

Kurunegala Participatory Action Plan

WASPA Asia

Revised December 2008

Prepared by WASPA team after consultation with LA members

Vision 1: To have drainage facilities to collect, separately rainwater and liquid waste, which are free of solid waste, as well as their proper treatment and disposal, and the capacity to manage these through knowledge, awareness and regulations, within 5 years, in large part of the city.

Four strategies were proposed for vision 1

Strategy 1: Engage with the Greater Kurunegala Sewerage Treatment Project (GKSTP), which is the plan to develop the main drains, by being part of the discussions, providing information coming out of the assessment, and providing advice on management issues

Strategy 2: Work with larger polluting units (such as service stations, hospitals and hotels) to reduce waste (solid and liquid), and to introduce facilities to treat wastewater.

Strategy 3: Strengthening the procedures and regulatory system for waste control in all phases of projects and constructions, as well as for existing premises at municipal level.

Strategy 4: Awareness raising among the general public on waste issues and its management, and promoting the involvement of citizens through effective CBOs

**Activity 1: Information sharing with Greater Kurunegala Sewerage Treatment Project (GKSTP)
(PAP activity reference: S1.1)**

Objectives	It was noted that although both GKSP and WASPA are having similar objectives and doing similar activities, but they have not yet shared their available information and findings. Hence it is important and necessary that staff of both projects meet and discuss each of their data and project findings.
Description of activity and sub-activities	<ol style="list-style-type: none"> 1. Discuss with GKSP staff and organize a discussion during the month of January. 2. During that discussion, give a brief presentation on WASPA and its findings up to date. <p>Identify any activities which can go together with GKSP and any assistance WASPA can extend to GKSP project. There may be some areas where GKSP can assist WASPA and those also could be identified during this discussion.</p>
Time frame	<p>Start date: Feb 2nd week 2008 End date: Dec.3rd week 2008 Total duration (months): 11</p>
Cost Breakdown in SLRS	<p>Consultancy fee for designing hospital wastewater treatment system: 5000.00 Construction of grease trap in service station: 730200 Construction of a liquid second system: 854,049 Construction of a liquid third system: 661,246 Construction of a liquid fourth system: 1,200,000 (contract not yet awarded due to high quote)</p> <p>TOTAL: 3,450,495.96 Note prices differ based on size of vehicle service station</p>
Remarks	<p>Current Status Under the proposed GKSP, oil and grease released from the vehicle service stations will not be treated due to technical issues. Therefore the GKSP and KMC requested WASPA to assist in implementing separate waste treatment plants for vehicle service stations in Kurunegala city area (especially catchment area of the Boo ela and Wan ela). There are around 10 vehicle service stations available within the WASPA project area, due to finance and time limitations only 4 will be implemented. The designing of the treatment plants were done by the Greater Kurunegala</p>

	Sewerage Project and they were also involved in calling for the tenders. At present, the 3 of the plants are under construction. A MOU between KMC and each service station owners has been signed.
Partners	GKSP, KMC
Responsibility	GKSP, COSI
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

**Activity 2: Creating awareness among commercial units about waste reduction measures
(PAP activity reference: S1.2)**

Objectives	Creating awareness among commercial units about waste reduction measures	
Description of activity and sub-activities	<p>The major polluting units in Kurunegala area are the commercial units such as service stations, hotels and hospitals. Therefore the building up of awareness among these sectors is an important initial step. The activity mainly includes the awareness raising among the commercial units. Distribution of leaflets on proper wastewater removal methods, installation of display boards illustrating issues and impacts of waste management and conducting presentations etc are the sub activities under this activity.</p> <p>In addition to this, the degree of environmental friendliness is assessed at the end of the year and the best green service station and the best graded hotel is selected. The hotel grading activity is carrying out with the total collaboration of Municipal council, Kurunegala. This is almost started and COSI will work on this issue. The similar approach is applied to the service stations and an award and a certification will be provided. Further a display board will be mounted at the entrance of both the service stations and hotels.</p> <p>Designing and budgeting of the leaflets and display boards will be attended by COSI with the close coordination and guidance of MC. Installation of the boards and related matters will be attended by the MC.</p>	
Time frame	Start date: June 2008 End date: Dec 2008 Duration: 7 months	
Cost Breakdown	Activity Printing billboards to be displayed in the city (4 Nos) Fabrication and mounting of above billboards (4 Nos) Printing of hotel grading plaques (70 nos) Printing of public awareness boards about the above grading system (12 nos) Expenses for conducting an art exhibition for school children on “water pollution and prevention” to mark the Sanitation year. About 70 school children participated Gifts for winners = 4200.00 Payment for judges = 1000.00 Tea and snacks = 15507.00 Expenses for provide refreshments to students of University Of Kelaniya who visited the WASPA project 31 st Oct 2008 Printing of Certificates awarded to the winners/participants of the Art exhibition and Essay competition (50 B/W + 100 color) Cash prizes for Essay competition held to mark the World water day (1 st prize awarded by Thor Axel) Total	Amount (LKR) 36,500.00 61,200.00 126,000.00 20,707.00 3000.00 8000.00 5000.00 260,407.00
Remarks	Current Status	

	<p>4 Billboards of the size 6x8 feet with messages on surface water pollution prevention were fixed at prime locations (in front of the Kurnegala Teaching Hospital, Colombo-Kurunegala Road, Puttalam-Kurunegala Road, Kandy-Kurunegala Road and Wilgoda Road) in the Kurnegala City (the place where the canals expose to the main roads.)</p> <p>Hotels and Restaurants in Kurunegala town were assessed and awarded grades from A to D by the Helth Section, Municipal Council. The plaques that were awarded for the Hotel and Restaurants were sponsored by WASPA and the Awarding ceremony of the plaques were held on 29th October 2008 (Under Safe food week.)</p> <p>In addition 12 public awareness boards on the grading system of Hotels and Restaurants in Kurunegala were also printed and Fixed at various prime locations in the Kurunegala town to create awareness among the general public on this campaign.</p> <p>An essay competition for all schools in Kurunegala marking the World Water Day on June 2008, and a Poster competition for all schools in Kurunegala marking the world sanitation year on 10th November 2008 was conducted successfully with the assistance of the Environment Officer of the MC and the Education Dept.</p> <p>60 undergraduates from the Faculty of Natural Science together with Dr. Najeem visited the WASPA project site on the 31st of October 2008.</p>
Partners	KMC, Provincial EA
Responsibility	COSI, KMC
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Activity 3: Provide information on appropriate wastewater disposal methods (PAP activity reference: S1.3)

Objectives	<p>Pollutants such as Factories, Service centers, industries, hotels and hospitals etc operating in the Canal zone are polluting the canal through direct discharge of liquid waste. Lack of awareness can be the main reason for this and these pollutants can be aware on safe waste water disposal methods through a booklet. This book will include the information on safe disposal methods, such service providers and their contact details, cost of such systems etc.</p> <p>The information booklet is prepared with the idea of introducing various feasible treatment options for different industries like hotels, service stations and hospitals in Kurunegala area. The industrial owners and experts/institutions that engage in facilitating treatment options/solutions are linked together through this activity. Further, a list of service providers and other details are included in booklet so that the industries can directly contact them for their requirement.</p>				
Description of activity and sub-activities	<p>In consultation with experts who work on the treatment and waste water disposal, a booklet is going to be made including the drawings and the information on activities in a simple way, in order to consolidate the idea of preserving environment, by an easy access.</p> <p>This booklet will be used in upcoming work shop with traders and later the MC can use it beyond the WASPA project area.</p>				
Time frame	<p>Start date: Jan 2008 End date: Apr 2008 Duration: 3 months</p>				
Cost Breakdown	<table> <thead> <tr> <th>Activity</th> <th>Amount (LKR)</th> </tr> </thead> <tbody> <tr> <td>Booklet for Service stations/hotels (sinhala) -</td> <td>19999.22 *</td> </tr> </tbody> </table>	Activity	Amount (LKR)	Booklet for Service stations/hotels (sinhala) -	19999.22 *
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Remarks	2 booklets on “Guide to Onsite-Wastewater Mangement for Industrail and Commercial Establishments” for Vehicle Service Stations and Hotels and Restaurants in both Sinhala and English were printed and distributed among the relevant stakeholders from 21 st April 2008 (industrialist workshop) onwards. The draft Guide for Hospiatls was also handed over to the hospital staff at the said workshop
Partners	GKSP, KMC
Responsibility	IWMI, COSI
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Activity 4: Workshops with industrialists, consultants and experts on wastewater treatment (PAP activity reference: S1.4)

Objectives	The wastewater which discharges from various industries in Kurunegala is diverted directly to the water bodies of Boo ela and Wan ela. The irrigation channel and the paddy fields are severely affected due to this reason. Therefore the introduction of suitable treatment options to reduce or prevent pollution of these water bodies is the main objective of this workshop. The experts/consultants on wastewater treatment and the industrialists of the project area are invited to the work shop for share their knowledge and experience. The booklet on treatment options also to be used as a supplement.								
Description of activity and sub-activities	The workshop will be organized by COSI and the assistance will be by IWMI when required. The experts and the institutions are introducing the treatment options to the participants. The participants are given an opportunity to identify the suitable treatment option with the assistance of experts. These two groups are then link with the experts and institutions according to their requirement. The main objective of the workshop is to form a network among these two parties at the end.								
Time frame	Start date: April 2008 End date: Sept 2008 Duration: 6								
Cost Breakdown	<table border="0"> <thead> <tr> <th>Activity</th> <th>Amount (LKR)</th> </tr> </thead> <tbody> <tr> <td><u>Stakeholder workshop for the industrialists-</u> Total cost for conducting one day workshop for 40 participants</td> <td>41,500.00</td> </tr> <tr> <td><u>Workshop conducted by National Cleaner Production Centre(NCPC) for stakeholder -</u> Total cost for conducting the two days workshop for 30 participants (meals, tea, hall charges etc)</td> <td>38,700.00</td> </tr> <tr> <td>Total</td> <td>80,200.00</td> </tr> </tbody> </table>	Activity	Amount (LKR)	<u>Stakeholder workshop for the industrialists-</u> Total cost for conducting one day workshop for 40 participants	41,500.00	<u>Workshop conducted by National Cleaner Production Centre(NCPC) for stakeholder -</u> Total cost for conducting the two days workshop for 30 participants (meals, tea, hall charges etc)	38,700.00	Total	80,200.00
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Remarks	<p>A workshop on Industrial Wastewater Treatment, Wastewater Disposal and Cleaner Production methods was held on 21st April 2008, at Kandyan Reach Hotel, Kurunegala. There were 49 participants representing the Government, NGOs, Hotels, Vehicle Service Station, Hospitals and other related academic and environmental institutions. The Main resource panel for the workshop were</p> <ul style="list-style-type: none"> ▪ Ravi De Silva - Environmental Consultant, Aitken Spence Hotel Management Pvt. Ltd. ▪ Sena Peiris - Director, National Cleaner Production Center ▪ Athula Jayamanne - Consultant Engineer, Onsite Bio gas units and Eco 								

	<p>Engineering and Co.</p> <ul style="list-style-type: none"> ▪ D.D. Vithanage - Maintenance Supervisor- Mag City Service Station. <p>3 Booklets on Safe Wastewater disposal and treatment methods for Vehicle Service Stations, Hotels and Restaurants and also for Hospitals and Clinics (printed in both Sinhala and English language) was distributed among the participants.</p> <p>A 2 day Training Programme on Cleaner Production Assessment Methodology was conducted on the 8th and 9th of September 2008 by a resource panel of National Cleaner Production Center(NCPC) with the participation on 25 personnel from various government offices. The main aim of the workshop is to create awareness on various energy saving methods that will help in reducing overall operational cost, material wastage and the environmental pollution in an organization.</p>
Partners	GKSP, KMC
Responsibility	COSI, IWMI
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Activity 5: Develop a Model Waste Free Area
(PAP activity reference: S1.5)

Objectives	Kurunegala is a fast developing city and the main transit town of the area. Thousands of people who pass through the town daily do not pay much attention to the cleanness of the town due to their negligence or lack of awareness. Therefore a specific area will be identified and develop as a 'model waste free area' with the collaboration of the MC. The central bus stand has identified as the suitable location.
Description of activity and sub-activities	MC is fully cooperative in this project. The responsibility of almost all the activities will be borne by the MC. The responsibility of obtaining the support of SLTB and other bus unions and awareness creation of the community and the trade owners will be done by COSI. Message display boards will be prepared by COSI and the MC will assist in granting permission and fixing the boards.
Time frame	Start date: mid May 2008 End date: End June 2008 Total duration (months):
Cost Breakdown	Preparation of 6'x2' display boards(20 no) = 50,000.00 Provision of plastic bins (20 sets of 3 bins) = 20,000.00 Provision for awareness campaigns = 100,000.00 (meetings, street drama, hand outs, leaflets etc) Total cost = 170,000.00
Remarks	This activity wasn't implemented because KMC was not very enthusiastic about this activity; they have not clearly earmarked a suitable area within the WASPA project area.
Partners	KMC
Responsibility	COSI
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Vision 2: To have adequate access to and use of proper sanitation, water supply and solid waste collection services for all households in Wilgoda Pura, as well as capacity (knowledge and attitude) on hygienic practices and maintenance of facilities, in coordination between the community and the Municipal Council, within 2 years.

**Activity 1: Upgrading of water supply facilities in Wilgoda
(PAP activity reference: B2.1)**

Objectives	<p>This component has 3 sub-activities: upgrading the shallow well with a rope pump; flushing the existing tubewell and constructing a hygienic well-apron; and improving the surroundings of the existing public tap because it is unhygienic. The tubewell needs to be flushed because community members say that it is not flowing properly. The shallow well is also not usable because it is filled with debris and therefore needs cleaning before it can be used. The rope pump has been suggested because it is low cost, hygienic and safe, as the well mouth can be closed.</p> <p>These activities have been defined by the community members in discussions with the project team. The team suggested options to the community members, such as the rope pump and they accepted them.</p>						
Description of activity and sub-activities	<p>Designs and estimates have been undertaken by COSI but implementation will be undertaken by Wilgoda CBO that currently exists in Wilgoda but which is being strengthened through the WASPA project. Approximately 5 people manage the CBO but around 70 people from the community are members. The CBO heads will select a Village Action Committee (VAC) from within these 70 specifically for WASPA activities. These people will provide unskilled labour. The National Water Supply and Drainage Board (NWSDB) will flush the tubewell but the cleaning of the open well will be managed and funded by the Municipal Council which has agreed to provide the pumps.</p> <p>The WASPA project will provide the CBO with a financial advance in installments, and the CBO must provide receipts and proof of actions. Further installments will then be provided up to the total requested here and the completion of the work. The community contribution will be in the form of labour.</p>						
Time frame	<p>Start date: January, 2008 End date: March, 2008 Total duration (months): Three Months</p>						
Cost Breakdown	<table> <tr> <td>Improvements to apron of the tube well</td> <td style="text-align: right;">8650.00</td> </tr> <tr> <td>Installation of Rope pump for dug well</td> <td style="text-align: right;">18,675.00</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">27,325.00</td> </tr> </table>	Improvements to apron of the tube well	8650.00	Installation of Rope pump for dug well	18,675.00	Total	27,325.00
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Remarks	The shallow well was upgraded with a rope pump and cover Net. It is in function now. The tube well is repaired; apron of the tube well will be upgraded.						
Partners	KMC						
Responsibility	COSI						
Approval by LA	Signed, Dated						
Approval by project manager	Signed, Dated						

**Activity 2: Improvement of sanitation facilities in Wilgoda
(PAP activity reference: S2.2)**

Objectives	Currently there are 14 shared toilets in Wilgoda but they are in a poor state of repair. The WASPA project will improve these by removing and replacing the damaged squatting pans, and raising the floor level. The septic tank will be emptied (as this has not been done for a long time) and the walls raised up to increase capacity and to prevent them from overflowing in the monsoon season when rainwater enters the tank. Further the two water taps near the latrines should be repaired and a street lamp is constructed to facilitate in night. Close to the toilets there are some piped water taps that are used for sanitation purposes, but there is no drainage facility for this water. The WASPA project will provide drainage by making a concrete base sloping towards the street drain.
Description of activity and sub-activities	The septic tanks will be emptied using the MC gully sucker, and the PHI will provide technical assistance. Unskilled labour will be provided by the CBO. The plans and implementation of the work will be overseen by COSI. The WASPA project will provide the CBO with a financial advance in installments, and the CBO must provide receipts and proof of actions. Further installments will then be provided up to the total requested here and the completion of the work. The community contribution will be in the form of labour. The responsibility of street lamp construction and permission from Ceylon Electricity Board will be undertaken by Municipal council, Kurunegala.
Time frame	Start date: January, 2008 End date: March, 2008
Cost Breakdown	Total cost estimation for rehabilitation of 14 toilets 137,910.00 Materials = 132,920.00 Skilled labour = 4200.00 Transport = 790.00 TOTAL 137,910.00
Remarks	At present all 14 toilets have been upgraded and are in use. KMC offer their contribution by providing the Gully sucker free of charge to emptying the septic tank
Partners	KMC
Responsibility	Wilgoda CBO, COSI
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Activity 3: Improving the hygiene and environmental sanitation behavior in Wilgoda
(PAP activity reference: S2.3)

Objectives	<p>When the water supply and sanitation facilities are improved in Wilgoda, under the WASPA project, it will be necessary to ensure that they are maintained and that the community receives maximum benefit through good hygiene and environmental sanitation practices. Currently such practices are not ideal in Wilgoda.</p> <p>The target groups for these activities are mothers and children because in Wilgoda it is mainly the women who are responsible for hygiene and sanitation, and because it is often the women that suffer due to lack of access to sanitation facilities. The target groups need to be provided with knowledge about appropriate hygiene practices and then encourage them to make them part of their daily lives.</p> <p>Various activities that will be undertaken with these groups include:</p> <ol style="list-style-type: none"> 1. Video Shows for Children and Mothers 2. Educational Sessions for Students 3. Formation of Mother's Groups 4. Formation of Children's Environment club and Identify Leaders as Mediators 5. Educational Sessions of Health and Hygiene for Adults 6. Learning by Playing/Hygiene Games 7. Capacity Building Training Programmers for Children's leaders 8. "Green House" (Model House) Competition 9. Street Drama 10. Fix Display Boards with Hygiene Messages 11. Collaborative Promotional Activities With Practical Action on Waste Separation and Composting 12. Home Gardening/Pot Farming Programme with the help of AGRO MART foundation <p>Generation Programs for women(AGROMART foundation)</p>																						
Description of activity and sub-activities	<p>In order to achieve this WASPA project team will work with women's leaders who have already been identified within Wilgoda. These women's leaders will form neighbour groups of fewer than 7 women but it is hoped that as the work progresses the number of women involved will increase. This will be achieved through the activities undertaken including non-sanitation activities designed to keep their interest and provide them with benefits, such as home gardening.</p> <p>Training and activities will be undertaken by COSI. There will also be collaboration with other organizations such as Agromart foundation. In addition the PHI and MOH are interested in being involved. This will be discussed further with them.</p>																						
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Cost Breakdown	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Activity</th> <th style="text-align: right;">Amount (LKR)</th> </tr> </thead> <tbody> <tr> <td colspan="2"><i>Wilgoda community:</i></td> </tr> <tr> <td>Printing of story books</td> <td style="text-align: right;">22,550.00</td> </tr> <tr> <td colspan="2"><i>Wilgoda Hindu vidyalaya(School):</i></td> </tr> <tr> <td>Provision of 4 composting bins</td> <td style="text-align: right;">2400.00</td> </tr> <tr> <td>Purchased from Municipal Council Kurunegala</td> <td></td> </tr> <tr> <td>Provision of 15 plastic barrels(dust bin)for Class room level waste separation</td> <td style="text-align: right;">3975.00</td> </tr> <tr> <td>Transport of above</td> <td style="text-align: right;">320.00</td> </tr> <tr> <td>Provision of printing of Hygiene Messages for class rooms</td> <td style="text-align: right;">6510.00</td> </tr> <tr> <td>Construction of 2 Water points for school</td> <td style="text-align: right;">17128.00</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: right;">52,883.00</td> </tr> </tbody> </table>	Activity	Amount (LKR)	<i>Wilgoda community:</i>		Printing of story books	22,550.00	<i>Wilgoda Hindu vidyalaya(School):</i>		Provision of 4 composting bins	2400.00	Purchased from Municipal Council Kurunegala		Provision of 15 plastic barrels(dust bin)for Class room level waste separation	3975.00	Transport of above	320.00	Provision of printing of Hygiene Messages for class rooms	6510.00	Construction of 2 Water points for school	17128.00	TOTAL	52,883.00
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Remarks	<p>Formation of Mother's Groups began in early 2008 and it has proved to be successful and effective. There are 9 groups at present each consisting of 5-8 members. Each group has a "courtyard meeting" once in very week with the project officers, where they discuss their hygiene and sanitation issues using picture cards.</p> <p>A Children's Environment club was also formed in early 2008 in order to tap into the behavior of the children in Wilgodapura. Many activities have been conducted with this club including Learning by Playing/Hygiene Games etc. at present the Welfare unit of the Municipal Council has expressed interest in taking over the club.</p> <p>Educational Sessions of Health and Hygiene were conducted by the MoH office of KMC to the Wilgodapura women's groups. The first session was conducted on the 28th of August 2008</p> <p>2 Display Boards with Hygiene Messages (Hand washing and Toilet cleaning) were created and hung near the upgraded community latrines.</p> <p>After introducing Urban Home Gardening/Pot Farming with the help of the Agriculture instructors of the Dept of Agriculture on the 21st of October 2008, the competition for the most environment friendly house / "green House" was also introduced. The house will be selected at the end of the year and will be awarded a plaque.</p> <p>The Educational Sessions for Students conducted included and also a special education session for the Wilgoda Hindu Vidyalaya on Hygiene, Sanitation and waste management on 21st November 2008</p>
Partners	Dept of Agriculture, KMC
Responsibility	Wilgoda CBO, Wilgoda school Development committee
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Vision 3: To have optimized yield and improved health for the farmers who irrigate from the Wilgoda anicut by access to irrigation water and infrastructure within the standards, and access to knowledge on how to use pesticide and fertilizer in conjunction with low quality irrigation water.

Four strategies are being followed to achieve this vision:

Strategy 1: Prevent solid waste from reaching farmers fields

Strategy 2: Provide recommendations for fertilizer applications, according to irrigation water quality, based on research and testing together with relevant authorities and officials.

Strategy 3: Educate farming community on sanitation issues, particularly around wastewater implications.

Strategy 3: Strengthening farmer's organizations, including the tenant farmers and wage laborers.

**Activity 1: Maintaining the irrigation canal between the anicut and the fields to ensure that solid waste is not disposed into it
(PAP activity reference: S3.1)**

Objectives	This activity includes mainly two sub activities. 1 Solid waste management programmes for the residents who live along the irrigation canal 2. Sensitize above residents by displaying message display boards along the canal. These activities will be implemented in collaboration with Pradeshiya sabha, Kurunegala, with the intention of improving their knowledge and attitude about the safe waste disposal practices. Ultimately it will help farmers reduce the waste content of irrigation water.
Description of activity and sub-activities	According to the core group meeting held in December, 2007, the members from the PS agreed to assist in this programme. The display boards will be designed by COSI and fabrication will be outsourced. The solid waste management program will be conducted with the collaboration of the Kurunegala pradeshiya sabha with the assistance of residents who live along the canal. The separation of wastes will be encouraged at domestic level. Composting also will be promoted by providing compost bins to each household. (PS also have shown their interest to assist in this regard by providing some compost bins). Polythene and plastics will be collected through the collection centers Message display boards will be displayed in the places where the canal severely affected, with the contribution of the irrigation department and the PS and DS.
Time frame	Start date: May 2007 End date: Dec 2008 Total duration (months): 18
Cost Breakdown	Purchasing of 21 concrete compost bins from the Pradeshiya Sabha: 15,750 SLRS
Remarks	The residents involved in the solid waste management programme also participated in a home gardening workshop with the Agriculture Instructors of the Dept. of Agriculture. They have shown their motivation by using live fences to dispose organic waste. The project staff did a demonstration on how to properly make and maintain the live fences. Facilitate 3 school students to have this as their A/L project assignment and they were used as a monitoring mechanism also. After 3-4 months proper usage of those live fences they were given concrete compost bins with the assistance of the Kurunegala PS who gave the bins at a subsidized cost of Rs 1000.00 (750.00 from WASPA and 250.00 from the beneficiary). PS have earmarked this area as a Model area. Message boards were not displayed as planned as there was no necessity for such, awareness creation done by the project staff was enough.
Partners	Kurunegala pradeshiya sabha, Dept. of Agriculture, irrigation department
Responsibility	Wilgoda CBO

Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Activity 2: Reduce the solid waste reaching the fields by installing a waste trap and instituting a management plan to ensure it is cleaned and maintained.
(PAP activity reference: S3.2)

Objectives	The irrigation canal is contaminated with solid waste floating in canal. Therefore the removal of this floating debris is important in maintaining the canal clean and avoids blocking of the canals. The dumping of solid waste into the drainage canals is one of the main concerns of the WASPA project. Decay of solid wastes makes a considerable contribution to the pollution of the water in the Wilgoda reservoir from which the paddy field farmers source their irrigation water. Solid waste particles entering the irrigation canal cause blockage of their irrigation water inlets and the farmers reported frequent injuries by sharp waste particles like glass and needles.
Description of activity and sub-activities	The construction of garbage trap is a collective activity which includes all institutional, community and donor contributions. The preparation of the garbage trap design is by IWMI and COSI. The draft plan was finalized with the Department of Irrigation and their inputs were added and the plan was finalized. Then the cost estimation was prepared by COSI and IWMI. The community contribution also considered in construction of the trap. The responsibility of operation and maintenance will be undertaken by farmer organization. For this a proper maintenance plan will be developed.
Time frame	Start date: May 2008 End date: Aug 2008 Total duration (months): 3
Cost Breakdown	Total Cost for the construction of garbage trap: 90000 SLRS
Remarks	The waste trap is complete and is functional now. It is being maintained by the FO under the supervision of the irrigation department
Partners	Wilgoda FO, Dept. of Agriculture, irrigation department
Responsibility	Wilgoda FO
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

Activity 2: Educate farming community on sanitation issues, particularly around wastewater implications.
(PAP activity reference: S3.3)

Objectives	Education of farming community on sanitation issues particularly due to wastewater usage
Description of activity and sub-activities	This activity mainly focuses on creating awareness of the farming community on sanitation issues based on wastewater implications. Farmers aren't much aware of the health impacts like <i>leptospirosis</i> , <i>dermatitis</i> etc which occur due to continuously in contact with waste water during their farming. These diseases could be prevented by improving hygienic practices. Therefore the proper awareness among these farmers is essential.
Time frame	Start date: may 2008 End date: July 2008 Total duration (months): 3 months
Cost Breakdown (SLRS)	Workshop costs: 9932 Printing of picture cards for training: 9900 Total: 19832

Remarks	<p>A workshop for farmers on “Health risks of waster water agriculture and CBO capacity building” was conducted on 28/08/2008. Area MOH conducted the session and it was mainly targeted on preventing Leptophyrosis and other waste water related health risks.</p> <p>The picture cards were used for small group discussion with the farmers on the merits and demerits of using wastewater. 35 picture cards on above theme were drawn and used in farmer awareness meetings. 3 pile sorting method (good, bad and in between habits) using those cards was used during the meetings.</p>
Partners	Farmers Organisation, Dept of Agri, MOH
Responsibility	Wilgoda FO
Approval by LA	Signed, Dated
Approval by project manager	Signed, Dated

**Activity 4: Preparation of Fertilizer recommendation guidelines
(PAP activity reference: S3.4)**

Objectives	The wastewater already contains nutrients like nitrogen, phosphorous and potassium etc. therefore the paddy plants could absorb these nutrients for their growth. But the quantity of nutrient which comes to the field may vary with the organic loading. When farmers add artificial fertilizers to the plants it would be over dosed. So that the nutrient losses can be resulted. Therefore quantification is required in order to reduce the artificial fertilizer application and this will reduce the cost of fertilizer										
Description of activity and sub-activities	The soil and water samples are tested for nutrient contents on daily basis. Then a comparison between the plant requirement and the available nutrient amounts in water and soil is done. Then the amount which needs to be added artificially is calculated.										
Time frame	Start date: Mar 2008 End date: Dec 208 Total duration (months): 10										
Cost Breakdown	<table> <tr> <td>Water quality analysis (from ISB - Kurunegala)</td> <td>131,500.00</td> </tr> <tr> <td>Soil sample analysis - from Gannoruwa PRI</td> <td>2610.00</td> </tr> <tr> <td>Purchasing Leaf Color Charts(LCC)</td> <td>9266.25</td> </tr> <tr> <td>Soil sample collection - Bathalegoda RRDI</td> <td>89,500.00</td> </tr> <tr> <td>Total</td> <td>151,876.25</td> </tr> </table>	Water quality analysis (from ISB - Kurunegala)	131,500.00	Soil sample analysis - from Gannoruwa PRI	2610.00	Purchasing Leaf Color Charts(LCC)	9266.25	Soil sample collection - Bathalegoda RRDI	89,500.00	Total	151,876.25
Water quality analysis (from ISB - Kurunegala)	131,500.00										
Soil sample analysis - from Gannoruwa PRI	2610.00										
Purchasing Leaf Color Charts(LCC)	9266.25										
Soil sample collection - Bathalegoda RRDI	89,500.00										
Total	151,876.25										
Remarks	The results from the first set of analyzed water quality samples and the soil samples analyzed at the Gannoruwa Plant Resource Centre showed that the results does not deviate much from the fertilizer recommendations provided by the Department of Agriculture. At present the second set of soil samples have been provided to the Bathalegoda research center for further analysis. 20 leaf color charts were imported from India to be distributed among the farmers. Further trainings are scheduled to be held to farmers to strengthen their capacities.										
Partners	Dept of Agri, Batalegoda PRI, ISB										
Responsibility	IWMI, COSI										
Approval by LA	Signed, Dated										
Approval by project manager	Signed, Dated										

Activity 5: strengthening the farmers' organizations
(PAP activity reference: S3.4)

Objectives	strengthening the farmers' organizations, including the tenant farmers and wage laborers and creation of an information centre	
Description of activity and sub-activities	The existing farmers' organizations are not very strong in their capacities both financially and technically. Therefore the activities which are expected to be handled by the farmers' organizations will not be fulfilled up to the expected level. So that the capacity building is important for them. In addition to this, an information centre will be created with the intention of disseminating the outcomes, farmers' opinion and news which can be displayed on a notice board kept there.	
Time frame	Start date: Sept 2008 End date: Nov 2008 Total duration (months): 3 months	
Cost Breakdown	Establishing seed paddy farmers committee(Revolving fund)	50,000.00
	Provision of paddy husk charcoal barrels	10,000.00
	Provision of seeds for weir cultivation	7000.00
	Total	67,000.00
Remarks	In order to strengthen the Wilgoda amuna FO a Revolving fund to purchase seed paddy was established with the support of Provincial Department of Agriculture and Agrarian Service Center. The aim of this revolving fund is to financially assist the FO to obtain high quality seed paddy when necessary and to keep the sustainability of this committee. WASPA have contributed a sum of LKR 50,000.00 where the FO also has collected the same amount from the farmers (matching Grant). The first distribution of the Certified Seed Paddy purchased from the Department of Agriculture was held on November 3rd with the presence of officials of provincial department of Agriculture and Agrarian Services Centre.	
Partners	Department of Agriculture and Agrarian Services Centre.	
Responsibility	COSI, IWMI, FO	
Approval by LA	Signed, Dated	
Approval by project manager	Signed, Dated	

Summary

Activity	Planned budget	Actual expenditure
1.1 Information sharing with Greater Kurunegala Sewerage Treatment Project (GKSP)	0	3,450,495.96
1.2 Creating awareness on Commercial Units(2 trade orginasionss) in WASPA project about liquid and solid waste	96,000.0	260,407.00
1.3 Providing data and information on Safe waste water disposal methods to the polluters through a booklet	0	170,119.12
1.4 Stakeholder workshop with the industrialists, consultants and experts on wastewater treatment	0	80,200.00
1.5 Development of a Model Waste Free Area in Kurunegala town	170,000.00	0
2.1 Upgrading of water supply facilities in Wilgoda	28,095.60	27,325.00
2.2 Improvement of sanitation facilities in Wilgoda	263,526.60	137,910.00
2.3 Improving the hygiene and environmental sanitation behaviour in Wilgoda	250,000.00	52,883.00
3.1 maintaining the irrigation canal between the anicut and the fields	65,000.00	15,750.00
3.2 Fixing a Garbage Trap to the irrigation canal	90,042.50	90,000.00
3.3 Education of farming community on sanitation issues particularly due to wastewater usage	90,000.00	19,832.00
3.4 preparation of fertilizer recommendation guidelines for wastewater agriculture area and conducting trainings and workshops to raise awareness on fertilizer and pesticide usage	0	151,876.25
3.5 strengthening the farmers' organizations, including the tenant farmers and wage labourers and creation of an information centre	150,000.00	67,000.00
TOTAL	1,362,664.7	4,523,797.43