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## EXECUTIVE SUMMARY

1. The Government of Kerala (GoK) is implementing the Kerala Sustainable Urban Development Project (KSUDP) under the assistance of Asian Development Bank. The goal of the programme is to improve the level, quality and sustainability of basic urban services in selected Urban Local Bodies (ULBs), contributing to improved quality of life among the urban poor. KSUDP will be implemented over a period of five years beginning in 2006, and will be funded by a loan via the Multitranches Financing Facility (MFF) of the Asian Development Bank (ADB).
2. KSUDP Investment Program implementation activities will be monitored by through a separate Investment Program Management Unit (PMU). The ultimate implementation responsibility lies with ULBs in coordination with various other Departments of GoK.
3. ADB requires the consideration of environmental issues in all aspects of the Bank's operations, and the requirements for Environmental Assessment are described in ADB's SPS (2009). This states that ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, loans involving financial intermediaries, and private sector loans.
4. This Initial Environmental Examination (IEE) has been prepared for the SWM of Kollam Municipal Corporation, specifically for the installation of biogas units at various sites.
5. An Environmental Management Plan (EMP) is proposed as part of this report which includes (i) mitigation measures for significant environmental impacts during implementation (ii) environmental monitoring program, and the responsible entities for mitigation monitoring, and reporting (iii) public consultation and information disclosure and grievance redress mechanism.
6. Under the SWM programme four biogas units have already constructed at Kollam. This IEE covers four new biogas plants for which locations finalized recently.
7. The subproject locations are not situated in areas prone to water-logging, Stalination, and flash flood. There are no protected areas, wetlands, mangroves, or estuaries in or near the subproject location. Trees, vegetation (mostly shrubs and grasses), and animals are those commonly found in urban areas. The subproject situated are not located in or near any historically, culturally, archaeologically or architecturally significant or tourist areas.
8. Some minor potential negative impacts were identified in relation to construction and operation of the biogas units. A number of impacts and their significance have already been reduced by amending the design thus no impacts were identified as being due to the project design or location. Mitigation measures have been developed to reduce all negative impacts to acceptable levels.
9. During the construction phase, impacts mainly arise from the need to dispose of quantities of waste soil and from the disturbance to residents, businesses, and noise. These are common impacts of construction in urban areas, and there are well developed methods for their mitigation.



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10. Once the biogas units are functioning, it will operate with routine maintenance, which should not affect the environment. The impact to nearby environment is minimal. The system will supply cooking gas as per standards and will benefit the individuals and public economy with improvements in living standards and hygiene. This will reduce the incidence of diseases associated with poor sanitation. This will also lead to economic gains as minimum time is required for cooking and will have more time for work and indirectly increase their income.
  11. There were limited opportunities to provide environmental enhancements, but certain measures were included. For example it is proposed that the project will employ workers who live in the vicinity of construction sites to provide them with a short-term economic gain and ensure that people employed in the longer term to maintain and operate the new facilities are residents of nearby communities.
  12. Mitigation will be assured by a program of environmental monitoring conducted during construction and operation to ensure that all measures in the EMP are implemented and to determine whether the environment is protected as intended. This will include observations on-site and off-site, document checks, and interviews with workers and beneficiaries, and any requirements for remedial action will be reported
  13. The stakeholders were involved in developing the IEE through face-to-face discussions on site and public meeting held at the proposed sites, after which views expressed were incorporated into the IEE and in the planning and development of the project. A grievance redress mechanism involving a Grievance Redress Committee at KMC level has been proposed under the project.
  14. Therefore the subproject is unlikely to cause significant adverse impacts. The potential adverse impacts that are associated with design, construction, and operation can be mitigated to standard levels without difficulty through proper engineering design and by the incorporation or application of recommended mitigation measures and procedures. Based on the findings of the IEE, the classification of the Project as Category "B" is confirmed. It is concluded that the proposed sub-project should proceed, with appropriate mitigation measures and monitoring programs identified in the IEE.