

Koderma

City sanitation plan is the vision document for sanitation in Koderma for next 30 years and is one of the key document required to qualify for getting the financial support for sanitation related infrastructure development under key Government programmes like Swachh Bharat Mission (SBM), Clean Ganga Mission and other Central Government Programmes.

Baseline Information

- Following updated information for Koderma collected from different sources (government department, field survey, stakeholder consultations and secondary sources) will serve as a baseline document for development of sanitation infrastructure projects for the town.
 - Demographic information along with population projection for next 30 years provided
 - Scale map of the town including base map of the town ward wise maps and land use maps for the town prepared which can be utilised by town authorities for further planning, development of master plan, zonal plans
 - Detailed slum profile including notified and non-notified slums collected and validated during field survey; details on sanitation infrastructure available in the slum - Information can be further utilised in preparation of detailed slum development plan or other programmes in similar lines like Housing for All.

Access to toilet

Study and Analysis details

- Existing defecation system in the town has been assessed – ward wise number of individual toilets, public toilets, open defecation area, sludge removal equipments, sludge management and sanitation in slums
- Ward wise location of public toilet and open defecation areas have been mapped which would support the ULB is finalising the location of proposed public and community toilets.
- Swot analysis , key issues and benchmarking with MOUD standards have been done
- Demand gap assessment for toilet block requirement has been done till the year 2045 which will give clear picture to the ULB for phase wise construction of toilet blocks
- Study of ongoing schemes and program for toilet construction – SBM
- Details on Namma toilets and other innovative options for toilet construction and management identified for ULBs to explore further during tendering and construction stage.

Action Item for ULB

- ULB needs to increase sanitation coverage for individual household from existing 53% to 100% as per the Sanitation action plan (construction of toilets). Refer section 7.1.
- Total 1814 individual toilets need to be constructed under SBM, 136 IHHT have been approved by KNP in 2015-16; Balance 1678 need to be constructed till 2019. Phase wise construction plan provided in section 7.7 of report
- Total 15 community toilets (6 seats per toilet block) need to be constructed in Koderma till 2019 under SBM, with 38 seats for men and 49 for women. Phase wise construction plan and other details provided in Section 7.7.

- Locations for 15 community toilets given in wards having slum areas and open defecation. Ward wise location of proposed community toilet is shown in Map 7-2. ULB needs to get the toilets constructed as per SBM guidelines.
- Currently there are four toilet block exist in KNP. Based on the ULB consultation, four more public toilet blocks are required till 2020.
- Locations to set up public toilet has been finalised with ULB. ULB needs to construct the toilet as per the specification provided in SBM guidelines.
- Total cost for toilets block worked out for different levels of sanitation facilities- individual toilet, community toilet and public toilet is Rs 242 lakh, Rs 65 lakh and Rs 20 lakh respectively. Funding for the same can obtained from government under SBM. ULB can also approach big local industries to construct public and community toilet from CSR funds.

Sewerage System

Study and Analysis details

- Existing waste water management has been studied – domestic waste water.
- Ward wise waste water disposal system and its impact on environment natural drains analysed
- Estimation of waste water generation quantity, sludge generation quantity and projections (based on population projection and water supply projections) till 2045 to finalise the capacity of treatment facilities.
- Swot analysis , key issues and benchmarking with MOUD standards have been done
- Based on the existing infrastructure and funding proposals are given on short term and long term basis in the form of on-site and off-site sanitation respectively.
- Decentralised waste water management system for the undulating and congested areas.

Action Item for ULB

- Analysing the local issues, provision of Sanitation facility has been proposed as medium term and long term
 - Septic tank based sanitation for medium term – ULB to increase coverage from 52% to 100 % (also discussed in Section on access to sanitation)
 - ULB to develop a septage management facility to dispose-off the sludge in safe manner – area requirement is 0.3 acre.
 - Sewerage system provided for long term
 - Capacity of STP identified based on waste water projections for next 30 years. ULB to develop plan for construction of 7 MLD STP for Koderma.
 - Based on the topography of the town and slope assessment STP is proposed to set up at southern side of Koderma near River Arghauti. Site suitability analysed for selected sewage treatment plant was done along with infrastructure and site development.
 - Alternate option for decentralised treatment facility based on topography and slope analysis provided to reduce pumping cost –Since the ULB is still in the planning stage, they can review the alternate and decide on most suitable option. Three decentralised options of 2-3 MLD each are proposed.
 - Location of proposed STP and DEWAT system is shown in map 8-1 and 8-2.
 - Land requirement for different technology option provided for STP

- Cost estimates for the sewerage works including septage management, suction machines, STP, sewer lines, site development works would be Rs. 287 lakh, Rs. 3610 and Rs. 3290 lakh for the phases 2017-2020, 2020-2025 and 2025-2045 respectively.

Solid Waste Management

Study and Analysis details

- Assessment of existing waste collection, disposal and treatment system for domestic, industrial and institutional areas based on field observation, stakeholder consultations (ULB, rag picker, sanitation workers, slum dwellers and residents).
- Quantification of Municipal waste and projection till the year 2045. Calculation of the infrastructure for collection, transportation, treatment and disposal along with area requirement for processing and landfill facility.
- Mapping of existing and proposed waste disposal site.
- Site suitability analysis for selection of processing and landfill provided.
- Swot analysis, key issues and benchmarking with MOUD standards have been done and waste management system in short term, medium term and long term proposed for Koderma.

Action Item for ULB

- Area required for development of new landfill site calculated along with location for development of new SWM facility identified. ULB to develop the SWM facility for Koderma on identified land.
- Technology options for waste treatment are given in section 9.14.
- Waste management best practice case studies provided to ULBs to refer for during implementation stage.
- Awareness campaign and capacity building initiatives to be done by ULBs for proper management of waste – funding for the same can be availed from SBM.

River front development

Study and Analysis details

- Study and mapping of existing river front, land use, point and non-point sources of pollution, economic and religious activities.
- Swot analysis, key issues identification have been done.
- Identification of proposed activities and infrastructure to be set up along the river.
- Identification of pollution sources for River Arghauti and ways to mitigate that.

Action Item for ULB

- ULB should provide waste collection bins at the crematoria along the river bank.
- Provision for fine imposition for waste dumping, industrial effluent in the river by ULB. The legal framework for the same can be discussed with the state.
- ULB need to prepare detail project report for river front development and implementation plan having components like ghat development, toilet complex, changing room etc. as per details provided in section 10.3 and 10.4 of CSP.
- Preliminary cost estimates for river front development are given in table 10.2 of the CSP. Estimated total cost for all the works would be Rs 2795 lakh till the year 2045.

Storm Water Drainage

Study and Analysis details

- Existing baselines status of storm water drainage including water logging areas identified for the town;
- Ward wise drains and their outfall points have been identified and located on map along with details of existing storm water in slum areas.
- Swot analysis , key issues and benchmarking with MOUD standards have been done
- New proposal to be taken up for improving the storm water drainage situation has been identified and tentative cost has been provided for short term , medium term and long term (Rs 1298 lakh).

Action Item for ULB

- Develop project report and implementation for storm water drain identified in the report and shown on map- 6-2 section 6.10 of chapter 6.
 - New drains with total length of 11 km are required along the major roads and NH 31 to be connected with River Arghauti.
- Strengthening of existing storm water drains – total 13 km of existing drain
 - Desilting of existing drains and removal of waste from River Arghauti on immediate basis

Ponds and Crematoria

Study and Analysis details

- Detail assessment and mapping of existing crematoria with respect to available infrastructure, physical condition, waste management, drainage management, facilities for visitors etc.
- Site survey and mapping of all the ponds in the town. Listing of activities near the ponds such as cattle wallowing, bathing, washing, open defecation, vehicle cleaning.
- Details of electric crematoria is given in chapter 11 of CSP.
- Identification of proposed activities and infrastructure to be set up at the crematoria.
- Identification of drains meeting ponds and strategy to divert them.
- Strategy to boost local tourism near the ponds.

Action Item for ULB

- Ponds
 - ULB need to improve the condition of all the ponds in phase wise manner. Details of ponds that require improvement is provided in section 11.2 of CSP.
 - Restricted activities such as cattle wallowing, bathing, washing, open defecation, vehicle cleaning should be banned by ULB.
 - Set up separate pond for Idol immersion activity during the festival period.
 - Ponds having open spaces around needs to be developed as local tourism spots in the first phase.
 - Waste water (black water) reaching ponds should be diverted to natural drains on immediate basis.
- Crematoria
 - KNP should communicate with power supply department to get dedicated power line for electric crematoria.

- ULB should provide basic facility in the existing crematoria as mentioned in section 11.1 of CSP.
- Preliminary cost estimates for up-gradation and setting of new electric crematoria along with pond development cost is given in table 11.3 of CSP (Total cost estimates for these facilities till the 2045 would be Rs 2178 lakh).

Other Details Addressed

- Sources of the funding for the projects identified in CSP have been given in chapter 14 of the CSP.
- Assessment of institutional structure at state and local level has been done in chapter 12 of the CSP. Manpower required for sanitation sectors and capacity building of the staff is also discussed.
- A brief summary of all the relevant policy, guidelines, programs and schemes is provided in chapter 2 of CSP.
- Role of City Sanitation Task Force and strategy for awareness generation are discussed in chapter 13 of CSP.