேண்டப் படுகின்றது அதன்படி.
 - எந்த ஒரு ஆண்டிலும் அந்த ஆண்டுக்கான வரிப்பணம் சனவரி மாதம் 31ம் திகதி அன்றே அல்லது அதற்கு முன்னரே செலுத்தப்பட்டால் எந்தவொரு ஆண்டு வரிப்பணத்திலும் 10 வீத கழிவுக்கு இப்பிரிவில் கீழ் நீர் உரித்துடையவர்களே நீர். அல்லது அவ்வரிப்பணங்கள் தவணைக் கட்டணங்களாகச் செலுத்தப்படுமீடத்து அப்படியான தவணை வரிப்பணம் செலுத்தப்பட வேண்டிய காலத்துள் முதல் ஒரு மாத காலத்துள் அத்தொகை செலுத்தப்பட்டால் அத்தவணைப்பணத்தின் 5 வீதக் கழிவுக்கு உரித்துள்ளீர்.
 - அழைப்பாணையொன்று உங்களுக்கு வழங்கப்படுமீடத்து அது வெறும் காணியாயின் அல்லது வதிவிடச் சொந்தாக அமைந்தவிடத்து உரிய வரிப்பணத்தின் 15 வீதம் செலவுத் தொகையாக உங்களிடம் அறவிடப்படும். அத்துடன் வெறும் காணி மற்றும் வதிவிடச் சொத்து அவ்வாறு செலுத்துக்களில் செலுத்தப்பட வேண்டிய வரியாயின் இச்செலவுத் தொகை இருபது வீதமாகும்.
- குடியிருக்கப்படாத கட்டிடங்களுக்கான வரி விலக்கு.
 - தளபாடங்கள் போடப்படாத கட்டிடத்தைத் தவிர்த்த, கட்டிடமொன்று பாவிக்கப்படாமல் விட்டாலோ அல்லது தொடர்ந்து பாவிக்கப்படாமலோ இருந்தால், அக்காலத்திற்கான அக்கட்டிட வரிக்கு வரி விலக்கு அளிக்கக் கூலாத்திற்கு எடுக்கப்பட முடியும். மேற் கூறப்பட்ட வகையில் அவ்வாறு பாவிக்கப்படாத கட்டிடங்கள் பற்றிச் சபைக்கு எழுத்து மூல அறிவித்தல் கிடைத்த தினத்திலிருந்து அவ் வரி விலக்கு ஆரம்பமாகும். அத்துடன் நிரம்பப், பாலணைக்குட்படுத்தப்படும் கட்டிடங்கள் பற்றி மூன்று நூட்களுக்குள் சபைக்கு அறிக்கும்மீடத்து அவ்வரி விலக்கு நிறுத்தப்படும். அவ்வாறு நிரம்பப் பாலணைக்குட்படுத்தப்படும் கட்டிடத்திற்கான அறிவிப்பு மேற்கூறிய கால எல்லைக்குள் சபைக்குக் கிடைக்கப்படாவிட்டால் அவ் வரி விலக்கானது அவ்வாறு நிரம்பப்

CONDITIONS AND INSTRUCTIONS TO RATE PAYERS.

- Objections to Assessments. If you are aggrieved by this assessment you may lodge your objections at Municipal Office, WITHIN THIRTY DAYS FROM THE DATE OF SERVICE OF THE STATUTORY NOTICE upon the premises assessed. Such objections must be in writing and must specify the grounds upon which the objection is made.
- Payments of Rates in full or in Four Equal Instalments.
 - The rates should be paid as stated in the notice on or before the dates specified therein until the settlement of the objection if any lodged by you. Otherwise you will be liable for the surcharge on the issue of a warrant.
 - Your attention is also drawn to the provisions of the Municipal Councils and Urban Councils Amendment Act No. 42 of 1979 whereby:-
 - You will be entitled to a discount of ten percent of the amount of any annual rates payable under this section if such rates are paid on or before the thirty first day of January of that year or where such rates are payable in instalments, a discount of five percent of instalment of rate due such amount is paid within the first one month of period for which the instalment rates are due.
 - You will be charged for costs on the issue of a warrant at fifteen per centum on the amount of rates due on bare lands and residential properties, and twenty per centum on the amount of rates due on properties other than bare land and residential properties.
- Remission of Rates in respect of un-occupied Buildings.
 - If any building, other than a building containing furniture, is or remains untenanted, remission of the rates payable in respect of such building could be considered for the period during which the building is, or remains untenanted.
—In which case remission will commence on the day on which the Council receives a written notice of such building being untenanted and terminate on the date on which it is re-occupied provided notice of such re-occupation is given to the council within three days of such re-occupation. If a notice of re-occupation is not received within the said stipulated period, remission will terminate on a date one month prior to the date of re-occupation.

APPENDIX 4B-2

REPORT ON PILOT PROJECTS IN LOW
INCOME SETTLEMENTS IN CMC AND
IMPLEMENTATION MANUAL FOR
ENVIRONMENTAL IMPROVEMENTS
(JAN. 2001)

JAPAN INTERNATIONAL COOPERATION AGENCY

THE DETAILED DESIGN STUDY
ON
THE PROJECT FOR REDUCTION OF NON-REVENUE WATER
IN THE GREATER COLOMBO AREA
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

**PILOT PROJECT IN LOW INCOME SETTLEMENTS IN CMC
AND IMPLEMENTATION MANUAL
FOR ENVIRONMENTAL IMPROVEMENTS**

JANUARY 2001

JICA STUDY TEAM

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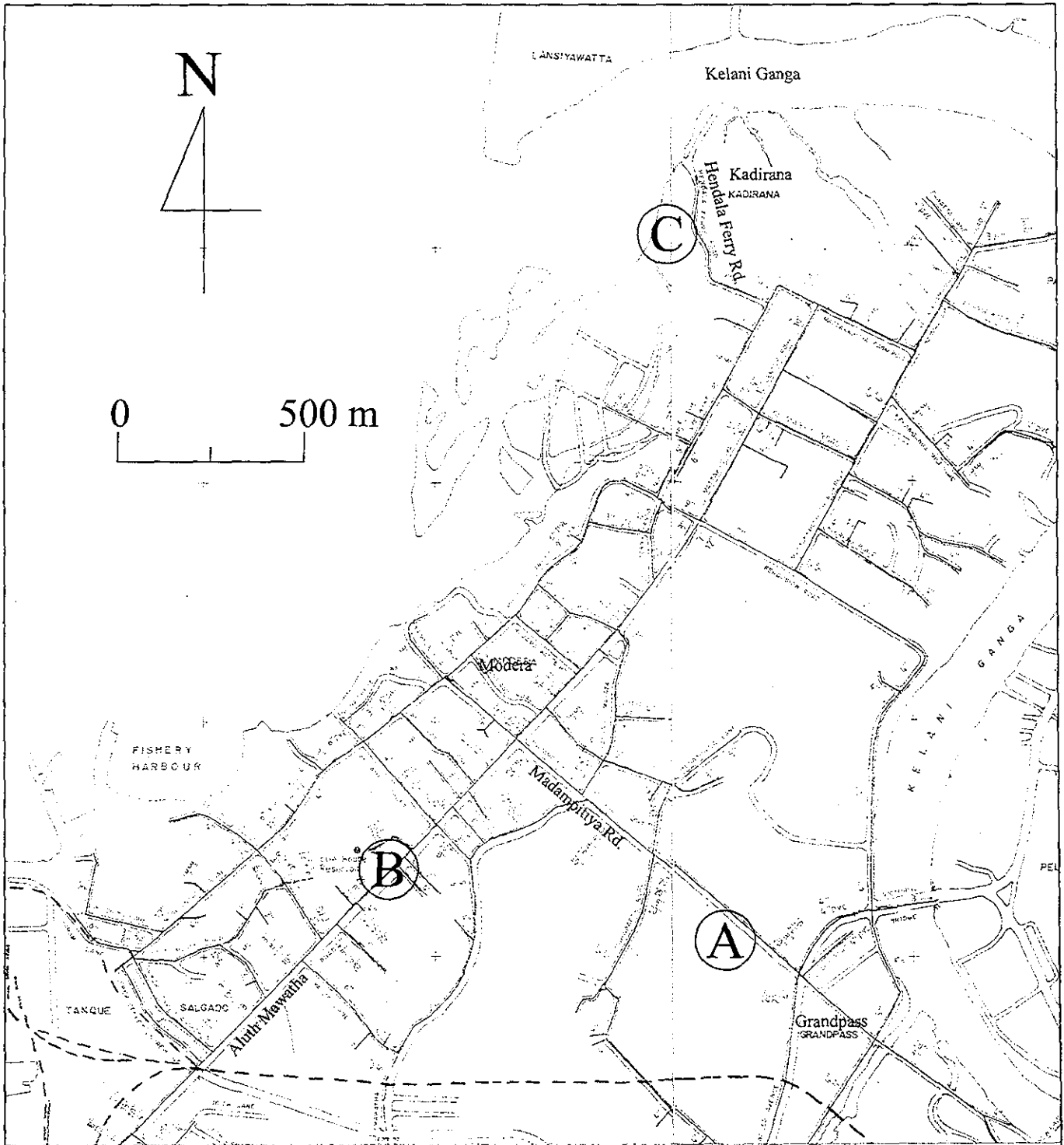
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- Ⓐ 312 Watta Madampitiya
- Ⓑ 323 Watta Aluth Mawatha
- Ⓒ Kadirana Watta (Stage II)

Project Location Map

SCALE As shown

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 THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF
 NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE
 DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

1 THE PILOT PROJECT

1.1 Selection Process

This project forms part of an overall project for reduction of non-revenue water (NRW) in Greater Colombo. It identified the fact that NRW must not be treated as a stand-alone problem in the settlements, but integrated into the overall environmental problems. In addition, the problem must be addressed with the participation of settlement communities and government agencies, with an NGO to facilitate/moderate the improvement process. Settlements were required to be located in the CB1 area (Colombo billing area No. 1), which approximates to the northern district of CMC. Settlement size was to be about 100 households, and sites should not be designated for early relocation. Sites should be as representative as possible of settlements in general, so that options, lessons learned etc., may be made available for other settlement upgrading schemes in CMC beyond this pilot project.

i) Selection Criteria

The selection criteria adopted a similar approach to the JBIC/JOCV projects in Greater Colombo. From site visits to Poorawarama and Badowita, conducted by JOCV, the following selection criteria was deemed to be the optimum for upgrading of water supplies and associated services:

Table 1-2 Selection Criteria

1	Easily integrated into the overall environmental problems
2	To be representative of settlements in general
3	Size to be about 100 households
4	Houses to be of sustainable construction with adequate front and rear access
5	Land Title available or at least promised
6	Affordability for housing improvements, individual water connection (plus monthly water bill), and upgrading of sanitation and drainage
7	Willingness to pay for improved water, sanitation and drainage
8	Willingness of the community to participate, and form a CBO (if none exists)
9	Willingness to contribute both financially and physically to the implementation of improved water, sanitation and drainage facilities
10	Willingness to accept an NGO as facilitator/moderator of the project
11	Willingness of the community and government agencies to link via the NGO
12	The settlement should not be designated for early relocation

ii) Short Listed Settlements

Having formulated the criteria, on the surface, selection of likely sites for short listing would appear to be a relatively easy task. In reality, this was not the case, as there are numerous government agencies involved in the process of improvement of settlements either by relocation to high rise buildings(Designated), or by upgrading (Non-designated).

STP/REEL is a fairly new organisation (1998/99) dealing with the High Rise Building Programme, and is a blend of government and private sector, and hence has certain commercial criteria to meet. It is therefore unlikely that settlements on high value land in CMC would be earmarked for upgrading.

USIP is an even more recently formed unit, replacing the old "Clean Settlement Project Unit" (CSPU) and is staffed mainly by secondment from NHDA. The main task of USIP is the upgrading of settlements in Greater Colombo, including CMC.

Whereas all known settlements have been labeled either Designated or Non-designated, the programme phasing for relocation or upgrading was not available during settlement selection.

There was no information at any of the Agencies listing settlements for upgrading in CMC. The development of detailed information on the environmental upgrading requirements of all settlements, together with a prioritised programme, would be a distinct advantage.

NWSDB provided a list of settlements which it considered suitable, and the NGO, Sevanatha, was able to obtain another list of potential settlements considered suitable for upgrading from NHDA. Both lists were checked with STP for permission to progress, prior to the commencement of fieldwork. The initial list of settlements is given below:

Table 1-2 Initial List of Settlements

Garden No.	Name	No. of H/H
323	Aluthmawatha	67
233	Mahawatta Road	75
307	Mahawatta Road	10
151	Nagalagam Road	10
211	Nagalagam Road	160
214	Nagalagam Road	15
115/10	Klyanagangarama Road	108
45/7D	Klyanagangarama Road	64
	Kadirana Watta II	70
	Kadirana Watta III	70
312	Madampitiya Road	130

Initial reconnaissance surveys were carried out by Sevanatha to all sites, and visits were paid to three of the sites by a joint Sevanatha/JICA Study Team to confirm compliance with the TOR and various other recommendations made on selection criteria, as the work progressed

Following the reconnaissance and joint visits to the settlements, and careful deliberation taking into consideration the selection criteria, particularly the representative nature of the settlements as role models for others, six settlements were selected for the short-list. A profile of the short-listed settlements is given in the following table 1-3:

Table 1-3 Profile of Short-listed Settlements

Name of the Settlement	Address of the Settlement	Settlement Type	Land Ownership	No of Units	Designated Status
115/10 Watta	Kalyanigangarama Road, Mattakkuliya Colombo-15	Relocated	SLLRDC	108	Designated
45/7D Watta	Kalyanigangarama Road, Mattakkuliya, Colombo-15	Upgraded Shanty	NHDA	64	Designated
323 Watta	Aluthmawatha Road, Colombo-15	Upgraded Slum	CNH	68	Designated
Kadirana Watta (Stage II)	Mattakkuliya, Colombo-15	Relocated	SLLRDC	70	Designated
Kadirana Watta (Stage III)	Mattakkuliya, Colombo-15	Relocated	SLLRDC	70	Designated
312 Watta	Madampitiya Road, Colombo-14	Upgraded Slum	NHDA	130	Designated

Abbreviation: SLLRDC = Sri Lanka Land Reclamation and Development Corporation
 NHDA = National Housing Development Authority
 CNH = Commissioner of National Housing

iii) Base Line Survey

Sevanatha then carried out a base line survey on the six short-listed settlement sites involving about 20% of households. Sevanatha, who has extensive experience in this field, developed the

base line survey, and modified it to include items suggested by the JICA study team, for this NRW water related project.

iv) Selection of three priority sites

The selection of the three priority sites and the integrated approach of upgrading water supply, drainage and sanitation was discussed with NWSDB. The final agreed list of sites for pilot projects was as follows:

- i) 323 Aluth Mawatha
- ii) 312 Madampityia Road
- iii) Kadirana Watta Stage - II

A location plan of the settlements is given in Project Location Map.

v) Public Attitude Survey

Following on from the selection of sites, a Public Attitude Survey was carried out by the NGO Sevanatha. The Questionnaire for this survey was compiled drawing on the experience of the NGO who had carried out similar projects in Poorwarama with JBIC/JOCV. 100% of the householders were covered by this survey, and this information provided the base for the commencement of project implementation.

1.2 Implementation of the Pilot Project

The concept of the Pilot Project was based on community participation and required the services of a local NGO to facilitate the process. Contract Documents for Implementation were drawn up and issued to three Tenderers. The work was awarded to the NGO Sevanatha after evaluation of the technical and financial proposals.

The first stage of the implementation process was to facilitate Community Institution Building. In order to involve a community, it is necessary to create a sustainable institution within each settlement which has the confidence and support of the householders, to ensure that the residents are involved in the initial planning process for improvement to the water supply, sanitation and drainage. The institutions will be the vehicle for the involvement of the communities, facilitated by the NGO, to build confidence, to discuss and negotiate with agencies such as NWSDB, CMC, SLLRDC, etc.

A report on the project implementation prepared by the NGO, Sevanatha, is attached as Appendix 4B-1.

1.3 Preparation of Improvement Plans and Cost estimates

The approach to the preparation of improvement plans was to involve the agencies responsible for water supply, sanitation and drainage, together with the landowners.

An early meeting was arranged between NWSDB/CMC/NGO/JICA Study Team, to draw up an initial strategy to ensure the successful launch of these pilot projects. These meetings continued fortnightly to draw up the basis for design layouts of improvements to water supply, sanitation and drainage, and to keep the NGO fully informed for its important link with the communities. The owner of Kadirana Watta – Stage II, SLLRDC attended the subsequent fortnightly meetings whenever possible.

i) Water Supply

NWSDB has a large amount of experience in the conversion of settlements from standpost supplies to individual household connections, through its NRW Reduction Unit. NWSDB do not provide sophisticated drawings and calculations, merely using simple layouts, with nominal pipe diameters of 75mm and 50mm.

ii) Sanitation

Representatives of CMC attended the meetings fairly regularly, and produced layout drawings and cost estimates for 323 Aluth Mawatha and 312 Madampitiya Road. CMC required more time than the programme had allowed to produce the work required. The layouts were based on traditional sewer design, with connections to the main sewage system. Cost estimates were made on the basis of the work being carried by contract, which is standard CMC procedure. SLLRDC presented its layout for Kadirana Watta – Stage II, which had been prepared some time ago, and would have been implemented had there been any JBIC funds remaining from the relocation funds of the canal rehabilitation project. Once again, the design was for conventional sewers, but connected to a septic tank.

iii) Drainage

CMC also drew up the drainage layouts and estimates for all sites in a similar manner to that for sanitation. The systems utilised Hume RCC culverts and pre-cast half round covered channels. SLLRDC also presented a layout and estimate which had been prepared previously.

iv) Cost Estimates

The final cost estimates are given in the table below:

Item	Kadirana II 61 housing units	312 M ² pitiya 101 housing units	323 Aluth Mw. 87 housing units	Comments
<u>Water Supply</u> Cost Estimate	By NWSDB Rs 118,161	By NWSDB Rs 328,918	By NWSDB Rs 102,278	Estimates exclude connection costs, excavation/backfill
<u>Sanitation</u> Cost Estimate	* By SLLRDC Rs 1,523,751*	By CMC Rs 3,052,570	By CMC Rs 1,953,870	312/323 sanitation costs are for main sewer schemes
<u>Drainage</u> Cost Estimate	** By CMC Rs 3,633,377	By CMC Rs 1,501,752	By CMC Rs 442,632	Schemes vary; full design to additions to existing
Total cost	Rs 5,275,289	Rs 4,883,240	Rs 2,498,780	Rs 12,657,309

Notes:

* SLLRDC Cost increased by 20% to allow for inflation from 1998

** SLLRDC drainage estimate was corrected to Rs 858,750 but excludes preliminaries and service charge

Costs for the water supply were considered to be reasonable, and would be recovered in a period of about two to three years, as well as reducing NRW. However, the costs for sanitation and drainage were considered to be very high, and a check on the cost per household unit revealed the following:

Water Supply

Location	No. of Units	Cost Estimate Rs	Cost per unit	Remarks
323 Watta Aluthmawatha	87	102,278	1,176	Excludes household connection costs, connecting to main, road reinstatement all excavation and backfill
312 Madampitiya	101	328,918	*3257	
Kadirana Stage II	61	118,161	*1937	
Total	249	Rs 549,357	Rs 2,206	Average unit cost

Sanitation

Location	No. of Units	Cost Estimate Rs	Cost per unit	Remarks
323 Watta Aluthmawatha	87	1,953,870	22,458	All work by CMC Contract, no community involvement
312 Madampitiya	101	3,052,570	30,223	
Kadirana Stage II	61	1,523,751	24,979	
Total	249	Rs 6,530,191	Rs 26,226	Average unit cost

Drainage

Location	No. of Units	Cost Estimate Rs	Cost per unit	Remarks
323 Watta Aluthmawatha	87	442,632	5,088	CMC estimate, but community will do
312 Madampitiya	101	1,501,752	14,869	As for 323
Kadirana Stage II	61	3,633,377	59,566	As for 323
Total	249	5,577,761	22,400	Average unit cost

As can be seen from the foregoing, the unit cost for sanitation and drainage by conventional methods, is more than ten times that of water supply and there is no return whatsoever on the investment since at present there are no direct charges for those connected to the main sewerage system.

v) Community participation

There is a degree of reluctance by both CMC and NWSDB regarding community participation. CMC insisted on applying the normal regulations which required a contract to be let, and NWSDB are only prepared to use free labour from the community to reduce the cost. In view of the time scale required and after much discussion, the following was agreed to be a practical way of involving the communities, rationalising costs, and creating a sense of ownership,

Water Supply (Executing Agency – NWSDB)

Communities will be asked to provide labour, free of charge, for excavation and backfilling. This has been standard practice for NWSDB water supply only schemes in settlements.

Sanitation (Executing Agency – CMC)

Due to the complexity of the work (accuracy of line and level, compaction etc), it was agreed not to involve the communities. Cost estimates show that the value of the works will exceed the small projects cost (Rs 150,000), therefore the contracts must be advertised for competitive tendering. (This process takes a minimum of one month)

Drainage (Executing Agency – CMC)

CMC does not recognise Communities as contractors unless they are registered. However, landowners allow CDCs to carry out contracts on their land. It was agreed that drainage works should be let through the landowners, and that the communities should be made responsible for the construction works. Since designs are by CMC, CMC will be able to monitor the construction works for compliance with design and quality of work.

1.4 Final Outcome of the Upgrading Proposals

It was felt that upgrading the water supply would enhance the health and hygiene of the communities, and that it was both affordable and necessary for the reduction of NRW. The cost to NWSDB would be covered by revenue from the newly connected customers, and the reduction of NRW achieved by way of legalising connections and reducing the number of standposts. (It should be noted that households re-located to High Rise Buildings will not be asked to pay for a new connection).

However, the cost of sanitation and drainage by conventional methods was found to be excessive, and totally donor dependent since neither CMC nor the landowners had the funds to carry out upgrading.

In addition, when it became known that the three pilot settlements had recently been scheduled for re-location by 2003 in the STP/REEL Phase I of the High Rise Buildings Project, upgrading of sanitation and drainage would be a waste of funds. In addition, communities can hardly be expected to contribute cash and spend time and effort participating in the implementation process of permanent works, when the sites would soon be abandoned. It should be noted that the details of the settlements to be re-located in Phase I were not known at the time the pilot sites were offered to the project for upgrading.

1.5 Existing Services in the Project Sites

The problem of the effect of installing water supplies into the houses on these settlements had still to be considered in terms of the environment. Existing conditions in the settlements, described in more detail in the NGO report, were as follows:

323 Aluth Mawatha (Originally 86 households)

Water Supply

Individual Water Connections with Meter	12
Individual Water Connections without Meter	53
Common Stand Post users	31
No of Common Taps available	2 (drinking)

Sanitation

Individual Toilet Users	62
Common Toilet Users	24
No of Common Toilets Available	5

Drainage

Open drains are available
Need some Improvements

312 Madampitiya Road (Originally 120 households)

Water Supply

Individual Water Connections with Meter	22
Individual Water Connections without Meter	31
Common Stand Post users	67
No of Common Taps available	1 (drinking)

Sanitation

Individual Toilet Users	65
Common Toilet Users	55
No of Common Toilets Available	3

Drainage

Open drains are available
Need some Improvements

As can be seen, a detailed examination of settlements 323 and 312 during the course of the project implementation revealed a fair number of legal, and a large number of illegal water connections. A large number of households also had individual toilets, and the common toilets will be retained. Proper drainage exists although some extensions and maintenance would be desirable.

In view of the foregoing, it is deemed that there will be little impact, if any, to the environment by the completion of installation of household connections. Any minor negative impact that may result can be tolerated for the few years, pending re-location to high rise buildings.

Kadirana Watta – Stage II

Water Supply

Individual Water Connections with Meter	Nil
Individual Water Connections without Meter	Nil
Common Stand Post users	77
No of Common Taps available	02 (drinking)

Sanitation

Individual Toilet Users	Nil
Common Toilet Users	77
No of Common Toilets Available	02

Drainage

Not Available

There will be negative environmental impacts, and the NGO/CDC are to approach SLLRDC for financial assistance for a community constructed simple drainage system.

2 DEVELOPMENT OF COMMUNITY PARTICIPATION

Regardless of the limitations of the settlement upgrading exercise, the pilot project has enabled valuable information on the development of community participation to be gathered, and has given an insight into the problems likely to be encountered during upgrading of services in settlements within CMC. The procedure for development of community participation is more fully detailed in the NGO report, and summarised below.

2.1 General Awareness Building

The Pilot Project adopted a slow and deliberate approach to the communities, first with a Baseline Survey in the 6 short-listed sites, then a Community Attitude Survey at the selected sites which slowly built up awareness by the communities to the subject of settlement improvement. The main purpose of the Community Attitude Survey was to assess the community attitude towards the improvement of basic infrastructure facilities, particularly water supply, sanitation and drainage.

Initially there was some confusion within the settlements as to the direction to take to initiate improvements. Some households wanted to appeal to politicians, some wanted to discuss the matter with their CDC, and others wanted to approach CDCs of other communities where improvements had been carried out.

During the Community Attitude Survey, it had been established that Community Development Councils (CDC) existed at all settlements and when the Pilot Project commenced meetings were arranged and field staff of SEVANATHA took time to explain the proposed project to the CDC.

However, it was difficult to make progress with the community leaders at the initial meetings due to bad experiences by the community through their involvement with past development activities, and due to the lack of faith in government projects as well as the outside agencies. It was necessary to hold further informal discussions to raise awareness and trust. Eventually, at a meeting with the CDC and the community, the community showed interest and a commitment to participate in the project.

2.2 Establishment/Empowerment of a Mandated Management Structure

Community Based Organisations (CBO) exist in CMC as Community Development Councils (CDC). CDCs were formed in CMC under the guidance of the municipality in most low-income settlements. The main function of the CBOs is to arrange low-income households into organised groups for improvement of housing conditions and environmental health. The CDC is the most recognised form of CBO in the CMC area by state agencies and NGOs involved in social development and poverty reduction.

There is therefore a fully mandated organisation in many settlements in CMC empowered to liaise with the authorities and the communities they serve. However, many are dormant or inactive for one reason or another. The NGO, Sevanatha was able to revive the CBOs into active and enthusiastic units, fully suited to the management of improvement projects.

2.3 Capacity Building

The NGO recognised the need to build and strengthen the institutional capacity of the management structure. This was achieved by organizing the community into clusters or functional units named "Water Committees."

With the establishment of the Institutional Framework for project implementation at settlement level a detailed Community Facilitation and Institutional Building plan was drawn up to guide and monitor the activities of settlement improvement.

2.4 Confirmation of Linkages with Providers of Support

A most important aspect of successful project implementation is to ensure that links exist between the providers of support and the communities which are to participate in the project. This was achieved by having representatives of the NGO available at the settlements on a regular basis to assist with everything from distribution of forms and form filling in, to co-ordination of participation in construction works.

Linkages were formed with the service providers by the NGO field staff attending the meetings of the Study Team and the agencies. Furthermore, representatives of NWSDB met formally and informally with the CDCs and the communities, facilitated by the field staff of the NGO.

2.5 Settlement Based Water Management and O/M Planning, and formulation of Management Plans

i) Settlement Based Water Management

As described earlier, the revived CDCs formed the core of the management structure and this was fed down to the community by means of the Water Committees and individual households. This ensured that a formal management team was in position to control the project and that the community was fully involved in the process.

ii) O/M Planning

With the project limited to the installation of individual water connections the opportunities for engineering operation and maintenance at community level were similarly limited. Operation of the water supply itself is automatic, but what does require addressing is the operation of the remaining toilet standposts. Whereas it would be desirable to shut down all standposts, NWSDB recognise the need to retain the toilet taps in the interests of hygiene thus NRW will remain at these sources, unless charges can be imposed. Accordingly, the decision was made to educate the communities with the correct operation and use of these taps to ensure that the use would be limited to toilet purposes only. This will have to be continually monitored to ensure correct usage.

The CDCs and communities were addressed on the subject of maintenance and encouraged to monitor the system in terms of leakage and/or breakage of taps. There is a need to ensure that the community involves itself after the commissioning of schemes to prevent deterioration of the system it has helped to install and to limit the amount of NRW.

Government agencies are heavily involved in the participatory approaches in general, and in particular to community operation and maintenance, in rural and township water and sanitation projects outside of Greater Colombo. However, this was not evident on these projects in CMC, and if temporary and permanent upgrading of settlement facilities is to progress, a change of attitude is required together with a clear policy on participation. Communities should be recognised by the agencies and given the responsibility for these projects to be sustainable.

It is most important to have sustainability of community participation, as this would have a positive effect on such matters as the regular payment of water bills.

(iii) **Formulation of Management Plans**

Management Plans were formulated by way of the NGO's Community Facilitation and Institutional Building programme. This programme formed the basis of the NGO intervention in the settlements and was a continuous process throughout the implementation of the project.

2.6 The Community Action Plan

As part of the Community Facilitation and Institutional Building programme drawn up by the NGO, workshops were held at all settlements on a Community Action Plan. The plan commenced with the identification of problems, the listing of common problems, and the final drawing up of an Action Plan. The plan covered all social and environmental problems identified by the communities, which are detailed in the NGO report.

i) **Establishing a Participatory Planning Process**

Under the Community Action Plan, the problem of water supply and the lack of individual connections was thoroughly discussed, and the plan gained the support of the whole community. The people were educated on the water supply process from the filling in of application forms, collection of money, to the basic design of the water supply scheme drawn up by NWSDB. The community was therefore involved in all aspects of the planning process prior to the laying of pipelines and the making of household connections within the settlement.

ii) **Facilitating Technical Understanding**

With the presentation of the design layouts, the members of the community were educated on the technical aspects of the scheme to lay pipelines and make connections. During the construction works, with the community participating in the excavation and backfilling tasks, they were able to observe first hand the work of the NWSDB skilled workers and hence gain an understanding of the technical requirements of a water reticulation network. Such technical understanding leads to an appreciation of what is essentially a buried and out of sight facility, and should assist greatly with the tracing of leakage and any other problems which may develop, regarding operation and maintenance.

iii) **Management and Technical Training**

There was little in the way of formal management and technical training since the community involvement was limited to manual labour, with the NWSDB managing the works and being responsible for the more technical tasks of the installation of valves and fitting, and the metered household connections. It is unlikely that the community will be involved in such works again, and the knowledge gained in participating would suffice as an appreciation of the management and technical skills required to carryout works of this nature.

2.7 Best Practice Sharing

The implementation of the project allowed for the sharing of experiences between all the parties concerned. NWSDB needed to know the complexity of dealing with diverse groups of householders in the settlements to pave the way for their work to come in the many settlements remaining where individual household connections are required. In particular the practice of having an NGO on site, too first of all facilitate the process of working with an informed and willing CDC and community.

The very fact that the NGO was involved both with the Study team, and the agencies, as well as the communities, allowed for a sharing of views on the financial, technical, and procedural requirements, and the stark needs of the communities for basic infrastructure improvements.

These shared experiences within the project can best be extended to others by the free availability of reports and documents on the project, and at meetings, workshops and seminars to discuss and debate the issues.

During the project period meetings were held with others working in the field of improvements to settlements and these are listed below:

JOCV Visits to Badawto and Poorawarama settlement improvement sites

USIP For discussions on its experience on projects in Greater Colombo

CWSS Community Water Supply & Sanitation Project (MHC&PU), to share experiences on community participation

RWSS Rural Water Supply & Sanitation section of NWSDB, to share experiences on employment of NGOs, and community participation

DFID To discuss its work on Urban Poverty Reduction in CMC

CMC To present this pilot project and learn more on the Urban Management Programme

GTZ/CMC To share experiences on sanitation and drainage projects in CMC

These visits, meetings and discussions were invaluable in assisting with the development of overall strategy and project implementation.

3 ANALYSIS OF THE PILOT PROJECT

3.1 Outcome of the Project

The implementation of this Pilot Project had many positive outcomes, which will serve as a valuable basis for both the work of NWSDB in reducing NRW, and for the upgrading of water related services in settlements in CMC. The most notable achievements were:

- The Identification of the number and type of Settlement for upgrading in CMC
- An understanding of the role of Government Agencies and Landowners
- The importance of the role of an NGO at community level, and linkage with the agencies
- The importance of Community Facilitation
- Understanding the needs of the communities in under served settlements
- Understanding the need for full Community Participation
- An appreciation of the time required for the whole implementation process
- The improvement to settlement water supplies
- The reduction of NRW and illegal Connections

3.2 The Role of the NGO

The role played by a competent local NGO is of vital importance to the success of upgrading projects in settlements. It is necessary to gain an early insight into the status of the CDC or other CBO, and to the needs of the community and its willingness to participate in the project. A good local NGO with command of the languages, and an instinctive knowledge of the culture and behaviour of communities, can gain the confidence of the CBO and the community so necessary for a successful project. Furthermore, the NGO is able to facilitate the community, raise awareness, carry out institutional and capacity building, and develop an action plan that will involve the community from project concept to completion, and beyond.

The NGO, whilst not bringing engineering skills to this project, is able to form a link between the service providers, the donor agency, and the CBO and community. In addition the NGO is able to ensure that the overall environmental conditions are enhanced and that improved social

and health conditions result from the project. Good NGOs often extend their work in the settlements after project completion on other social and environmental issues.

3.3 Community Participation

There are enormous benefits to any project by the active participation of the communities. Not only does it empower the community to have to an influence on its destiny, but it also creates a sense of ownership of the upgraded facilities, thereby creating the right conditions for continued interest in the correct operation and maintenance of the facilities.

Community involvement can lead to decreased project costs, making projects more affordable and thereby increasing the number of projects that can be carried out from the funds available.

3.4 Affordability and Willingness to pay

As part of the Community Attitude Survey carried out by the NGO, data was collected on the monthly household incomes in the pilot settlements. The monthly income levels are shown in the following table:

Household Income per Month

Settlement	Below Rs. 3000		Rs. 3,000 – 5,000		Over Rs. 5000		Average Income Rupees
	No.	%	No.	%	No.	%	
323 Aluth Mawatha	4	5.8	22	31.9	43	62.3	9,935
312 Madampitiya	2	2.2	17	19.1	70	78.7	5,667
Kadirana Stage II	3	5.2	14	24.6	40	70.2	7,974
Ave. of all Settlements							7,858

The average income level of community members of these three settlements is much higher than their counterparts in rural and estate sectors in the country. An amount of Rs. 7,858 per household is much higher than the declared poverty line (Rs. 1,500) in urban areas.

Families in these settlements can not be considered as income – poor residents, but they can be recognized as a group of people who badly need basic infrastructure facilities such as water, drains, toilets and other social needs such as schools, community centres, library and health facilities.

People in the three settlements were not only ready to bear the cost of connections, but also willing to make their contributions in both cash and kind to the project. Over 85% of households stated that they could assist the project by giving cash contributions for both construction activities and for maintenance of completed infrastructure facilities.

Hence, it was concluded prior to implementation that the degree of people's willingness to participate in project design, construction and maintenance was very high.

In the event, the people were not called upon to contribute to the project cost, but only to provide labour free of charge, which was given with willingness and enthusiasm.

The cost of individual water connections, currently set at about Rs 4,000 for house owners, was not an obstacle, and when given due notice, payments were generally made promptly. Only in one case out of over 200 households, was the family too poor to afford the connection fee. In addition, the large number of householders with illegal connections were very willing to receive a legal connection.

Clearly, in the pilot area both affordability and willingness to pay were evident.

3.5 Lessons Learned

The most important lessons learned were as follows:

- Combining an NRW driven project with the demand driven concept of community participation is not easy. NWSDB and other service providers are engineering institutions and did not readily accept community participation, other than the provision of free labour to reduce costs. However, community driven projects will result in the automatic reduction of NRW, at least equal to, and probably better than water supply only projects.
- NWSDB is not responsible for sanitation and drainage improvements. NWSDB has a well established programme of stand alone improvement projects to provide individual connections, and whilst not catering for sanitation or drainage, it does take into consideration any negative environmental impacts that may arise in the settlements from its water supply only policy. NWSDB is not enthusiastic in using its funds for any necessary environmental improvements.
- NGOs are not enthusiastic to being tied to fixed contracts with agencies, containing time-related targets to achieve certain goals within a community. The NGO/Community

“Contract” is a mere bond by mutual agreement based on mutual trust. There should be a certain amount of flexibility in the Agency/NGO contract, but there must be discipline in the overall target and costs.

- Projects within CMC are different in concept to those in Greater Colombo. Settlements in CMC are more crowded into the permanent urban housing. There is a scheme underway to re-locate most CMC settlement households to high rise buildings making it difficult to justify large expenditure for service improvements. Whereas the long-term programme and availability of finance for the high rise project is not known, settlement upgrading must take this into consideration.
- The effect of the STP/REEL High Rise Building Project must be taken into account to identify those settlements which will not be re-located, and to establish, as far as possible, a prioritised list of settlements designated for re-location. Many settlements will be in existence for some time to come
- The size selected for the pilot project settlements (approximately 100 households) covers only about 10% of the settlements in Colombo North, whereas one third are less than ten households and 60% are less than twenty.
- Other than the STP/REEL proposal, there is no known common policy between MUDH&C, NWSDB, UDA and CMC to improve the situation in the CMC settlements, either on a short-term or long-term basis.
- In CMC the municipal authority is responsible for sanitation and drainage, as well as solid waste disposal, public health etc. all of which combine to form the bulk of the environmental considerations in the settlements. However, CMC is rarely the landowner of the settlements and is therefore not responsible for providing the infrastructure.
- It would appear that few, if any, of the landowners have the funds for settlement upgrading, and if this is so, future projects will be donor dependent
- There is both the affordability and willingness to pay for individual household connections, and communities are willing to make financial and manpower contributions to the work carried out by agencies.
- More time must be allowed to establish the location of sites, facilitate the communities, design the works, and carry out implementation. The formal systems of government departments, which must be adhered to, and the bringing together of various agencies, is a time consuming exercise. Facilitating communities can not be rushed, although there must discipline in the NGO process to complete the tasks expeditiously

3.6 Final Outcome

As of 1st December 2000, only 312 Madamadpitiya Road had been completed. Out of 120 households only 5 remain to be connected, and all standposts, except those used for communal toilets had been removed. All illegal connections were legalised. Unfortunately, water pressure is insufficient to all houses and this may be due to the installation of the nominal design of 75mm and 50mm diameter pipelines in a low pressure area.

At 323 Aluthmawatha the pipe laying was complete, but had not been connected to the distribution system. Work had not commenced on the household connections but it is anticipated that this settlement will achieve the same success as 312 Madampitiya.

Construction work at Kadiranawatta – Stage II, was limited to pipe laying in the inner lanes. The main pipeline from the distribution system had yet to be laid and work had not commenced on the household connections. This is a particularly difficult site with very low pressure and this will not be resolved until the new 600mm diameter main to Ellie House is commissioned. In addition, some environmental work will be necessary to the drainage. SLLRDC are to be approached to assist the community with drainage and to upgrade the common toilets which are in poor condition.

4 GENERAL SITUATION OF LOW INCOME SETTLEMENTS IN CMC

4.1 Number and Location of Low Income Settlements

CMC has an alarming number of Low Income Settlements within its boundaries, and it is estimated that about 300,000 people live in about 1,500 settlements in conditions where the provision of normal government and/or municipal services is low.

The term “Low Income” settlement itself raises issues as to its validity and definition. So too the phrase “Tenement Gardens, which is not used by STP/REEL in its data bank. More recent reports on settlements within CMC refer to “Under Served” settlements, which is perhaps a more apt term since they are certainly under served, yet investigations do not show that the communities are necessarily low-income earners.

The most valuable and comprehensive data on settlements in CMC has been compiled by STP/REEL, and the various types of communities outside the mainstream housing types are deemed to be:

Slums	(types A and B)
Shanties	(types A B and C)
Relocated Houses	(types A and B)

In addition to these “settlements”, the following housing types are also listed:

Unplanned Dwellers	UPD
Low Cost Flats	LCF (types A and B)
Old Deteriorated Quarters	ODQ

STP/REEL further divide the above into “Designated” (for re-location to High Rise Buildings) and “Non –designated” for which there are no plans to re-locate. An analysis of the data for the whole of CMC reveals the following:

Status	Description	Number of Settlements	Number of housing Units
Non-designated	Shanties, Slums & Re-located houses	192	6,389
	UPD, LCF and ODQ	57	4,509
Designated	Shanties, Slums & Relocated houses	1,168	47,608
	UPD, LCF and ODQ	96	7,434
Total	Shanties, Slums & Re-located houses	1,360	53,997
	UPD, LCF and ODQ	153	11,943
Grand Total	All Types	1,513	65,940

Source: STP/REEL

As can be seen from the foregoing table, the total number of housing units is about 66,000, with about 54,000 being of the “settlement “ type. Out of that figure, about 48, 000 families in 1,168 settlements are scheduled to be re-located, leaving just over 6,000 households in 192 settlements that may require permanent upgrading of services

The STP/REEL data also provides information on the location of the settlements etc. by CMC Ward name and number, together with the land ownership and land area.

4.2 Services in Low Income Settlements

In a recent survey carried out by STP on the availability of services in settlements, the following broad picture emerged:

i) Water Supply

About 80% of the settlements are supplied through communal standposts. Other sources of water are shallow wells, tube wells and rivers.

NWSDB have a record of standposts in CMC settlements, categorised into drinking taps, bathing taps and toilet taps. In CMC there is no charge for this water which contributes significantly to the unsatisfactory NRW situation in the CMC area.

ii) Sanitation

In general, about 80% of the CMC area is sewered and this network is said to be severely inadequate. The sewerage is discharged through sea outfalls and is not treated. There is no direct charge to users of the sewerage system. STP notes that about 80% of the settlements rely on communal toilet facilities, with the balance having some form of individual sanitary facilities. In some settlements individual toilets and communal toilet blocks are connected to the main sewerage system.

iii) Drainage

STP considers that the overall drainage system in the city is inadequate, poorly maintained and the systems suffer from encroachment. Most settlements do not have any planned drainage system, and those which exist, require some form of upgrading and better maintenance. The data available does not go beyond a generalisation.

4.3 The future of Low Income Settlements

Over the years, there have been efforts by various organisations such as NHDA, and USIP to identify and upgrade facilities in settlements. CMC has never had the finance or the jurisdiction to tackle the problem of under served settlements itself. Whereas CMC are responsible for water supply, sanitation and drainage within the municipal area, NWSDB are the ultimate agency responsible for water supply and sewerage. In the case of water supply, CMC (*Water and Drainage Division*) are responsible for operation and maintenance, whilst for sewerage CMC has total responsibility.

NWSDB have taken responsibility for the conversion of settlements from communal standposts to individual household connections. This is in its best interests from a commercial standpoint, since communal standposts contribute heavily to the overall NRW situation in CMC. Figures indicate that free standpost water constitutes about one third of the NRW which currently

stands at over 50% of supply in CMC. NWSDB has the basis of an effective plan to upgrade water supplies in settlements, but does not involve itself in sanitation and drainage.

However, as regards sanitation and drainage, CMC are rarely the landowner of settlements and therefore have no authority to carry out upgrading. Where landowners are other government agencies such as NHDA, and SLLRDA, some efforts have been made to upgrade services particularly in the case of re-located houses where donor money has been made available.

CMC has benefited from the Urban Management Programme of UNDP and UNCHS to the extent that a framework exists to tackle all environmental problems in settlements. Consultations have been held and Action Plans drawn up, but there is little in form of financing and implementing actual projects at this point in time.

Defining the scope and scale of settlement upgrading is of great significance when formulating an overall policy including the number of settlements/households, the amount and source of finance required, the nature of the improvements and the capacity to carry them out in a given time scale.

Against this background, the STP/REEL High Rise Building Programme must be taken into consideration to quantify, as far the possible, the impact this programme will have on alleviating the settlement problem by re-location.

In their recent publication STP/REEL estimate that about US1 Billion will be require to re-house the estimated 66,000 families. The programme is intended to be self-financing, by way of the sale of the liberated settlement land said to amount to 600 acres. A broad plan exists identifying the location of Compact Townships in accordance with the nodal points identified by the Urban Development Authority's Colombo Metropolitan Region Structural Plan (UDA – CMSRP).

There is no overall programme setting target dates for the complete scheme, but Phase I has commenced, and the first high rise building are being constructed. Phase I will cater for about 5,000 units at a cost of Rs 6 Billion (about US\$ 75 Million), and is concentrated in Colombo North. The initial part of the first phase (Sahaspura – Phase I) is planned to cater for the re-location of 695 designated households, out of which 560 had signed up by the end of June 2000.

Hence, it would appear that the programme is well underway, and the current intention is to relocate all designated households (about 55,000) within ten years. Whether this is an ambitious target or not remains to be seen, however, the STP/REEL data clearly indicates those

settlements that will not be re-located, and they are willing to give guidance on which other designated settlements may be in existence for some years to come.

The future of Low-Income settlements therefor rests firmly on the success and timing of the High Rise Building Project. If all goes according to plan then only 192 settlements in CMC may require permanent upgrading of services. Consideration must, of course, be given to the designated sites to ensure the health and well being of these communities until such times as they are re-located.