

THE GOVERNMENT OF SRI LANKA

Environmental and Social Management Framework

**NORTH AND EAST PILOT WASH FOR POST-CONFLICT RESETTLEMENTS
(NEP-WASH)**

**National Water Supply and Drainage Board
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**ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK
FOR
NORTH AND EAST PILOT WASH FOR POST-CONFLICT RESETTLEMENTS
(NEP-WASH)**

1. Introduction

Sri Lanka's growth in recent decades has been uneven - it has been concentrated in the Western Province, particularly to Colombo. With the conclusion of the three decade long conflict in May of 2009; the Government of Sri Lanka (GoSL) began to invest more on development interventions outside of the western province and particularly in the north and east. The GOSL's vision for a new Sri Lanka (Mahinda Chinthana) emphasizes the need for developing the North and East which have suffered disproportionately from the conflict and lack of investments. In this regard, the Government's framework for interventions in the North and East are centered on three pillars: (i) integrating those displaced or affected by the conflict; (ii) resuming service delivery, including through investments in physical and basic infrastructure development; and (iii) strengthening the role of local governments. As such, the GOSL has sought assistance from both multi-lateral and bi-lateral development partners to develop physical infrastructure to facilitate the resettlement of large numbers internally displaced persons (IDPs) in their original places of residence. A number of agencies, including The World Bank, the ADB and others have actively contributed in bringing relief to this conflict affected communities through a number of such interventions (*Ref: Project Design Document for NEP WASH*).

Despite the country ranked higher than its South Asian regional comparators, service delivery in rural water supply and sanitation declines rapidly for communities in small towns and rural areas. The northern and eastern provinces of Sri Lanka which are characterized by small towns and rural communities are further affected resulting from prolonged underinvestment in water infrastructure due to the conflict. Additionally, both the northern and eastern provinces are situated in the dry zone of the country, thus further restricting the community's access to natural sources of water. An assessment of the condition of returnees in the Northern Province in early 2010 reported very high levels of damage to much of the basic infrastructure. In the assessment area covering a total of 13,300 water sources, 52% were not working and 38% were damaged or contaminated. Additionally, almost 25,000 toilets were needed, compared with 587 which were functional and 2,880 needing repair (*IOM, 2010*).

The house damage assessment and verification surveys done during implementation of IDA funded North East Housing Reconstruction Project (NEHRP) also revealed that the NEHRP focal villages' sustained considerable damage to the community infrastructure including water supply and sanitation. As a result, inaccessibility to safe drinking water and sanitation is a major impediment to the overall well being of the beneficiaries of the project area. The main institution entrusted with the provision of water in Sri Lanka, the National Water Supply and Drainage Board (NWSDB) is also of the view that the demand for water in terms of quality and quantity has been growing within the project beneficiaries and their neighborhoods and has identified as an issue which needs to be addressed urgently.

In consideration of this, the proposed NEP WASH project aims to increase accessibility to safe and sustainable pipe borne water supply and sanitation to complement post-conflict housing reconstruction interventions in a selected number of rural communities within two districts of the northern and eastern provinces of Sri Lanka. In doing so, the project will also pilot viable mechanisms to strengthen

institutional systems to deliver local level WASH services, eventually generating lessons and replicable models to contribute to the overall improvement of hygiene practices and to the overall quality of life of communities of returnees (*Ref: Project Development Objectives*). The project will be piloted in NEHRP areas with grant funding from AUSAID. It will be implemented by the NWSDB in consultation with the local governments (Pradeshiya Sabha) with the consumer organized as Water User Associations (WUA) operating and maintaining the schemes under the supervision of the local governments.

Sri Lanka has considerable experience in the rural water supply and sanitation sector. These efforts have been part of excellent and effective program to deliver safe drinking water to rural communities. While the NEP WASH project has been designed and modeled along similar past experience, of which the most recent one being the IDA funded CWSSP II which concluded in 2010, implementation methods have been adjusted to suit the post-conflict context of the North and East families and communities are in transition from a conflict to post-conflict situation and therefore socially fragmented and economically deprived. (*Ref: Project Design Document for NEP WASH*)

1.1 Objectives of the ESMF

Projects and Programs prepared and managed by IDA (funded from IDA's own resources or from donor trust funds) need to comply with World Bank Operational Policies. Therefore, sub-projects eligible for funding under the proposed NEP WASH will be required to satisfy the World Bank's safeguard policies, in addition to conformity with environmental legislation of the Government of Sri Lanka (GOSL).

However, since details of the specific sub-projects are not available at this stage, site-specific Environmental Assessments (EA) and social impact assessments (SIA) cannot be conducted. What is possible at this stage would be to carry out an identification of generic issues that are typically associated with sub-project activities that would potentially be funded by the project and apply the information to site specific environmental and social assessments, as and when details of specific investments are identified.

Therefore, the purpose of this document is to outline a framework for environmental and social management, giving details of potential environmental and social issues and guidelines on what type of environmental assessment tools to be applied for sub-project financed under NEP WASH. The ESMF will serve as the basis in the preparation of, sub-project specific Environmental Assessments and/or Environmental Management Plans (EMPs). As stated earlier, it is being submitted in lieu of a project EA and has formed the basis for appraising the environmental aspects of the project. It will be made available for public review and comment in appropriate locations in Sri Lanka and in IDA's Public Information Center in accordance with BP 17.50 requirements of disclosure. It is expected that detailed environmental assessments (EAs and EMPs) for individual sub-projects will be carried out prior to implementing the sub-projects in accordance with the guidelines provided in this framework.

Therefore, the objectives of this Environmental and Social Management Framework can be summarized as;

- a. To establish clear procedures and methodologies for the environmental planning, social assessment, review, approval and implementation of subprojects to be financed under the Project
- b. To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to subprojects

- c. To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF
- d. To provide practical resources for implementing the ESMF

1.2 Scope and structure of the ESMF

As stated, NEP WASH has been modeled and designed after CWSSP II, which was concluded successfully in 2010, with similar implementation procedures and institutional arrangements. As such, NEP WASH is expected to benefit from the vast implementation experience of CWSSP II which has many valuable lessons to offer that can strengthen and improve implementation of rural water supply and sanitation under the proposed project. The CWSSP II prepared a Sectoral Environmental Assessment in 2003 as part of project appraisal requirements which included an ESMF to guide sub-project specific environmental assessments. The SEA/ESMF for CWSSP II is a comprehensive document and has been implementation-tested. Given the similarity of the two projects, it was concurred that the ESMF for CWSSP II should be used as the basis for the development of this framework and updated, where necessary, to reflect the post-conflict scenario of the targeted beneficiary communities and implementation lessons from CWSSP II itself.

Also, in the North and East, two Bank funded projects namely, the North East housing and Reconstruction Project (NEHRP) and the North East Local Services Improvement Project (NELSIP) provide some useful lessons and justifications for the NEP-WASH. The social assessments and the follow up continuous social assessment of NEHRP by an independent consultant reveal that the housing beneficiaries in the districts of the Northern province do not have adequate basic infrastructure facilities such as drinking water, sanitation and transport facilities compared to the beneficiaries in the Eastern province who were resettled in 2008 and recovering much faster from the war impacts.

The NELSIP, on the other hand, which was started recently (in 2009) and is aimed at strengthening the capacities of local authorities and investment in basic infrastructure facilities is currently progressing well and a number institutional mechanisms have been established to ensure social safeguard requirements and beneficiary participation in the project management. Participatory Planning Team (PPT) established under this project is given necessary training to conduct environmental screening and participatory plans at local level, Social Audit Committees (SAC) are also formed to conduct social and environmental assessments for the sub-projects. A three tier Grievance Redresses Mechanism (GRM) functions effectively and most of the LAs have now established GRM units which provide access to the public to make complaints and suggestions for effective implementation of subprojects at local level. Since the LAs in the pilot project areas (Mannar and Trincomalee) have now gained experience in implementing subprojects compliance with the Bank safeguard procedures under the NELSIP, the NEP-WASH would not face too many challenges in preparing necessary environmental screening and social assessments.

Rural Water Supply Schemes (RSS) is one of the subprojects supported by the NELSIP. Though there is a huge demand for community water supply projects under the NELSIP, it found difficult to support all the LAs to invest in CWSSs due to limited funds. Thus, there is a clear justification for projects such as NEP – WASH and necessary institutional arrangements are built in LAs to a certain extent which will be an added advantage to carry out the project successfully.

The above important experiences have been considered in defining the scope of the ESMF, which broadly consists of the following sections:

- Project description and proposed implementation arrangements for NEP WASH
- Physical, ecological and socio-economic profiles of the two pilot districts
- Policy, legal and administrative framework of the rural water supply sector and approvals/clearances applicable to NEP WASH
- Analysis of project alternatives
- Preliminary assessment of environmental issues
- Sub-project specific environmental assessment requirements
- Stakeholder consultation and disclosure
- Implementation arrangements for the ESMF
- Training and capacity building requirements

1.3 Project Locations

The primary project locations under NEP WASH would be the district of Mannar in the Northern Province and the district of Trincomalee in the Eastern Province.

2. Project description and implementation arrangements

2.1 Project components

2.1.1 Component A: Physical Infrastructure Investments

The project will finance a major proportion of the capital costs for provision of water supply for twelve beneficiary communities (i.e. subprojects) of the NEHRP programme. The beneficiaries represented by the Water User Association (WUA) would choose the level of service required depending on affordability and technical feasibility from a range of scalable technical options. However, it is expected that most communities would opt for house connections; each subproject providing between 200 to 300 connections, a total of approximately 3000 households. The infrastructure standards will be designed to accommodate an additional 20% of households, to accommodate future expansion without incurring major capital expenditure.

The type of terrain requires pumping from sources either from surface water or groundwater from deep wells. Therefore, availability of electricity is critical. It is envisaged that approximately 12 projects could be undertaken by the pilot of which 10 projects would utilize grid electricity. As an experiment, two projects would use solar powered pumps (one project per district) to establish the practicability of employing solar power for water supply systems for communities that do not have access to grid electricity. The solar powered projects are expected to be smaller in scale to reduce construction costs and O&M risks.

All major works (civil and electro-mechanical) will be contracted out which includes the Over Head Tanks (OHT), water intakes, pump houses, installation of pumps (two pumps for alternate use), pumping mains and main supply and distribution lines. The beneficiaries are required to provide unskilled labour for the cutting of trenches for placing distribution lines and house connections. The community will be fully trained and be made responsible for the operation and maintenance of the system. This would be undertaken by the NWSDB in consultation with the Pradeshiya Sabhas.

As the cost of connection may not be affordable for the conflict affected communities, it will be subsidised by 50% and the balance be recovered by monthly instalments added to the water bills of the first year or as considered appropriate by the WUAs for their respective communities. Tariff system will be appropriately structured to cover O&M costs including replacement cost of parts for up to 10 years.

The sanitation incentive grant would be established and managed and monitored by the Local Government body (PS). The beneficiaries of NEHRP already have toilets built under the project. It is expected that the non beneficiary population will be approximately 30% of the population requiring about 900 units to be constructed in total in the twelve communities. The grant will be made available to all non NEHRP beneficiaries in the village to ensure total sanitation coverage.

The beneficiaries of the sanitation incentive will be provided funds a 50% grant and a 50% loan for the construction of an owner driven latrine unit. The subsidy would incentivize persons to obtain the facility to construct the latrines. The terms of the repayment of the loan would be decided by the WUA and concurred by the PS. The PS is expected to train the WUA on the programme for latrine construction. All of the existing households that do not have latrines would be included in the first batch of beneficiaries; therefore expecting 100% sanitation for existing households.

2.1.2 Component B: Strengthening of local agencies

Support will be provided to the National Water Supply and Drainage Board's RWS Units and the Local Governments (Pradeshiya Sabhas) for the implementation of the project. Activities to be financed under this component include:

Technical assistance and training to increase the capacity of implementing entities, including the central and district RWS divisions of NWSDB, the participating Pradeshiya Sabhas, and the Water User Associations. These would take the form of both residential and onsite training under the guidance of reputed resource persons with experience in RWS and decentralised service delivery.

The training objectives would be, (i) to enable Local Authorities to plan for and monitor local water supply systems in partnership with the WUAs; (ii) form the WUAs consisting of both NEHRP beneficiaries and non-beneficiaries and subsequently (iii) construct water supply and sanitation schemes, conduct publicity and awareness campaigns.

The program will also include in-situ training and capacity building to WUAs to allow them to assume their project management responsibilities and to encourage effective use and maintenance of completed systems.

In addition to assisting in the physical infrastructure works, the awareness creation on sanitation and hygiene will also be undertaken. This includes health and environment education to populations in participating communities to promote improved hygiene and water related practices.

These would be undertaken in the form of workshops and training sessions throughout the duration of the project with the community and this would enable them to transfer knowledge on a routine basis. Additionally, there will be workshops conducted specifically for women.

2.1.3 Component C: Program Management

Support will be provided to the National Water Supply and Drainage Board and the Local Governments (Pradeshiya Sabhas) for the implementation of the project. Activities to be financed under this component include:

Provision of Information and Communication Technology equipment to NWSDB, PSs and the WUAs to enhance monitoring and evaluation. These would include computers, printers and fax machines.

Creating a Management Information System (MIS) appropriately designed for NWSDB, PSs and WUAs for monitoring and evaluation; operation and maintenance and to enable transfer of information. A straightforward software to gather and process data for project management will be developed. The MIS system could be replicated for use outside of the pilot project area.

Incremental Operating Costs of project administration to RWS of NWSDB, including staff costs, equipment and operating costs. This would include subsistence on site visits, investigation equipment costs, water quality analysis costs, transport costs including fuel, office supplies and communication expenses.

2.1.4 Component D: Documentation

Documentation of pilot experience and key lessons, will be carried out as an integral part of the pilot project to ensure that it creates the foundation for future replication and scaling up, with necessary improvements (if any).

2.2 Project Financing

Component / Activity		USD
Component A:		
a	Construction of Water Supply Infrastructure 3,000 connections @LKR 60,000 (about 12 communities)	1,610,000.00
b	Sanitation incentive grants USD 100 x 900 Households, amounting to 30% of the beneficiaries of water supply	90,000.00
Component B:		
a	Strengthening of local agencies	100,000.00
Component C:		
Program Management and Capacity Building		
a	ICT equipment	30,000
b	MIS	10,000
c	Incremental Operating Costs for NWSDB	90,000.00
Component D:		
a	Documentation Pilot documentation (baseline, M&E, impact evaluation and lessons for replication/scale-up)	30,000.00
Component E:		
a	Contingencies	50,000.00
Total Project Cost		2,010,000.00

2.3 Institutional Arrangement for the Implementation of NEP WASH

The key partners in the implementation process would be National Water Supply and Drainage Board of the Ministry of Water Supply and Drainage, the Pradeshiya Sabha's (Local Government Authorities), the Water User Associations (WUA) as representatives of the community. The North East Housing Reconstruction Programme (NEHRP) will assist the NWSDB and the PS in the pre-selection of the villages.

2.3.1 National Water Supply & Drainage Board (NWSDB):

The overall responsibility for project administration and implementation will lie with the National Water Supply and Drainage Board of the Ministry of Water Supply and Drainage. The Rural Water Supply division of NWSDB will be entrusted with the project and will be operationalised through the regional RWS units of NWSDB in Mannar and Trincomalee. The division of responsibilities within the NWSDB between

the centre and the regions will be based on its standard operating practices. The NWSDB will: (i) select the final beneficiary villages with the assistance of NEHRP in consultation with the Pradeshiya Sabha, based on a predetermined set of criteria; (ii) identify suitable sources and carry out the necessary technical feasibilities, which include the yield tests and tests to determine water quality; (iii) mobilize the communities with the assistance and in coordination with the Local Government bodies; (iv) support the Local Government bodies to plan and design the water supply scheme; prepare tender documentation, carry out the procurement processes and select contractors; monitor the construction of the water supply infrastructure and work with the Local authorities and the WUAs to in formulate an efficient and effective and sustainable O&M agreements. All major civil works of the water supply infrastructure, procurement of the construction contractors, equipment and furniture will be contracted through competitive processes and will be the responsibility of the relevant Regional Office, involving Local Governments to contribute to strengthen on-the-job their procurement capacity. Procurement of consultants will be the responsibility of the RWS division of NWSDB at head office level.

At the commencement of the project, the NWSDB will provide mainly the technical competencies for the design and construction supervision of the proposed water supply schemes. As the pilot project proceeds, the RWS division of the NWSDB regional offices would assume an evolving role where it is expected that it would strengthen its capacity to work and coordinate with other local stakeholders to enable the most appropriate local mechanisms for social development and mobilization, procurement, M&E and coordination; and be better placed to take on future operations based on this capacity enhancement and stronger partnerships.

2.3.2 Water User Association (WUA):

The pilot program will place the community at the centre of the development process. This is in accordance with the new RWS policy. The beneficiaries are key stakeholders in decision making and are expected to develop strong ownership towards the Water Supply and Sanitation scheme, in turn contributing both to the creation of the assets and future O&M costs through the payment of tariffs. The communities should recognize the need for the service and organize themselves in the form of WUAs through which to operate. The WUAs will coordinate with local governments and NWSDB for planning and construction, and finally assume responsibility for the O&M of water supply services, for either shared or individual facilities. The community of users is expected to contribute labour (or equivalent amount in cash) for the laying of distribution lines. The expectation is that this approach would help develop a sense of ownership. However, if the ground situation is such that the community lacks financial capacity and/or resources to provide labour or cash for the laying distribution lines, this activity would have to be absorbed by the projects funds.

Construction of latrines will be the responsibility of the individual householders. Sanitation incentive grant would fund the construction cost of the latrines with a subsidy of 50% to encourage participation of the community. This will be managed and monitored by the WUA with the assistance of the PS. All of the existing households that do not have a latrine would be included in the first batch of beneficiaries.

2.3.3 Local Government:

With the devolution of powers to provincial councils, the Pradeshiya Sabhas; local authorities have been granted the legal responsibility for the provision of water and sanitation services. Thus the fullest participation of the Local Government bodies will be sought. Their key contribution would be in the early planning stage and ongoing monitoring of service delivery. They are also expected to contribute with staff time for helping to mobilize communities, carrying out monitoring and supervision of works, join tender committees, provide FM expertise, etc. The Pradeshiya Sabha's will continue to provide technical oversight to the WUAs after the completion of the schemes and in return may charge the WUA a fee, at a pre-agreed percentage from of their operational profits as a management fee. It is expected that this fee would help retain the interest of the PSs and as these funds could be used for other related activities of the PS as well.

3 Description of the Project Area (Mannar and Trincomalee)

3.1 General

Mannar is located Northern Province of Sri Lanka, The total population of Mannar district in 2010 was 104,000 (DCS). The district has total land area of 1196 sqkm accounting for 3% of the country. The topography of the district is almost entirely flat, without any significant drainage patterns.

Trincomalee District is located in Eastern Province of Sri Lanka and, its total population in 2007 was 374,000 (DCS); 26% urban and 74% rural population. The district has total land area of 2,727 sqkm accounting for 4.2% of the country.

3.2 Climatic Conditions

Sri Lanka experiences a south-asian monsoonal climate with two rain periods each year. The southwest monsoon occurs between May and August and the northeast monsoon between November and February with inter-monsoonal periods in-between. Based on this rainfall, Sri Lanka is divided primarily into two general climatic zones, the Dry Zone and Wet Zone, commonly divided along 1900 mm isohyet. The district of Mannar lies within the Dry Zone with semi-arid conditions and with an annual average rainfall of 1130mm. The area experiences heavy rains from October to December, during NE monsoonal season. In comparison, amount of rainfall receives during the rest of the months is extremely low. Temperatures are high, with little variation throughout the year. Average annual temperature 28.3° C (DoM).

The district of Trincomalee also lies entirely in the Dry Zone and the average annual rainfall is estimated to be 1470mm. Heavy rainfall is experienced from September to January with the onset of the northeast monsoon and has a marked dry from February to June. The region is also cyclone prone. Temperatures are high, with little variation throughout the year. Average annual temperature is 28.8° (DoM).

3.3 Socio-economic conditions

Main production activities in the district of Mannar are Crop Agriculture, mainly paddy irrigated by major and minor schemes, Fisheries and Livestock Farming. Nearly 60% of population % is engaged in agriculture related activities. Forest cover is around 50% of land area.

In Trincomalee, Agriculture is the main livelihood activity with an estimated 62% of the population depending on it (EFSA 2007). Out of a land area of 200,206 ha, the total cultivable land is 37,160 ha (19%). The main crop is paddy. Trincomalee has an agro-climatic environment that is very favourable to production of diverse crops and raising livestock. Other crops grown in the district include maize, manioc, green gram, cow pea, ground nuts, sweet potatoes, red onion and chillies. It also has long coastline, bays and lagoons that provide favourable grounds for various forms of fishing. The district has deep sea harbour and a major international seaport that has in turn attracted several national and multinational industries, and thus diverse opportunities for employment.

The agricultural season that runs from September to August the following year consists of two seasons: the main season, maha (September to January); and the secondary season yala (March to September).

3.4 Water availability and quality

A comprehensive survey of water quantity or quality has not been done in either of the two districts. The recent assessments conducted had been on needs basis rather than to establish any broad based database on water quality and quantity. Hence the available figures are inconsistent particularly on groundwater.

Mannar is located in the driest region of the country. The annual average rainfall corresponds to volume of water of 2300 MCM. For a variety of reasons, many areas in the district suffer shortages of potable water. Perennial river systems are absent within the Mannar District. However, a number of streams drain through the District in their matured stages and discharges to sea within the North Western coastal zone of the District. These streams get dried up during the period of July to September. The “Aruvi Aru” (Malwatu Oya) is the prominent one as it is the second longest river in the country. The existence of a number of irrigation tanks within micro-catchments allows efficient local water use. The Giant’s Tank in the South-East part of the District is the largest irrigation tank in the area fed by a tributary of “Aruvi Aru” (ISEA).

The annual average rainfall in Trincomalee corresponds to volume of water of 4300 MCM. Sri Lanka’s longest river drains through the district and has a number of large reservoirs including Kantalai, Mora Wewa and Allai.

Groundwater in the project areas is characterised by two coastal sand aquifers, in Mannar, shallow aquifer in coastal spits and bars; and in Trincomalee shallow aquifer in raised beaches. In each case the quantum of water depletes rapidly in the dry seasons, though the latter is more robust.

The quality of the groundwater in Mannar varies depending on the location and landuse. Particularly in the coastal areas, excessive concentrations of iron and nitrates due to agrochemicals and fertilizers contamination have been reported. Furthermore, due to uncontrolled abstraction of groundwater for domestic and agricultural uses, brackish water intrusion has occurred. Though groundwater is available in to the hinterland often the aquifers bearing necessary quantity and quality are set deep hence difficult to access for individual users.

The water quality issues in Trincomalee are largely similar to that of Mannar district though it is not as acute. Saline intrusion of groundwater and agro-chemical contamination though prevalent, its concentrations are considered to be relatively lower.

3.5 Water supply and Sanitation

A district wise comprehensive study had not been carried to obtain detailed information with regard to the Water and Sanitation conditions in both in Mannar and Trincomalee districts. Due to under investment during the conflict period, the figures for both district are less than national averages

In Mannar district, access to improved water sources was 21.1% and improved sanitation was 71% as 2001. There is no public sewer system or wastewater treatment in Mannar district, sanitation is onsite.

In Trincomalee, access to improved water sources was 74.1% and improved sanitation was 72% as 2001.

3.6 Key ecological features

Over 50% of the Mannar district is covered in forests that belong to Dry Monsoon, Riverine and Mangrove forest types which are usually associated with river mouths and lagoons. It has a number of important wetlands such as the Adams bridge, Palk bay, Vankalai and Giant tank which are characterized by a wide array of habitats such as freshwater, shallow brackish water inter-tidal mudflats, sand banks, lagoons and Sea grass beds. All these habitats provide feeding, breeding and nursery grounds for a variety of plants and animal species. Giant tank sanctuary, Vankalai, Madu road sanctuary are the important protected areas within the district while Vankalai wetland is a declared Ramsar site. A number of butterflies, amphibians, reptiles species and both large and small mammals including the Asian Elephant inhabit these areas. Mannar Island is considered as a paradise for birds. Adam’s Bridge and Mannar Island are situated in one of the bird migration routes into the country. According to

published data, more than 150 bird species have been recorded from Mannar Island and the adjoining mainland. Talaimannar beach, the Periya Kalapuwa area, Giants Tank, Kora Kulam and the lagoon between Thoddaveli and Pesalai are the other locations where birds are abundant. The shallow depths and muddy substrata support prawns and small fish species, while more open ocean species are found towards Mannar Island. Palk bay is also home to the famous pearl banks in Mannar.

The forests in Trincomalee district also belong to Dry Monsson, Sparse, Riverine and Mangrove forest types. In 2001, the forest cover in the district was recorded between 40-45% and was identified as one of the areas where rapid decline of forests has been recorded. In Muttur and Kinniya, sand dunes occur, however, these are of not much significance compared to those that occur in the South Eastern coastal belt. The district has a number of forest reserves (in Kantalai, Mahaweli Noth, Verugal, Pankulam and Chundakadu) and Wildlife National Parks which are important elephant habitats and migratory routes. The Mahaweli River drains through this district and in its lower reaches form a delta with many shallow and wide wetlands which are important feeding and breeding areas of numerous local and migratory birds.

4 National institutional, policy and legal framework for water supply and management of environment resources

4.1 Institutional framework for Water management

Water is managed as an input to major development sectors such as irrigation, hydropower, human and industrial water supply. Nationally, there are a number of different government institutions dealing with water sustained by a number of legislative enactments concerning the water sector. These laws have been enacted over a considerable period of time to meet a specific need at a given point in time and therefore in some cases overlaps exist in their responsibilities and jurisdictions. However, collectively they cover the main issues related to water.

The most critical of institutions amongst many which deal with development, management and conservation of water are the Department of Irrigation (DI), Mahaweli Authority of Sri Lanka (MASL), Water Resources Board (WRB), National Water Supply and Drainage Board (NWSDB), Department of Meteorology (DM) and the Central Environmental Authority (CEA); each functioning under different Ministries of the central government with the following mandates;

- The Water Resources Board (WRB) was established in 1968. It coordinates governmental water resources functions and formulates national policies relating to the control and use of water resources. Though the board has wide-ranging power delegated by the act, functionally, at present it has restricted itself to groundwater development and monitoring.
- The National Water Supply and Drainage Board (NWSDB) is the main agency for domestic and industrial water supply and sewage.
- The Department of Irrigation (DI), established in 1900, is primarily responsible for water resources planning, project formulation, construction and maintenance of surface water sources. It is also informally responsible for daily and seasonal allocations of water for irrigation.
- The Mahaweli Authority of Sri Lanka (MASL), established in 1979, is responsible for water resources development in a largest basin in the country; the Water Management Secretariat of the Mahaweli Authority has the necessary technical resources to plan the distribution of water resources under the authority's jurisdiction.
- The Central Environmental Authority (CEA) was established in August 1981 under the provision of the National Environmental Act No:47 of 1980, with the objective of integrating environmental considerations in the development process of the country. The CEA was given wider regulatory powers under the National Environment (Amendment) Acts No:56 of 1988 and No:53 of 2000.
- The Department of Meteorology (DM) is responsible for gathering information needed for estimating available water supplies nationwide.

In addition to the above, there are a number of national and local agencies that has delegated responsibilities and jurisdictions.

4.2 The National Policy for Rural Water Supply and Sanitation

This policy was drawn in 2001. The policy is based on the principles IWRM and supports a demand driven, people centered and decentralized model of service delivery. The policy transferred the responsibility of provision of rural water supply and sanitation from the central government to the rural communities who are to be assisted by the Pradeshiya Sabha's and Provincial Councils. The central government is to play the roles of policy making, regulation, monitoring and evaluation. However, in practice some of the provisions of the policy, particularly on the provision of physical infrastructure has been difficult to implement effectively due to technical capacity constraints that existed particularly at the level of the Pradeshiya Sabha. Given this, the national body responsible for the provision of water, NWSDB had been providing Rural Water Supply infrastructure in collaboration with the Pradeshiya Sabha.

According to this policy, The NGOs, CBOs and private sector who either jointly or singly have the mandate to implement rural water supply and sanitation projects, including operation and maintenance responsibilities, have the responsibility of conserving the environment with emphasis on water sources and watershed areas,. The responsibility of implementing scheme specific environmental management plans rests with the body chosen to implement the rural water supply and sanitation projects.

Applicability to NEP WASH – this policy is most relevant to the project and forms the basis for project design and implementation mechanisms.

4.3 National Environmental Framework

4.3.1 The National Environment Act No 47 of 1980 & its amendments

The National Environment Act (NEA) provides conservation and development guidelines for natural resources including water, soil, fisheries resources, forest, flora and fauna in Sri Lanka. It is the basic national decree for protection and management of the environment. It paved the way for the creation of the Central Environmental Authority. The NEA has seen several amendments in the past in a bid to continually make improvements and to respond to the challenging needs of the time. There are two main regulatory provisions in the NEA implemented by the Central Environmental Authority (CEA) through which impacts on the environment from the process of development is assessed, mitigated and managed.

- The Environmental Impact Assessment (EIA) procedure for major development projects. Regulations pertaining to this process have been published in 1993 and are available with the CEA.
- The Environmental Protection License (EPL) procedure for the control of pollution. Regulations pertaining to this process have been published in 1990 and are available with the CEA.
- Scheduled Waste License procedure for the management and control of hazardous waste disposal

Environmental Impact Assessment

Sri Lankan Government recognizes EIA as an effective tool for the purpose of integrating environmental considerations with development planning. The application of this technique is considered as means of ensuring that likely effects of development projects on the environment are fully understood and taken into account before development is allowed to proceed. The importance of this management tool to foresee potential environmental impacts and problems caused by proposed projects and its use as means to make projects more suitable to the environment are highly appreciated.

The legal provision for EIA in Sri Lanka was first included in the Coast Conservation Act No. 57 of 1981 (see below). These provisions were restricted to the Coastal Zone as defined by this Act. The broader legal framework for the EIA process in Sri Lanka was laid down by the amendments made to NEA in 1988 through National Environmental (Amendment) Act No. 56 of 1988. The provision relating to EIA is contained in Part IV C of the National Environmental Act. The procedure stipulated in the Act for the approval of projects provides for the submission of two types of reports Initial Environmental Examination (IEE) report and Environmental Impact Assessment (EIA) report. Such reports are required in respect of “prescribed projects” included in a Schedule in an Order published by the Minister of Environment in terms of section 23 Z of the act in the Gazette Extra Ordinary No. 772/22 dated 24th June 1993. This amendment makes EIA mandatory for whole of Sri Lanka and transformed Central Environment Authority (CEA) into enforcement and implementing agency.

Environmental Protection License

The Environmental Protection License (EPL) is a regulatory/legal tool that has been introduced to control and prevent pollution from waste discharges through the adoption of appropriate pollution abatement technology. The NEA specifies categories of ‘prescribed projects’ which would need to comply with these regulations and are supported by gazette discharge and emission standards depending on the industry type as well as the receiving environment. The EPL regulation classify industries into three categories, namely, A, B, and C corresponding to high, medium and low polluting potential of the relevant activity discharging/emitting waste into the environment. While EPL for A and B categories are directly administered by the CEA, issuing EPL for category C is delegated to the local authorities under the powers of the NEA.

Applicability of the NEA to NEP WASH – The proposed investments are not classified as prescribed projects in the NEA, as such it won’t apply.

4.3.2 The Coast Conservation Act No 57 of 1981 amended by Act No 64 of 1988

The Coast Conservation Act makes provisions for the regulation and control of development activities within the coastal zone as well as formulates and executes schemes of work for coast conservation. The law specifies that projects located wholly or partly within the coastal zone (the area lying within a limit of three hundred meters landwards of the Mean High Water line and a limit of two kilometers seawards of the Mean Low Water line) must undergo the approval process that is laid down in the Coast Conservation Act irrespective of its size. Only those projects located totally outside the Coastal Zone will be subject to the approval process laid down in the National Environmental Act. Therefore, any development work taking place within this zone falls under the jurisdiction of CCD. According to the CCA, Director of the CCD has the discretion to request for an EIA/IEE from the project proponent if the initial screening reveals significant impacts in the coastal areas by the project. The process is very much similar to the NEA excepting that the Director of the CCD reserves the right to request for an EIA/IEE and also to make a final decision.

Applicability of the CCA to NEP WASH – Given the rather minor and localized environmental impacts it is unlikely that the CCD will request for an EIA/IEE. However, the project should consult the CCD and seek permission when water intakes are located within the coastal zone.

4.3.3 The Fauna & Flora Protection Ordinance Act No 49 of 1993 & its amendments

This act provides for the protection, conservation and preservation of the fauna and flora of Sri Lanka. According to this Act, any development activity of any description what so ever proposed to be established within a national reserve or within one mile from the boundary of any national reserve, is required to be subjected to EIA/IEE, and written approval should be obtained from the Director General, Department of Wildlife Conservation prior to implementation of such projects. The FFPO follows a similar process as the NEA in conducting scoping, setting the ToR, preparation of EA, review of EA and public consultation and disclosure. The decision of project approval or disapproval is finally granted by the Director of the Department of Wildlife Conservation.

Applicability of FFPO to NEP WASH – Water intakes located inside wildlife protected areas should seek prior clearance from the Department of Wildlife Conservation.

5 Analysis of alternatives

For reasons that have already been stated before, the proposed project is considered a necessary intervention with many positive outcomes and hence no alternatives are considered. However, at the planning stage of the sub project, several alternatives will be identified for the provision of water supply, and the most appropriate one will be selected by the community. In this selection, environmental considerations will be a prime factor. This will be ensured in the process of implementation with the proper monitoring system.

6. Environmental Management Framework

6.1 Preliminary assessment of environmental issues relevant to the project

The project is classified as category B. From an environmental perspective, the overall project outcome is expected to be overwhelmingly beneficial. However, there are critical environmental factors that need to be taken into consideration when sub-projects are planned and designed in order to ensure these risks are adequately understood and addressed, so that the communities could enjoy the anticipated multiple benefits of clean water and improved hygiene in the long-term. Therefore, the project needs to pay due diligence to these risk factors, which are discussed below, and ensure that adequate precaution is built in to enhance acceptability of sub-project proposals on the basis of environmental criteria.

As mentioned earlier, this ESMF has been prepared with experience of the IDA financed CWSSP II and will support sound environmental practice in NEP WASH based on key lessons learnt. The EAMF will be a living document and will be reviewed and updated periodically as needed.

Possible Positive Environmental Impacts

The multiple benefits of rural water supply and sanitation projects have been amply demonstrated in previous similar experiences in the country. Consumption of unclean water and improper disposal of human waste are known to be the primary causes of many water borne diseases that undermine community and environmental health. As such, the project which aims to provide nearly 3000 households with access to safe drinking water and improved sanitation will have many positive health and environmental impacts to the communities in the selected localities. In addition to improved community health, the following positive impacts of improved water supply and sanitation has been documented and is anticipated under the proposed program as well.

- Poverty Reduction and social equity;
- Reduction of activities contributing to pollution of water sources;
- Source protection and catchment area protection;
- Construction of hygienic latrines and reduction of environmental pollution;
- Improved rural environment which leads to appreciation of land values;
- Reduction of forest clearing for fuelwood for boiling water;
- Reforestation in the catchment areas by the communities to protect the water sources;
- Improved nutrients and moisture condition in soil due to discharge of domestic waste - water into house gardens and vegetable plots, thereby promoting the good practice of home gardening; and
- Enhancement of the self esteem and social acceptability of the individual beneficiaries by the use of proper latrines.
- Saving of time by women through improved water facilities and opportunity for community engagement
- Social integration and social capital building through water user associations

Possible Negative Environmental Impacts and Mitigation Measures

Depletion of water resources in downstream areas of the intake

The project will develop both surface and groundwater sources depending on the availability. Although rural water supply schemes of this scale may not result in significant depletion of water resources it would be necessary to consider some of the key challenges in water resources development so that sub-projects designed are sustainable and will serve the communities for its design lifetime. In the proposed project areas groundwater will be one of the main sources of water for domestic, agricultural and other needs, especially in the North-Western part of the country where perennial sources of surface water is scarce. In some areas even groundwater resources may be scarce. Competition for water between different water use sectors has seen the intensified utilization of water resources resulting in negative impacts such as over-extraction, drying up and salinity intrusion. This is especially so in the dry zone. In the case of sources which have limited yield, a considerable percentage of the yield of the source could be required for the proposed drinking water supply scheme. Hence, the flow of the water course could be depleted immediately downstream of the intake structure. This could also affect the natural moisture content of the soil in the immediate neighbourhood downstream. However, in most cases, this would be a very localised occurrence, as the natural springs in the neighbourhood and in downstream locations would contribute to the downstream flow of the water course, and hence, will not cause much adverse effect. Also, project areas being former conflict areas and hence with limited access till recently, water scarcity resulting from over-exploitation is not likely to be a serious issue.

During the planning stage of sub projects, the minimum yield of a source should be assessed by monitoring the flow regularly over a long period of observation (at least for six months). Then, a safe yield should be determined using standard methods, which would provide the basis of utilising the yield from the particular source for the sub-project. Thus, at the planning stage, utilisation of the entire source for the proposed scheme is not intended, and a good proportion of the flow, especially during rainy seasons, is ensured downstream. An assessment of the water requirements of all current and potential users will be made and agreements reached for user-sharing. During the scheme operational stage, there is a possibility that the beneficiaries, in an attempt to increase and expand their water supply, would try to capture the entire yield of the source. In order to mitigate this risk, an assessment of the long-term requirements of the community will be made at the planning stage. In addition, O&M agreements will specify that communities will need to get clearance from the local authorities for

increased rates of abstraction and that it should not exceed the design specifications of the water scheme.

Contamination in water sources

Contamination of water resources through agriculture run-off, improper disposal of sewage, unmanaged waste from livestock etc is another common problem encountered. Intensely utilized shallow aquifers in the coastal belt have become extremely vulnerable to inorganic pollution (such as nitrate) where intensely practiced agriculture is the pre-dominant land-use. Although little documented data exists, water in surface streams and shallow groundwater wells have increasingly come under threat from bacterial pollution owing to bad sanitary facilities and practices. Some of these issues may be very relevant in the districts of Mannar and Trincomalee where the project is proposed to be implemented. Therefore, identification of suitable water sources both in terms of quantitative and qualitative aspects will be important and will need to be confirmed by a water quality test. If certain parameters such as nitrates are proved to be exceeding Sri Lanka standards it would be necessary to seek alternative sources as nitrate removal is expensive and requires technical expertise that may go beyond the capacity of the CBOs. In the case of high fluoride content, simple low cost filters have been developed and extensively used in rural areas and hence the NWSDB can introduce the same technology for fluoride contaminated water sources under the proposed project as well.

In addition to existing pollution in water sources, a source that is uncontaminated and requires no treatment or disinfection at the time of project planning can later become vulnerable to contamination due to subsequent development in its catchment. Therefore, it would be important to include an assessment of upstream/catchment conditions as well as potential for activities in the future that could lead to source degradation during the planning stage. It would also be important to engage concerned parties such as the District/Divisional Secretaries and Grama Niladhari etc in discussion to identify and evaluate such risks. In addition, the design should consider proper protective measures in the intake and its surroundings, with chambers properly covered, fences erected where necessary, and trees planted. Also, micro-watershed protection should be considered as an important aspect in maintaining water quality and source yield. During sub-project planning, the WUA together with the NWSDB and consultants will assess the need for and type of short/long-term source protection activities that would be required under each sub-project and include them as part of implementation and/or O&M plans. The project would explore possibilities of engaging and training beneficiary communities and local authorities in such initiatives.

Another critically important factor is the continued and regular water quality monitoring of the source during the operational stage. The WUA who will be operating and maintaining the scheme will need to ensure that a full drinking water quality test is performed on the source at least twice a year in a certified laboratory, so that any changes in quality can be detected early and remedied before the risk becomes too high. As such, water quality monitoring should be mainstreamed as part of O & M activities to be mandatorily carried out by the WUA.

Encroachment into ecologically sensitive areas

There are many wildlife and forest protected areas and sensitive wetlands in the proposed project areas of NEP WASH. It is possible that the water sources identified could sometimes be located in such sensitive areas, away from human settlements. In such situations, the WUA and the NWSDB should consult the relevant authority (Ds, Forest Department, Central Environmental Authority, Department of Wildlife Conservation etc) and follow the procedure for obtaining permission to utilize the water source/s for purposes such as drinking water supply. Construction activities at the point of tapping of

the water source are generally confined to a limited area, and hence would not be destructive to the environment. The method used for abstraction of water from ground aquifers and streams should be such that it will not disturb the natural condition of these sources, which fact should be strictly observed during construction. No heavy machinery should be used for construction, nor should heavy transport be involved requiring road construction or clearing of jungle. Transport of construction materials should be made manually to the site in such cases. No rock blasting should be permitted, as it could disturb the aquifer. Further, damming of streams to make large reservoirs will not be required. Excavations done for the spring boxes or weirs across the streams will be minimal. After the construction, routine visits by the caretaker will ensure the proper condition and functioning of the intake, and minimal impact to the environment.

Dust, soil erosion and damage to other utilities

During implementation dust from excavation activities are likely but the impact will be localized and can be greatly reduced by water spraying. Soil erosion will not be high given the flat terrain and dry weather that prevails most part of the year. It is possible that roads and drains may get damaged during trenching. In rural areas other types of utilities such as underground telephone and electricity cables are usually not present and hence damage to these utilities will be at minimum. Any road damage that will occur will need to be reinstated by the project through the regular maintenance agency.

Increase generation of waste water

With the introduction of piped borne water, there will higher discharges of domestic wastewater than before. However, it is not expected to be a significant issue as these are rural communities and water from the pipe would be used mainly for drinking and cooking purposes. In fact, increased discharge of domestic wastewater would have an indirect beneficial effect by improving soil moisture levels in the homesteads and thereby promoting the good practice of home gardening. Most rural communities are in the habit of depending on home garden produce for various family needs, mostly nutrition, and lack of water in the dry zone is the restricting factor. Where houses are supplied with running water, domestic wastewater discharges are frequently used in a productive manner by diverting to vegetable/banana plots. Therefore, the project does not anticipate this as an issue and would encourage communities to develop their own solutions for wastewater management with technical assistance from the project if needed. Where the community would opt for common water pipes, such as stand posts, dug wells and tube wells, there may be a slightly increased risk of wastewater stagnation and mosquito breeding. However, it is unlikely that communities would choose common water point as the preferred service level. Past experience show that the preferred service level is the household connection.

Unsafe water in pipe lines

Contamination of water could occur in pipe borne water supply schemes due to improper maintenance of structures, or breakage of pipe lines. Proper construction of facilities with adequate quality supervision will minimise this problem. Therefore, the project will need to assure quality of construction and also engage the Public Health Inspector (PHI) of the area in a supervision role. Further, regular checking by the project staff will further strengthen the supervision aspects. Caretakers nominated by the WUA will be trained on preventive maintenance aspects. To retain trained caretakers and also to ensure regular preventive maintenance, a payment system for care takers will be encouraged. As an additional preventive measure, provision will be made in the pipe borne water supply schemes for introducing chlorination.

Improper siting of latrines near water sources

If the latrines are sited too close to the water sources, there is a possibility of the source getting polluted. This is especially so in areas where there is a high ground water table. In the sanitation program, the procedure requires a potential beneficiary to make an application for the partial grant (50% of the sanitation cost), and the WUA supported by the project will inspect the site and approve the application, subject to all design considerations. The necessary training in latrine design and siting will be provided to the WUA members assigned to implement the sanitation program in each village. The latrine construction will be monitored in subsequent inspections made at the time of part payments.

Bad Odours and Mosquito Breeding in Damaged Latrine Pits

If the latrine pits are damaged during usage, there is a possibility of mosquito breeding and emanating bad odours. Proper construction of sub structure will minimise such possibilities. To ensure this, inspection of the construction will be made prior to the payment of installments, thus allowing time for corrective action during construction.

6.2 Preliminary assessment of social impacts

The project is expected to have little or no negative social impact. Instead a number of positive social impacts such as community capacity building, women empowerment and social harmony among resettled families by sharing common water sources are expected.

No involuntary resettlement will be funded under the project. However, there will be a need for limited land acquisition for the new pumping stations, water storage tanks and purification facilities envisaged as a part sub-projects. Since the exact location of project interventions are not known at this stage, only some guidelines and procedures are suggested here to be adhered in case minor land acquisition is unavoidable. In the event that land acquisition is unavoidable, the land acquisition process, consultation and compensation procedures and principles will be as per Sri Lankan Governmental policies and compliant with OP 4.12.

The experience from previous community rural water supply projects suggest that small plots of lands were largely made available through voluntary donations or from government owned lands where the public agency is prepared to transfer such small lands to the community organizations (i.e donations of private and public lands for CWSSs under the Bank funded Puttalam Housing Project).

In case of voluntary land donation, the Project will ensure the following:

- that the land is free of any structures or assets;
- if the land is so small in extent that its donation does not negatively impact the livelihood of the owner;
- the voluntary nature of donation is fully and independently verified;
- that the land is unencumbered, of squatters and conflicting claims;
- that community based mitigation measures are acceptable;
- that the person(s) give up all claim to the donated land and that the land is transferred in the name of the CBOs that are to be established for Operation and maintenance of water assets created by the project

There are no groups classified as Indigenous Peoples in Trincomalee and Mannar Districts. Thus Indigenous Peoples. OP 4.10 will not be not triggered. However, through a Social Impact Assessment, the project will explore how to ensure greater social equity in outreach through community participation and involvement of marginalized groups if any, and women in planning and service delivery. Also the PMU will implement community consultations in each of the WSS areas to identify any problem areas and will incorporate adequate measures to address such vulnerability in project design.

The proposed project is unlikely to pose a risk of damaging cultural property. However, the social development officials, together with engineers and the technical staff of the project will participate in identification of land plots for construction of water assets and will ensure the compliance with the Physical Cultural Resources (OP/BP 4.11) and will not to utilize any land that may damage cultural or community resources

There is a possibility that the water sources proposed for the water supply is already being used by another community or by the same community for another purpose in which case there will be a direct conflict of interests between different water sectors or users. If the beneficiaries of the water supply scheme are the same current users of the water source, major issues will not arise as a sharing arrangement can be easily agreed upon. Past experience show that usually the users of the sources for agricultural purposes are the same beneficiaries who expect water from the drinking water supply, thus making user sharing arrangements possible. However, if the future water supply beneficiaries and current water users are different, planning would need to be done carefully in order to ensure that water user conflicts will not be created. In such situations, it would be extremely important for the WUA to engage other user groups in the sub-project planning stage in order to assess and factor in downstream requirements and reach water sharing arrangements based on safe levels of abstraction

7 Mitigation measures

7.1 Environmental safeguards procedures

Step 1 – Preliminary Environmental Assessment of Sub Projects

The possible adverse effects and the suggested mitigation measures and procedures discussed above are mostly based on the experience of previous rural water supply and sanitation projects. During CWSSP II, these actions were considered and incorporated as part of planning and implementation procedures. To ensure that the same is applied to NEP WASH and that potential risks and remedial measures described in the previous section are identified early in the planning and design of each sub-project, a structured environmental checklist has been prepared to be filled by the WUA with assistance from the project environmental officer/consultants. This checklist, which is attached to the ESMF as annex 2, has to be filled after the sub-project has been conceptually identified and attached to the sub-project proposal.

Step 2 – Environmental Management Plan

Once the sub-project proposal is approved, the WUA together with the community, and with assistance from the project environmental officer/consultant, will prepare an Environmental Management Plan based on the preliminary risks identified in the checklist as well as other specific issues identified by the community subsequently. This will be initiated at the community mobilisation stage of the sub project cycle and the process will involve addressing relevant environmental issues ranging from household to village to micro-catchment level in appropriate detail. The EMP should give particular attention to sub-project sustainability issues such as protection of intake points, protection of catchment areas,

prevention of pollution of water ways, water quality monitoring, user conflicts, selection of proper latrine design and siting. In addition, the EMP should also address proper drainage facilities around the households and water points, and any constructing related impacts. The supervision consultants of the NWSDB and the project staff will take a lead in assisting the WUA in initiating and formulating the EMP while the participation of DEOs of the DS Office, health officials of the PS etc will be expected in this exercise. The EMP should be finalized prior to commencement of construction activities. If there are measures in the EMP that the contractor is expected to implement, such provisions should be reflected in the contract agreement and the EMP made available at the time of bidding. The length of the EMP for a given sub-project will depend on the type and number of environmental issues affecting sub-project sustainability.

Step 3 – Sub-project monitoring plan

During implementation, compliance with the EMP should be given high priority. The primary responsibility of monitoring the EMP will be vested with the WUA. Being the owners of the sub projects, the WUA will effectively fulfill this task, if adequate knowledge and awareness is imparted to them. The RWSS Unit of the NWSDB will independently monitor compliance with agreed environmental measures in the EMP. It is expected that the form of compliance monitoring would be largely limited to supervision and visual observations during project implementation. Based on CWSSP II experience, it is unlikely that the sub-project level environmental monitoring would require the expertise of the CEA.

With regard to water quality monitoring, after the initial water source testing for suitability as a drinking water source, the WUA will be trained and instructed to test water quality on a regular basis. Under CWSSP II all WUAs were provided with ready-to-use indicator test kits to monitor bacteriological and nitrate contamination in the water supply schemes. However, the results of this initiative have been mixed and in the absence of strong institutional back-up for technical support and for the replacement of test strips/reagents, the sustainability of this is somewhat unclear. The WUAs under NEP WASH will be instructed to use the nearest regional NWSDB laboratory facilities to perform the necessary quality checking. The NWSDB offers free water quality testing for each scheme twice a year and the WUAs should be duly informed to make use of such concessionary facilities. The PS and the PHIs should also be trained and instructed by the project to support the WUA in regular WQ monitoring. Once the water samples have been analyzed, NWSDB will be contracted by the WUA to assist in preparing a remedial plan, provided any of the parameters have exceeded the recommended level. If the water supply can be treated within the available resources and ability of the communities with technical assistance from the NWSDB, treatment should be attempted. But in the event that it is not technically or financially viable to treat the water supply/source on a sustainable basis, the source will have to be abandoned. The RWS unit of the NWSDB office (if required) will then commence the identification of a suitable unpolluted source with community involvement. The fund that will be established by the community for operation and maintenance of the water system will have to be used to pay for development of the new source.

7.2 Social safeguards measures and procedures

The project will make arrangements to conduct public consultations, social mobilization and establishment of water user groups, continuous social impact assessments that are necessary to ensure the compliance of social safeguard policies of the Bank and the government laws. Since there is an in-built GRM under the NELSIP in all the LAs in the North and East, beneficiaries of the NEP-WASH may be able to make use of such mechanism to lodge their grievances, if any.

Nevertheless, an initial social assessment will be carried out for the two districts (WSSs) to identify potential social impacts, both positive and adverse and to suggest possible mitigation measures to minimize negative impacts if any. Among other things, the social assessment will examine, the potential exclusion from project benefits, potential social conflict between different water users, possible social integration prospects, affordability to pay an initial water connection fee and monthly charges by beneficiary, families, vulnerable and disadvantage groups who need special consideration, and the need for specific culturally compatible mechanisms for participation, e.g. for women, disabled, elderly etc. For this purpose, a TOR for a generic social assessment is given in the annex 3).

8. Stakeholder consultation and disclosure requirement

As this is a category B project, the Environmental Framework should be disclosed to the public for a period of 30 days prior to appraisal. A soft copy of the framework should be posted on the websites of the NWSDB, who will be vested with the implementation responsibility for NEP WASH. Hard copies should be made available at appropriate places in the project area for review by interested sections of the public. The framework will also be made available at IDA's public information centre in accordance with the BP 17.50 requirements of disclosure. The implementing agencies, should organize special workshops, if needed, to evince feedback, and these should be incorporated into the project designing. All EMPs that will be prepared by the project once it is effective shall also adhere to this disclosure policy.

Public consultation is an integral part of the sub project identification and implementation. The community is involved effectively in taking all decisions during the planning process, especially in selecting and finalising options for water supply. The community is free to make observations, request for clarifications or forward their requests at these consultations, which will be paid due attention and consideration. The WUA, who will be selected by the community and representing community interests, will be taking a lead role in project implementation and operation. As such, community interest is well presented in the proposed sub-project cycle.

9. Institutional Arrangement for the Implementation of ESMF

- The NWSDB as the key implementing agency will be responsible for implementing the EAMF. The NWSDB will appoint one of the project staff, with necessary training and experience in environmental management, as the environmental officer for ESMF implementation and oversight.
- The consultants appointed by the NWSDB to provide the project with technical assistance and supervision will also supervise the implementation of the ESMF. This will be a part of their scope of work.
- The WUA, as the eventual owner and operator of the schemes will also share responsibility for implementing ESMF activities. The WUA will appoint one of its committee members as the main liaison with the NWSDB and NWSDB appointed implementation consultants for ESMF implementation and compliance monitoring.
- IDA will check compliance with ESMF under the project during its supervision missions. The NWSDB will be required to submit a brief progress report on ESMF implementation under each sub-project in the quarterly progress report. In addition, the NWSDB would be required to submit the first two EMPs for prior review by World Bank in order to make sure that compliance with ESMF requirements is on the right track. The rest of the EMPs will be post-reviewed during periodic supervision missions.

10. Capacity Building and Training

10.1 Institutional Capacity Assessment

NWSDB

The NWSDB is the country's leading agency in the development of water resources for provision of water supply. As such, it has an immense wealth of experience in designing, implementing and operating water supply projects at all levels. It has also implemented numerous projects assisted by the Asian Development Bank (ADB), World Bank, and other bilateral aid partners, most of which have completed, evaluated, and rated generally successful in the project completion. The environmental concerns of NEP WASH discussed previously are well within the technical competence of the NWSDB.

LA

Local authorities consist of Municipal Councils, Urban Councils and Pradeshiya Sabhas and constitute the third level of governance. Because environmental management is a devolved responsibility under 13th amendment of the constitution, LAs are expected to play a major role in protecting the environment. Activities related to environmental management in the LA are generally coordinated by an environmental officer attached to the LA. All complaints from the public concerning environmental issues in the LA are received by the EO. This may lead to investigation of complaints and recommendations to responsible authorities for further action. In some LAs the environmental officers are not available either because the position is not filled or is not approved. In such instances environmental management activities may be carried out as a collateral duty by the development assistant, or by an Environmental Officer attached to the Divisional Secretariat office. The environmental

management capacity of LAs varies largely depending on resources available and the political will but is generally low. In the proposed NEP WASH areas the LAs would consist mostly of Pradeshiya Sabhas. Given that these areas have been affected with 30 years of conflict and are newly emerging, the LA capacity to assist the project in managing and addressing environmental aspects would be low. One of the key lessons learnt in CWSSP II is the poor institutional role played by the LAs in providing technical back stopping to the CBOs. Therefore, this aspect should be strongly considered in this project while placing strong emphasis on technical capacity building within the relevant LAs.

NELSIP which is the pioneer program to strengthen the capacities of local authorities in the post-war context is now in progress and has implemented a number of capacity building. To enhance the capacity of the Pradeshiya Sabhas (PSs) in the Northern and Eastern provinces to deliver local public goods and services to their citizens in an efficient, effective, accountable and responsive manner. Thus, it is expected that NELSIP would pave the way for inculcating a good governance culture within the local authorities in both the provinces ensuring effective community involvement in the decision making process in managing resources

WUA

Water User Associations(WUA) are an integral part of the WSSs and the vehicles for community participation in water asset management. Though WUAs are yet to be formed, the NWSDB should start mobilizing potential water users for effective operation and maintenance of water facilities and catchment areas as soon as the identification of locations is completed. The experience of previous CWSS shows that the success and sustainability of community water supply schemes depend on the capacities and dedication of WAUs. The project therefore would support to establish and promote technical competent WUAs where all the beneficiaries will have equal rights and responsibilities to own and manage their water assets.

10.2 Training

The project should carry out (a) short-term training on ESMF application in planning and implementing sub-projects to all stakeholders concerned including the potential beneficiary communities (b) water quality monitoring and watershed conservation training to LAs and WUAs.

Annex 1

Guidelines for Preparing Environmental Management Plans

Having identified the potential impacts of the relevant sub-component, the next step of the EA process involves the identification and development of measures aimed at eliminating, offsetting and/or reducing impacts to levels that are environmentally acceptable during implementation and operation of the project (EMP). EMPs provide an essential link between the impacts predicted and mitigation measures specified within the EA and implementation and operation activities. World Bank guidelines state that detailed EMP's are essential elements for Category A projects, but for many Category B projects, a simple EMP alone will suffice. While there are no standard formats for EMPs, it is recognized that the format needs to fit the circumstances in which the EMP is being developed, and the requirements which it is designed to meet. EMPs should be prepared after taking into account comments from the PAA and IDA as well as any clearance conditions. Annex C of OP 4.01 of the World Bank safeguards outlines the important elements of the EMP and guides its preparation. Given below are the key elements that constitute an EMP, but the project proponent and their consultants are advised to refer to Annex C of OP 4.01 for more details.

8.2 Contents of a Environmental Management Plan

a. Identification of impacts and description of mitigation measures

Firstly, Impacts arising out of the project activities need to be clearly identified. Secondly, feasible and cost effective measures to minimise impacts to acceptable levels should be specified with reference to each impact identified. Further, it should provide details on the conditions under which the mitigatory measure should be implemented (ex; routine or in the event of contingencies) The EMP also should distinguish between type of solution proposed (structural & non structural) and the phase in which it should become operable (design, construction and/or operational).

b. Enhancement plans

Positive impacts or opportunities arising out of the project need to be identified during the EA process. Some of these opportunities can be further developed to draw environmental and social benefits to the local area. The EMP should identify such opportunities and develop a plan to systematically harness any such benefit.

c. Monitoring program

In order to ensure that the proposed mitigatory measures have the intended results and complies with national standards and World Bank requirements, an environmental performance monitoring program should be included in the EMP. The monitoring program should give details of the following;

- Monitoring indicators to be measured for evaluating the performance of each mitigatory measure (for example national standards, engineering structures, extent of area replanted, etc).
- Monitoring mechanisms and methodologies
- Monitoring frequency
- Monitoring locations

d. Institutional arrangements

Institutions/parties responsible for implementing mitigatory measures and for monitoring their performance should be clearly identified. Where necessary, mechanisms for institutional co-ordination should be identified as often monitoring tends to involve more than one institution.

e. Implementing schedules

Timing, frequency and duration of mitigation measures with links to overall implementation schedule of the project should be specified.

f. Reporting procedures

Feedback mechanisms to inform the relevant parties on the progress and effectiveness of the mitigatory measures and monitoring itself should be specified. Guidelines on the type of information wanted and the presentation of feedback information should also be highlighted.

g. Cost estimates and sources of funds

Implementation of mitigatory measures mentioned in the EMP will involve an initial investment cost as well as recurrent costs. The EMP should include costs estimates for each measure and also identify sources of funding.

h. Contract clauses

This is an important section of the EMP that would ensure recommendations carried in the EMP will be translated into action on the ground. Bidding and Contract documents will need to be incorporated with clauses directly linked to the implementation of mitigatory measures. Mechanisms such as linking the payment schedules to implementation of the said clauses should be incorporated and implemented, as appropriate.

Consultation with affected people and NGOs in preparing the EMP will be an integral part of all Category A projects and is recommended for Category B projects.

Annex 2

Environmental Checklist for the Preliminary Assessment of Environmental Impacts from the Proposed Community Water Supply Scheme

	Impact	Degree of Impact				Mitigation measures proposed
		No Impact	Low	Mode -rate	High	
Ecological Impacts						
1	Removal of large trees at the project sites or access roads to site					
2	Encroachment into ecologically sensitive areas (Ex: wildlife and forest reserves)					
3	Changes to local hydrology such that conservation worthy or commercially significant fish stocks are affected					
Sustainability of the water source						
4	Unsatisfactory raw water quality (excessive pathogens or mineral constituents)					
5	Possible future contamination due to inadequate protection of intake wells and upstream wastewater discharge from communities, industries and agricultural activities					
6	Possible contamination of source due to adverse changes in the watershed areas					
7	Noticeable permanent or seasonal reduction in volume of ground or surface water supply (consider cumulative impact)					
8	Over pumping of groundwater, leading to					

	salinization and ground subsidence					
9	Excessive algal growth in storage reservoirs					
Community Health						
10	Waste water stagnation resulting in pollution of water sources and Increase the risk of disease in project areas (ex: filariasis, malaria, hepatitis,gastrointestinal diseases)					
11	Improper siting f latrines near water sources					
12	Bad odours and mosquito breeding in damaged latrine pits					
Construction related impacts						
13	Impacts on agricultural land from waste water, moving soil and loss of land					
14	Soil erosion					
15	Flooding of excavations and nuisance of dust					
16	Damage to other utilities such as roads, dams, telephone, electricity lines from construction activities					
17	Threat from landmines at the proposed site or access road to the site					
Social Conflicts						
18	Social conflicts due to competing demands of water from the same source					

Annex 3

Tentative Terms of Reference for an Initial Social Assessment

Introduction

NEP-WASH is comparatively a small scale project and will be implemented as a pilot program in two districts of the war affected North and East. The major investment under this project is to design and implement 12 community water supply schemes in identified locations in Mannar and Trincomalee districts. The target community consists mostly the beneficiaries of NEHRP who were resettled after a prolonged period of displacement. The physical infrastructure constructions anticipated under the project are small in scale such as water storage tanks, purification facilities, water intake (pumping stations) and water distribution pipelines. Thus, there are no major negative social impacts anticipated to the private properties or community resources by this project. However, in order to assess the potential social impacts and identify issues that may require attention by the project implementing agencies, an initial social assessment is suggested at the early stage of the project implementation.

Objective

Main objective of an initial social assessment to identify potential social impacts, both positive and negative at early stages of the project and to suggest possible mitigation measures to minimize the adverse impacts if any.

Scope of the social assessment

Following are the suggested areas for the assessment;

- Prepare social profiles of beneficiaries of each WSSs including their socioeconomic background, poverty, and vulnerability levels and other social characteristics of the community;
- Review all sub project (WSS) plans that are identified by the technical team of the project and examine potential land acquisitions related to construction of water assets. List out land requirements for construction of water assets for WSSs and potential risks and issues involved in acquisitions of public and/or private lands and suggestions to resolve such issues;
- Identify potential conflicts that may arise due to competition and sharing water sources by different water user groups, neighborhood and villages living in the localities where the sub projects are planned;
- Examine the potential exclusion of certain individuals, groups from project benefits because of their vulnerability, social marginalization or any other reasons;
- Assess the level of affordability to pay an initial water connection fee and monthly charges by beneficiary families with special emphasis on vulnerable families and disadvantaged groups who need special attentions;
- Assess proposed community participation model through establishment of WUAs and examine whether this modality is viable and acceptable to the local community groups in the project areas. Prepare and suggest suitable modifications and changes that need for specific culturally compatible mechanisms for participation, e.g. for women, disabled, elderly etc;
- Examine the avenues for social integration, women empowerment and building social harmony through sub project interventions (WSS) and suggest actions that may enhance community participation for water asset management;
- Examine and flag potential social and reputational risks to the implementing agencies and to the Bank and suggest practical actions to mitigate such risks and issues.

Suggested Methodology

It is suggested to use participatory tools and techniques in conducting the social assessment especially, in preparing social profiles for each WSS. Focus Groups, Interviews and a questionnaire survey of randomly selected/identified beneficiaries can be carried out to assess the socioeconomic and other variables of the SIA. Two Reports (one for each pilot district) to be prepared and submitted for the review.

The team leader/ lead consultant should have minimum qualification of Masters Degree in Social science and five years of experience in conducting social assessment/research/survey.

Deliverables

Total time allocated for the assessment is six week. Consultant must submit following three reports as stated time period.

- Inception Report (after one week of signing of the agreement)
- Draft Final Reports of two pilot districts (end of the 5th week for the comments/feed from the client and the Bank)
- Final Report (end of the sixth week)