

SUPPORTING REPORT (1)

ANNEX 6 : SOCIAL DIMENSIONS

**THE STUDY ON STORM WATER DRAINAGE PLAN
FOR THE COLOMBO METROPOLITAN REGION
IN
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

FINAL REPORT

VOLUME III : SUPPORTING REPORT (1)

ANNEX 6 : SOCIAL DIMENSIONS

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CHAPTER 1 PRESENT CONDITION ON SOCIAL ENVIRONMENT

1.1 Poverty and Under-served Settlements

The measurement of the poverty situation in Sri Lanka varies according to the criteria and indicators used. According to the National Human Development Report (UNDP 1998), 27 % of the population of Sri Lanka is poor based on the Human Poverty Index. According to the Department of Census and Statistics (1995/96), 22.9 % of the population is poor, as indicated by the lower consumption poverty line (Rs. 791 per person per month), while 25.9 % is poor as indicated by the higher consumption poverty line (Rs. 950 per person per month). (ADB, 2001¹)

The urban settlements denied of basic urban service and having poor quality or socially unacceptable housing and living conditions can be referred to as Under-Served Settlements (USS). The term “USS” is an expression of the physical condition of the housing and residential health, sanitation and other social conditions of the settlers, other than just an expression of income level since a large percentage of occupants in the USS earn reasonable incomes through the informal sector².

The crucial factor that separates these settlements from other urban settlements is not the level of income of the occupants but the poor level of infrastructure services in the settlements. The types of settlements classified as USS in the urban context are slums, shanty settlements, old low-income flats, relocated housing, old deteriorated quarters, unplanned permanent dwellings, walkup apartments and suburban housing estates.

The USS populations in the CMC and CMR in 1998 are shown below.

Population and USS in CMC and CMR Areas

| Item | CMC (1) | Outside CMC (2) | Total of CMR (3)=(1)+(2) |
|---|------------|--------------------|-----------------------------|
| Land Area | 3,370 ha | 392,990 ha | 396,360 ha |
| Total Population (in 1996) | 728,000 | 3,912,500 | 4,640,500 |
| Population in USS (estimated in 1998) | 363,000 | 419,895 | 783,000 |
| USS Pop. as % of Total Population | 50 % | 11 % | 17 % |
| Number of USS in 1998 | 1,506 | 656 | 2,160 |
| Number of Housing Units in USS in 1998 | 66,021 | 83,979 | 150,000 |
| Average Number of Housing Units per USS | 44 | 128 | 70 |

Source: USIP Project Implementation Plan, The Plan (Vol. 2), 2000. (CSP of, 1998; CMRSP 1998; USIP Database 1999)

¹ Perceptions of the Poor - Poverty Consultations in Four Districts in Sri Lanka, ADB, 2001

² Clean Settlement Programme, Project Preparation Report 3, Survey of Under-served Settlements, Ministry of Housing and Urban Development, 1998

The Clean Settlements Project (CSP) identified about 390 ha of land classified as USS within the CMC area. Among all the types of the USS mentioned above, slums (71%) and shanties (12%) are the most significant categories in the number of the USS. In general, low-income inhabitants are concentrated in such settlements.

1.2 Community Inventory Survey

1.2.1 Scope of the Survey

A Community Inventory Survey was conducted by subletting to a local consultant from November to December 2001. Objective of the survey was to identify socio-economic conditions of inhabitants that might be affected by the implementation of the projects proposed in the Study. The areas to be surveyed were flood-prone areas, low-income residential areas, and shanty areas of which information could be obtained from the relevant local authorities in the study area.

In the survey, Grama Niladhari (GN) division was used as the smallest unit for collection of data on a community. Based on the survey objective, 217 GN divisions that have been affected by flood or were low-income were identified for the survey, which is 17% of the total 1,274 GN divisions in the study area as shown below and in Figure 1.2.1.

Number of GN Divisions Covered under the Community Inventory Survey

| Basin | GN Divisions in the Basin | GN Divisions Surveyed | Percentage |
|-----------------|---------------------------|-----------------------|------------|
| Ja Ela | 208 | 26 | 13% |
| Kalu Oya | 178 | 28 | 16% |
| Greater Colombo | 237 | 61 | 26% |
| Bolgoda | 651 | 102 | 16% |
| Total | 1,274 | 217 | 17% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from DS offices)

The number of surveyed GN divisions by type of waters nearby is shown below.

Number of GN Divisions by Type of Waters Nearby

| Basin | GN Divisions Surveyed | River/Stream | | Reservoir/Pond | | Wetland | |
|-----------------|-----------------------|--------------|------------|----------------|------------|---------|------------|
| | | Count | Percentage | Count | Percentage | Count | Percentage |
| Ja Ela | 26 | 26 | 100% | 0 | 0% | 2 | 8% |
| Kalu Oya | 28 | 28 | 100% | 11 | 39% | 5 | 18% |
| Greater Colombo | 61 | 57 | 93% | 0 | 0% | 36 | 59% |
| Bolgoda | 102 | 100 | 98% | 4 | 4% | 67 | 66% |
| Total | 217 | 211 | 97% | 15 | 7% | 110 | 51% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

1.2.2 Survey Results

Results of the survey are summarized as mentioned hereinafter. Total population of the surveyed GN divisions is about one million. That is 27 % of the total population in the four basins as shown below. This figure indicates that about one million people are living in the settlements affected by flood and/or under low-income, and half of them live in the Greater Colombo basin.

Population Surveyed

| Basin | Total Population (Unit: persons) | GN Divisions Surveyed (Unit: persons) | Percentage of Total Population |
|-----------------|-------------------------------------|--|-----------------------------------|
| Ja Ela | 509,169 | 92,535 | 18% |
| Kalu Oya | 432,609 | 114,302 | 26% |
| Greater Colombo | 1,627,781 | 523,475 | 32% |
| Bolgoda | 1,311,532 | 333,408 | 25% |
| Total | 3,881,091 | 1,063,720 | 27% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from DS and GN offices)

The number of GN divisions by category of settlement affected by flood or under low-income is shown below.

Number of GN Divisions Surveyed by Category of Settlements

| Basin | GN Divisions Surveyed | a) | | b) | | c) | | d) | |
|-----------------|--------------------------|-------|-----|-------|-----|-------|----|-------|-----|
| | | Count | % | Count | % | Count | % | Count | % |
| Ja Ela | 26 | 10 | 38% | 14 | 54% | 0 | 0% | 2 | 8% |
| Kalu Oya | 28 | 11 | 39% | 14 | 50% | 0 | 0% | 3 | 11% |
| Greater Colombo | 61 | 30 | 49% | 14 | 23% | 0 | 0% | 17 | 28% |
| Bolgoda | 102 | 18 | 18% | 73 | 72% | 2 | 2% | 9 | 9% |
| Total | 217 | 69 | 32% | 115 | 53% | 2 | 1% | 31 | 14% |

Note: a) Low-income shanty communities affected by either flood or storm water drainage problems
 b) Low-income communities affected by either flood or storm water drainage problems
 c) Low-income shanties not affected by either flood or storm water drainage problems
 d) Communities not belonging to low-income groups but affected by either flood or storm water drainage problems

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

The following table shows the number of houses by category of settlements in the surveyed GN divisions. Approximately 7% or about 14,000 houses of the total houses fell in the category of temporary houses, of which 58% or about 8,000 houses are located in the Greater Colombo basin.

Number of Houses by Category

| Basin | Total | Category-1 | | Category- 2 | | Category-3 | | Category-4 | |
|-----------------|---------|------------|----|-------------|-----|------------|-----|------------|-----|
| Ja Ela | 17,033 | 876 | 5% | 1,739 | 10% | 13,764 | 81% | 654 | 4% |
| Kalu Oya | 19,515 | 1,313 | 7% | 1,536 | 8% | 15,882 | 81% | 784 | 4% |
| Greater Colombo | 110,101 | 8,230 | 7% | 9,350 | 8% | 72,489 | 66% | 20,032 | 18% |
| Bolgoda | 63,613 | 3,946 | 6% | 3,686 | 6% | 50,430 | 79% | 5,551 | 9% |
| Total | 210,262 | 14,365 | 7% | 16,311 | 8% | 152,565 | 73% | 27,021 | 13% |

Note: Category-1 - Temporary huts constructed with wooden planks

Category-2 - Permanent houses constructed with wooden planks

Category-3 - Single story houses constructed with bricks

Category-4 - Multi-story houses constructed with concrete

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

The number of poor households in the surveyed GN divisions is shown below. In total, 30 % of the households are classified poor³ (62,800 households). Among the four basins, the number of poor households is larger in the Colombo basin (26,900 households) and Bolgoda basin (22,300 households).

Number of Poor Households

| Basin | Total Households in the Surveyed Area | Poor Households | Percentage |
|-----------------|---------------------------------------|-----------------|------------|
| Ja Ela | 17,033 | 6,348 | 37% |
| Kalu Oya | 19,515 | 7,218 | 37% |
| Greater Colombo | 110,101 | 26,931 | 24% |
| Bolgoda | 63,586 | 22,347 | 35% |
| Total | 210,235 | 62,844 | 30% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

The number of houses affected by flood in the surveyed GN divisions is shown below. 27,600 houses are affected in total while 14,600 houses are located in the Greater Colombo basin.

Number of Houses Affected by Flood or Storm water Drainage

| Basin | Total Houses in the Surveyed Area | Houses Affected | Percentage |
|-----------------|-----------------------------------|-----------------|------------|
| Ja Ela | 17,033 | 2,118 | 12% |
| Kalu Oya | 19,515 | 4,440 | 23% |
| Greater Colombo | 110,101 | 14,632 | 13% |
| Bolgoda | 63,586 | 6,443 | 10% |
| Total | 210,235 | 27,633 | 13% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

³ In the Community Inventory Survey, information on the poor households was collected based on the GNs' long-term experience with the following points: a) Only the chief householder is employed and even his/her employment does not generate adequate income for living, b) The house is small in size and the roof is not permanent, and c) Family size is large and many are dependent on the chief householder.

The number of chief householders by type of occupation is shown below. In total, the clerical/private sector employment is the dominant occupation with a relatively large percentage (27%) succeeding those of the labor (23%) and self-employment (18%). However, considering the Bolgoda, Kalu Oya and Ja Ela basins, the percentage of the laborers is almost same or higher than that of clerical/private sector employment, while the percentage of the clerical/private sector employment (31%) is much higher than that of the labor (20%) in the Greater Colombo basin.

Number of Chief Householders by Occupation

| Occupation | Total Chief Householders | | Ja Ela | | Kalu Oya | | Greater Colombo | | Bolgoda | |
|-------------------------------------|--------------------------|-------------|---------------|-------------|---------------|-------------|-----------------|-------------|---------------|-------------|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Manager & executive | 9,462 | 4.5% | 370 | 2.2% | 219 | 1.1% | 7,518 | 6.8% | 1,355 | 2.1% |
| Professional | 5,059 | 2.4% | 149 | 0.9% | 115 | 0.6% | 3,947 | 3.6% | 848 | 1.3% |
| Technical | 2,991 | 1.4% | 77 | 0.5% | 76 | 0.4% | 2,204 | 2.0% | 634 | 1.0% |
| Clerical/private sector employment | 57,792 | 27.5% | 4,995 | 29.3% | 5,528 | 28.3% | 34,035 | 30.9% | 13,234 | 20.8% |
| Marketing and other services | 11,340 | 5.4% | 1,045 | 6.1% | 812 | 4.2% | 5,688 | 5.2% | 3,795 | 6.0% |
| Agriculture and fisheries-skilled | 867 | 0.4% | 226 | 1.3% | 0 | 0.0% | 60 | 0.1% | 581 | 0.9% |
| Agriculture and fisheries-unskilled | 12,003 | 5.7% | 965 | 5.7% | 240 | 1.2% | 2,494 | 2.3% | 8,304 | 13.1% |
| Carpentry/masonry | 7,879 | 3.7% | 318 | 1.9% | 380 | 1.9% | 3,772 | 3.4% | 3,409 | 5.4% |
| Machine operators | 2,844 | 1.4% | 122 | 0.7% | 185 | 0.9% | 1,629 | 1.5% | 908 | 1.4% |
| Trainees | 2,674 | 1.3% | 10 | 0.1% | 7 | 0.0% | 2,218 | 2.0% | 439 | 0.7% |
| Self-employment | 38,291 | 18.2% | 3,255 | 19.1% | 2,952 | 15.1% | 21,056 | 19.1% | 11,028 | 17.3% |
| Unemployed | 10,877 | 5.2% | 472 | 2.8% | 704 | 3.6% | 3,681 | 3.3% | 6,020 | 9.5% |
| Labor | 48,156 | 22.9% | 5,029 | 29.5% | 8,297 | 42.5% | 21,799 | 19.8% | 13,031 | 20.5% |
| Total | 210,235 | 100% | 17,033 | 100% | 19,515 | 100% | 110,101 | 100% | 63,586 | 100% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

The following table shows the number of public service facilities as social infrastructure in the surveyed GN divisions.

Number of Public Service Facilities

| Facility | Total | | Ja Ela | | Kalu Oya | | Greater Colombo | | Bolgoda | |
|--------------------------------|--------------|-------------|------------|-------------|------------|-------------|-----------------|-------------|------------|-------------|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Hospitals | 41 | 3% | 2 | 1% | 3 | 2% | 24 | 4% | 12 | 3% |
| Schools | 202 | 16% | 22 | 15% | 19 | 15% | 87 | 15% | 74 | 17% |
| Community service centers | 157 | 12% | 17 | 12% | 14 | 11% | 66 | 12% | 60 | 14% |
| Govt. service delivery centers | 419 | 33% | 69 | 47% | 40 | 32% | 190 | 33% | 120 | 28% |
| Religious centers | 449 | 35% | 37 | 25% | 48 | 39% | 201 | 35% | 163 | 38% |
| Total Facilities | 1,268 | 100% | 147 | 100% | 124 | 100% | 568 | 100% | 429 | 100% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

The number of households by category of access to drinking water, electricity, latrines, and solid waste disposal facilities as technical infrastructures is shown below.

Drinking water is served to 85% of the surveyed households, while solid waste disposal is served to only 42% of the households. In Bolgoda basin, only 28% of the surveyed households can access a solid waste disposal facility.

Number of Household with Access to Infrastructures

| Infrastructure | Total | | Ja Ela | | Kalu Oya | | Greater Colombo | | Bolgoda | |
|-------------------------------|---------|------|--------|------|----------|------|-----------------|------|---------|------|
| Drinking water | 178,992 | 85% | 13,725 | 81% | 17,395 | 89% | 97,818 | 89% | 50,054 | 79% |
| Electricity | 160,522 | 76% | 14,561 | 85% | 17,425 | 89% | 71,232 | 65% | 57,304 | 90% |
| Latrines | 173,235 | 82% | 14,327 | 84% | 15,503 | 79% | 94,313 | 86% | 49,092 | 77% |
| Solid Waste Disposal Facility | 87,821 | 42% | 7,366 | 43% | 7,982 | 41% | 54,755 | 50% | 17,718 | 28% |
| Total Households | 210,235 | 100% | 17,033 | 100% | 19,515 | 100% | 110,101 | 100% | 63,586 | 100% |

Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

1.2.3 Socio-economic Characteristics of the Settlements in the Proposed Project Sites

Among the GN divisions surveyed in the Community Inventory Survey, GN divisions which are located in and around the proposed project sites were identified and some selected surveyed data items are summarized by each proposed plan as shown below and in Table 1.2.1.

Potential Population Directly Affected by the Proposed Flood Control Measures

(Unit: household (person))

| Category | Total | | Ja Ela | | Kalu Oya | | Greater Colombo | | Bolgoda | |
|---|---------------------|----------------|-------------------|--------------|--------------------|--------------|--------------------|--------------|---------------------|--------------|
| Total HH/Population Affected | 59,978 (311,983) | 100% (100%) | 6,101 (29,803) | 10% (10%) | 12,494 (81,426) | 21% (26%) | 20,566 (96,028) | 34% (31%) | 20,817 (104,726) | 35% (34%) |
| Illegal Occupants | 5,569 (28,290) | 9% (9%) | 122 (487) | 2% (2%) | 1,816 (9,351) | 15% (11%) | 2,485 (12,090) | 12% (13%) | 1,146 (6,362) | 6% (6%) |
| Under Poverty Line | 18,553 (89,985) | 31% (29%) | 2,568 (12,275) | 42% (41%) | 4,011 (21,631) | 32% (27%) | 4,541 (21,384) | 22% (22%) | 7,433 (34,695) | 36% (33%) |
| Houses Located in Riverside Land | 3,533 | 6% | 573 | 9% | 728 | 6% | 1,060 | 5% | 1,172 | 6% |
| Houses Frequently Inundated in Storm Season | 8,807 | 15% | 1,244 | 20% | 3,007 | 24% | 2,530 | 12% | 2,026 | 10% |

Note: The figures in % in the table mean the percentage to total households (persons) in each basin.
Source: Community Inventory Survey, JICA Study Team, 2002 (Data from GN offices)

Total number of households (HHs) living in and around the proposed project sites for all projects of four basins are about 60,000 HHs (312,000 people). This would be the potential population directly affected by the proposed projects.

Some 5,600 HHs (28,300 people) among the above population are illegal occupants who do not have any land tenure. The number of households who are under the poverty line is 18,600 HHs (31% of total). The Bolgoda Basin Storm Water Drainage Plan has the largest number of households who are under the poverty line at 7,400 HHs.

Houses located on riverside land are counted as 3,500 houses in total of the four basins, which might be relocated by the proposed projects in connection with the land acquisition and regulation of land use.

The number of houses frequently inundated in the storm season is 8,800 houses, which might be a part of the potential direct beneficiaries of the proposed projects in relation to improvement of storm water drainage, and upgrading of storm water-related infrastructure on-site and off-site.

CHAPTER 2 SOCIAL CONSIDERATIONS IN THE MASTER PLAN

2.1 Governmental Poverty Reduction Program

Subsequent to the formulation of a framework for poverty reduction in 2000⁴, a poverty reduction strategy (PRS) has been drafted by the Government in 2002. The Department of External Resources is a coordination agency for the working group of the PRS formed by relevant governmental agencies, NGOs, CBOs, and ad-hoc committees. The PRS will provide concrete targets, actions, and implementation schedules from 2002 to 2005 on poverty reduction for whole country.

In 1995, the Samurdhi Program replaced the Janasaviya Program (1989-1995), the first government program to adopt the new methodologies. The program consists of three components to protect and promote the poor⁵; i) income transfer program, ii) saving and credit programs, and iii) development of rural infrastructure through workfare programs. Together with the Samurdhi Program, the budget for education and health accounts for more than 50% of the total social welfare budget, while roughly 15% of the government total social welfare budget is spent on the Samurdhi Program. Total estimated expenditure in 1998 amounted to a little over Rs. 10 billion.

Nearly 40-50% of poor families in the study area are beneficiaries of the Samurdhi Program. According to GNs and DSs, the poor communities in the slums and shanties are mere recipients of monthly subsidies under the Program. The majority of the recipients are not involved in any income generation mini-projects even though the program expected to establish sustainable livelihood systems among the poor in the study area.

2.2 Current Housing Programs for Under-served Settlements

2.2.1 Sustainable Township Program

A Sustainable Township Program (STP) is being implemented by the newly created company, Real Estate Exchange Ltd. (REEL) established in 1999, to re-house 20,000 low-income families in Colombo City, during the next five years. According to a brochure of the STP, the STP will re-house all 66,000 households currently living in the slums and shanties in CMC in a fully developed, modern, and compact township without burdening the beneficiaries or the State. This process will liberate nearly 600 acres of encumbered prime land in the city. These lands will be sold by public

⁴ Sri Lanka: A Framework for Poverty Reduction. Department of External Resources, November 2000

⁵ Monthly household income as poverty line for the Samurdhi Program is Rs. 1,500/month.

auction or redeveloped as a market-based and self-financed program after providing enough re-housing, environmental and public spaces.

The STP recognizes the rights of squatter households on the encroached lands to the places in the city where they have lived for decades. They will be offered a permanent home with title through the STP. At the end of the program, partners of REEL including SLLRDC receive payment for the encroached prime lands at market price, less cost of re-housing of households who are currently occupying them illegally.

2.2.2 Public Utilities Program

Treasury funds are used for the program that is implemented by the relevant Urban Council (UC) in which the settlement is situated. Under the program, the total cost of upgrading or providing additional infrastructure is shared equally by NHDA and UC.

The selection of the settlement and the activities to be implemented will be identified by the UC in consultation with the District offices of the NHDA. Special emphasis is given to water and sanitation requirements and the construction of community centers and pre-schools. The program is connected with the community development activities of the Japan Overseas Cooperation Volunteers (JOCV) Program in terms of community participation and mobilization (USIP, 2001⁶).

2.2.3 Community Contract System

The community contract system was introduced as a new approach under the Million Houses Program in 1980s⁷. Under the system, community infrastructure and amenities such as footpaths, the communities themselves, as contractors, under supervision of the relevant agency, construct drains, toilets and community centers. Under the system, only a community registered as a Community Development Council (CDC) can have a right for the contract. CDC is generally established through the CDC Formation Workshop, which is a part of the workshop modules in the Community Action Planning (CAP) dealing with specific aspects and needs of the communities⁸.

⁶ Sri Lanka: Proposed Urban Settlements Improvement Project (USIP), Project Implementation Plan, The Plan (Volume 2), EML/DHV Consultants with USIP Unit, 2000

⁷ Community Contracts System Guidelines, NHDA, 1988

⁸ Community Action Planning: Making Micro Plans for Community Improvement - CAP Workshop Module Guidelines Series, UNCHS/DANIDA, 1994 (The CAP method was established in NHDA under assistance of UNCHS and DANIDA in 1984 as a community-level participatory planning method.)

2.3 Legislation on Compensation and Resettlement Related to Land Acquisition for Public Projects

2.3.1 Land Acquisition

It is required to follow the rules and regulations of Land Acquisition Act No.60 in acquisition of lands under the Secretary of the Ministry of Lands. He has delegated his authority to the District Secretaries. Divisional Secretaries who work under the supervision of the District Secretaries have authority in land acquisition matters at DS division levels. In lower administrative levels, the director of the Town Development Authorities has powers to acquire land for town development activities.

Any project/program that would create benefits for the public can ask the government organizations that are vested with power to operate the Land Acquisition Act for land acquisition for implementation of the project or program. If the Government or Provincial Government Organization implements the project, the project can request the respective DS in the district to release the land for the project. If the land is government land, it is simple and DS can release it directly. If the land belongs to a private party, acquisition of such land would be a long process. In the first step, it should be published in the government gazette. A copy of the government gazette notice should be sent to the land owner/s. This can be done through publishing the gazette notice on the notice board in public places. If RDA or UDA implements the project, they also have a power, entrusted under the Land Acquisition Act, to acquire land from a private party.

The legal provision on payment for land acquisition is also provided under the Land Acquisition Act. The process of the payment involves several steps. In the first step, the organization that has a power to acquire land requests the Department of Valuation to value the land. The Department will send valuation officers to value the land. The value of the land is decided based on the market value of the land in the respective areas considering some conditions such as location, market value of the land, infrastructure facilities available in the area, and level of urbanization. Then, the Department of Valuation sends the valuation report to the organization that requested such a report. Finally, the payment is made to the respective parties based on the valuation report.

Once the land to be acquired is identified, the authorized organizations publish the decision in public and also inform the affected parties of the decision. The affected parties however have the right to go to the courts. The people who have encroached the government lands have no formal right to obtain compensation or to go to the courts, but in most cases they can also be compensated. The implementation of land

acquisition and resettlement programs is in the hands of DS in the respective divisions.

2.3.2 Resettlement

The Divisional Secretary in each division carries out resettlement activities for the project. There is no legal requirement to be fulfilled once the compensation is paid, but different projects provide different assistances to the affected parties depending on their resources and also under the pressure of the affected parties.

Due to lack of a uniform system for the involuntary resettlement, different projects have followed different systems depending on the situations. In this process some communities and households have been negatively affected.

To address all prevailing problems, the Government under Asian Development Bank Technical Assistance (ADB-TA) in 1999 developed a policy on resettlement including guidelines for involuntary resettlement for smooth implementation of the proposed and future development projects. The second phase of ADB-TA is being implemented at present. The second phase includes the capacity building of CEA and the other government organizations to implement the suggested policy for the involuntary resettlement.

2.4 Review of Past Practices on Environmental Considerations in GCFC&EIP

2.4.1 Compensation and Resettlement

In the GCFC&EIP, either resettlement or an on-site infrastructure upgrading scheme was basically executed for the under-served settlements affected by the project. Assistance to the residents to be relocated was provided by the project and relevant government agencies as follows.

Assistance for Resettlement in GCFC&EIP

| Items of Assistance |
|--|
| 1) Land: compensation based on market value for land title holder, 2 perches (approx. 50 m ² , 30 years leasehold) in the resettlement site for non-land title holder |
| 2) Community infrastructure in the resettlement site: water supply, latrines, drainage, garbage bins, community centers, streetlights, community roads, etc. |
| 3) Housing loan: up to Rs. 20,000 by NHDA, grant at Rs. 8,000 for low-income residents |
| 4) Ex gratia: Rs. 1,000/household |
| 5) Transportation assistance for relocation activity |
| 6) Preparation of foundation for housing in the resettlement site |
| 7) Compensation for permanent buildings |

Source: JBIC Ex-post Evaluation Report, JBIC, 2001

2.4.2 Community Development and Community Contract System

In the GCFC&EIP, the community contract system was applied for upgrading and newly constructing community infrastructure such as community drains in both resettlement sites and on-site upgrading. In some locations, community formulation and registration procedures were first completed with assistance of NGOs and JOCV staff in order that the community can have eligibility to the system.

2.4.3 Lessons from the Previous Projects

In the urbanized areas of the CMR, there exist a lot of settlements in the flood-prone lowlands and in proximity to the canals and canal reservation areas, where the proposed storm water drainage project site would be. Under the circumstances, land acquisition and resettlement are anticipated to some extent by implementation of the proposed projects .

For the smooth implementation of the project, people affected by the project should be fairly compensated so as not to lower their living conditions. The compensation does not only mean cash compensation to damaged/lost property, but also assistance for upgrading the living environment and/or recovering livelihood. Especially for the under-served, low-income settlements, special assistance should be taken care of in terms of upgrading their basic living environment. In this sense, not only houses located within the boundary of the project sites in terms of storm water drainage improvement should be targeted, but also neighboring under-served settlements as well as low-income settlements should be focused on as project sites.

Previous works and experiences in the GCFC&EIP will be useful for assessing social considerations of the people affected by the proposed projects. Also, lessons and recommendations from the knowledge of relevant personnel and reports such as JBIC post evaluation report for the GCFC&EIP - Phase 1⁹ will be reflected as shown below.

- 1) A participatory planning approach should be taken for selection of options by the project-affected people through planning and implementation processes in both resettlement and on-site upgrading cases;
- 2) Improvement of the living environment for residents should be well considered in the canal improvement scheme, especially for low-income residents;

⁹ Report of Ex-Post Evaluation by Third Party for the Greater Colombo Flood Control and Environmental Improvement Project (tentative fictitious title), JBIC Ex-Post Evaluation Report for ODA Loan Projects, M. Hosaka and T. Ogura, 2001

- 3) Assistance for community-based organizations, which contribute to community activity in the resettlement site, should be positively provided by the project itself and relevant government agencies;
- 4) Community-based activities such as community-contracted infrastructure construction should be planned and applied with a flexible schedule;
- 5) Coordination among relevant stakeholders should be reinforced to effectively use available resources for enhancement of the living environment for residents in the resettlement site.

According to the results of the Community Inventory Survey, some 60,000 households will potentially be affected and some 3,500 houses will potentially be relocated by implementation of the plan in connection with the land acquisition and proposed land use regulations, though those figures have to be confirmed by a detailed survey in the subsequent study.

To implement the proposed plan properly from social viewpoints, lessons and recommendations learned from previous experiences in the GCFC&EIP and similar public projects in Sri Lanka should be well reviewed and utilized by relevant agencies and parties not only to avoid or at least minimize negative impacts to project-affected peoples, but also to enhance the project benefits for stakeholders.

2.5 Water Use in the Study Area

2.5.1 Water Use Inventory Survey

A Water Use Inventory Survey was conducted to identify the present conditions of water use in the study area. The water use inventory was prepared on the existing intake points for water supply, irrigation, fishery purposes, and etc. in drainage canals, lakes, and ponds in the study area by collecting information from relevant agencies for different uses of water. The main authorities responsible for water resources by water use purpose are shown below.

Responsible Authorities by Water Use Purpose

| Water Use Purpose | Responsible Agency/Authority |
|-------------------------|--|
| Domestic and Industrial | - NWSDB |
| Industrial | - Industries under BOI mainly in Biyagama area - Major industries registered under the Provincial Council in the study area including cooling water for power generation such as by CEB |
| Irrigation | - Irrigation Engineer's Divisions of Gampaha, Colombo, and Kalutara, Department of Irrigation - Agrarian Services Department - Irrigation Department of the Provincial Council |
| Fisheries | - Department of Fisheries & Aquatic Resources |

Source: Water Use Inventory Survey, JICA Study Team, 2001

There are 83 intake places in total in the study area. Breakdown by basin are 16 places in Ja Ela basin, 15 places in the Greater Colombo, 45 places in the Bolgoda basin, and 7 places in parts of Dandungam Oya and Kelani Ganga basins within the study area. There is no intake place in Kalu Oya basin. Detailed survey results by type of water use are shown in the “Water Use Inventory Survey Report” prepared by the subcontracted local consultant.

Number of Intake Sites by Basin

| Basin | Intake Scheme | Number of Intake Sites |
|--------------------------------|-----------------------------|------------------------|
| 1) Ja Ela | Irrigation anicut scheme | 13 |
| | Kelani Ganga flood control | 2 |
| | Water supply intake | 1 |
| sub-total | | 16 |
| 2) Kalu Oya | - | 0 |
| 3) Greater Colombo | Kelani Ganga flood control | 13 |
| | Irrigation reservoir scheme | 1 |
| | Water supply intake | 1 |
| sub-total | | 15 |
| 4) Bolgoda | Irrigation reservoir scheme | 2 |
| | Irrigation anicut scheme | 39 |
| | Salt water exclusion scheme | 2 |
| | Water supply intake | 2 |
| sub-total | | 45 |
| 5) Dandungam Oya in study area | Irrigation anicut scheme | 1 |
| | Water supply intake | 1 |
| 6) Kelani Ganga in study area | Kelani Ganga flood control | 5 |
| sub-total | | 7 |
| Total | | 83 |

Source: Water Use Inventory Survey, JICA Study Team, 2001

In the construction phase, some water intakes might be temporarily disturbed or sometimes relocated as results of discussion with relevant agencies.

2.5.2 Legal Aspects on Water Use Right and Commonage

The Crown Land Ordinance allows the State to take any private lake or stream under its control by notification published under the ordinance. Hence the Government largely regulates the surface water resources of Sri Lanka. The Crown Lands Ordinance provides that the occupier of land on the bank of any public lake or public stream shall have the right to use the water of the lake or stream without diverting such water through a channel, drain or pipe or by use of mechanical device such as a pump. This right of the occupier is known as the riparian right and the meaning has extended to commonage or use of something in common with others. Only the State can issue permits to divert water or extract water by mechanical means. In case of irrigation, since there is almost no private irrigation system there is no system of permit for irrigation use of water.

The existing statutes or ordinances do not recognise ownership of ground water to any particular party other than the State. In fact there is no law dealing with this aspect at present. Government agencies such as the Irrigation Department, Municipal and Urban Councils and NWSDB have been moderately active in the field of ground water. The Water Resources Board Act No. 29 of 1964, Section 12(K) gives the Board authority to advise the Minister on matters connected with the conservation, utilisation and development of groundwater. In recent times the Water Resources Board has gone beyond its advisory role and directly engaged itself in exploration and development of groundwater resources. In the case of large-scale extraction of groundwater for industrial use, the impact on the aquifer and groundwater table on adjacent lands will come within the scope of an EIA or an IEE.

Tables

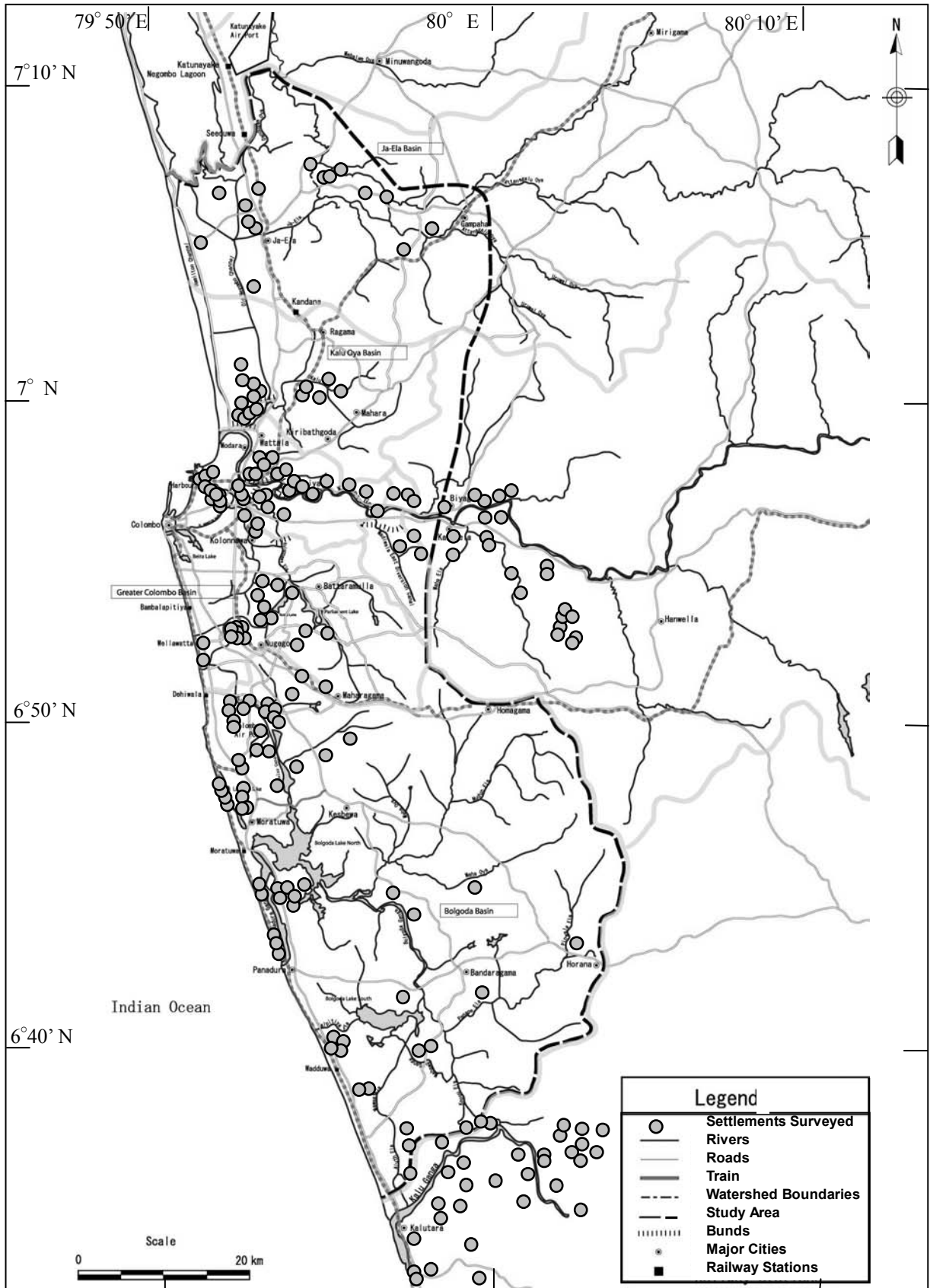
Table 1.2.1 Potential Population Directly Affected by the Proposed Flood Control Measures

| Proposed Measures | Total HH/Population Affected | | Illegal Occupants | | | | Under Poverty Line | | | | Houses Located in Riverside Land | | Houses Frequently Inundated in Storm Season | |
|---|------------------------------|----------------|-------------------|------------|---------------|------------|--------------------|------------|---------------|------------|----------------------------------|-----------|---|------------|
| | Number of HHs | Population | Number of HHs | % | Population | % | Number of HHs | % | Population | % | Number of HHs | % | Number of HHs | % |
| | (a) | (b) | (c) | (c)/(a) | (d) | (d)/(b) | (e) | (e)/(a) | (f) | (f)/(b) | (g) | (g)/(a) | (h) | (h)/(a) |
| 1) Ja Ela Basin Storm Water Drainage Plan | | | | | | | | | | | | | | |
| a) Ja Ela channel improvement | 2,381 | 12,085 | 65 | 3% | 335 | 3% | 1,038 | 44% | 5,125 | 42% | 260 | 11% | 647 | 27% |
| b) Dandungam Oya channel improvement | 640 | 2,499 | 0 | 0% | 0 | 0% | 300 | 47% | 1,400 | 56% | 180 | 28% | 275 | 43% |
| c) Ja Ela retention area conservation | 3,080 | 15,219 | 57 | 2% | 152 | 1% | 1,230 | 40% | 5,750 | 38% | 133 | 4% | 322 | 10% |
| d) Muthurajawela marsh conservation | 0 | 0 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Sub-total | 6,101 | 29,803 | 122 | 2% | 487 | 2% | 2,568 | 42% | 12,275 | 41% | 573 | 9% | 1,244 | 20% |
| 2) Kalu Oya Basin Storm Water Drainage Plan | | | | | | | | | | | | | | |
| a) Kalu Oya channel improvement | 2,110 | 20,850 | 219 | 10% | 1,110 | 5% | 705 | 33% | 3,868 | 19% | 80 | 4% | 300 | 14% |
| b) Old Negombo canal improvement | 10,384 | 60,576 | 1,597 | 15% | 8,241 | 14% | 3,306 | 32% | 17,763 | 29% | 648 | 6% | 2,707 | 26% |
| c) Kalu Oya retention area conservation | 0 | 0 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| d) Muthurajawela marsh buffer zone conservation | 0 | 0 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Sub-total | 12,494 | 81,426 | 1,816 | 15% | 9,351 | 11% | 4,011 | 32% | 21,631 | 27% | 728 | 6% | 3,007 | 24% |
| 3) Greater Colombo Basin Storm Water Drainage Plan | | | | | | | | | | | | | | |
| a) Madiwela South diversion canal construction | 2,570 | 11,070 | 50 | 2% | 290 | 3% | 605 | 24% | 2,905 | 26% | 60 | 2% | 120 | 5% |
| b) Mutwal Tunnel (existing) restoration | 9,566 | 44,589 | 1,675 | 18% | 8,083 | 18% | 2,750 | 29% | 12,680 | 28% | 770 | 8% | 1,950 | 20% |
| c) New Mutwal Tunnel Construction Project | 3,368 | 17,266 | 600 | 18% | 2,812 | 16% | 526 | 16% | 2,114 | 12% | 125 | 4% | 250 | 7% |
| d) Kolonnawa marsh retention area conservation | 0 | 0 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| e) Kotte Marsh retention area conservation | 5,062 | 23,103 | 160 | 3% | 905 | 4% | 660 | 13% | 3,685 | 16% | 105 | 2% | 210 | 4% |
| f) Heen Marsh retention area conservation | 0 | 0 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Sub-total | 20,566 | 96,028 | 2,485 | 12% | 12,090 | 13% | 4,541 | 22% | 21,384 | 22% | 1,060 | 5% | 2,530 | 12% |
| 4) Bolgoda Basin Storm Water Drainage Plan | | | | | | | | | | | | | | |
| a) Weras Ganga improvement | 9,835 | 49,977 | 783 | 8% | 3,986 | 8% | 2,508 | 26% | 12,345 | 25% | 491 | 5% | 1,310 | 13% |
| b) Bolgoda lake north retention area conservation | 8,885 | 46,640 | 351 | 4% | 2,338 | 5% | 3,670 | 41% | 17,790 | 38% | 442 | 5% | 440 | 5% |
| c) Bolgoda lake south retention area conservation | 2,097 | 8,109 | 12 | 1% | 38 | - | 1,255 | 60% | 4,560 | 56% | 239 | 11% | 276 | 13% |
| Sub-total | 20,817 | 104,726 | 1,146 | 6% | 6,362 | 6% | 7,433 | 36% | 34,695 | 33% | 1,172 | 6% | 2,026 | 10% |
| Total | 59,978 | 311,983 | 5,569 | 9% | 28,290 | 9% | 18,553 | 31% | 89,985 | 29% | 3,533 | 6% | 8,807 | 15% |

Note: HH - Household

Source: Community Inventory Survey (Data from GN offices)

Figures



*The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka*

Figure 1.2.1
Location of Flood-prone and Low-income Settlements
Surveyed in Community Inventory Survey

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