SHARED CONTROL OF NATURAL RESOURCES (SCOR)

SCOR PROGRESS
1st QUARTER 1997

May, 1997

International Irrigation Management Institute (IIMI)
Sri Lanka National Program
127, Sunil Mawatha, Battaramulla, Sri Lanka

SCOR seeks to increase the users' share of control of natural resources in selected watersheds through partnership between the state and users that contributes to greater production while conserving the natural resources base. SCOR is promoting integrated planning for the use of land and water resources in two pilot watersheds and other areas with spread effects. The SCOR project is a collaborative effort of the Government of Sri Lanka, the United States Agency for International Development (USAID) and IIMI

SCOR PROGRESS
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1. INTRODUCTION

This report presents the SCOR progress achieved at 33 sub-watersheds of Huruluwewa and Upper Nilwala Watersheds by the collective interventions of the resources users, government implementing and research agencies, and SCOR teams as at end of March 1997. Progress is reported by programme level and project level indicators supplemented by information on its spatial distribution.

Separate progress reports prepared by each pilot watershed offices with watershed specific details are available for more information.

2. UTILIZATION OF PROJECT INPUTS

2.1 Financial Inputs

ITEM	UNIT	TARGET UPTO DEC. 1997	TOTAL TO DATE
1. Budgeted expenditure	US$ ('000)	4,700	3,562
2. User grants	Rs. ('000)	22,875	10,878
3. Host country contribution[1]	Rs. (M)	126	83

[1] See Annex 5 for details

2.2 Budgeted Expenditure

The project recorded 89% of fund utilization during the first quarter of 1997. *Annex 1* presents the actual expenditure out of the budget by major line items. *Annex 2* presents the actual expenditure out of the budgeted allocation for the quarter. *Annex 3* presents the actual expenditure out of the budget for the year 1997. *Annex 4* presents the actual expenditure out of the budgeted allocation for the life of project.

3. PERFORMANCE IN SUMMARY BY STRATEGIC AND PERFORMANCE INDICATORS

3.1 Performance by strategic indicators

Performance (SCOR)	Upto end of Last Year US$	YEAR 1997				
		First quarter	Second quarter	Third quarter	Fourth quarter	Total
Planned Expenditure	3,636,324	400,280	380,000	380,000	391,380	1,551,660
Actual Expenditure	3,253,004	349,969	0	0	0	349,969
% Achieved	89	87	0	0	0	23
Host Country Contribution						
Planned	1,436,800	75,000	90,000	75,000	165,172	405,172
Actual	1,520,203	38,543	0	0	0	38,543
% Achieved	106	51	0	0	0	10

3.2 Project purpose level indicators

Strategic level Indicator	Unit	Target Upto 30 Sept. 1998	Total To date
1. Targeted hectares under improved production and protection techniques,	Ha	20,000	14,047
2. Value of targeted investment by the resource users in environmentally sound production practices.	$(M)	2.0	1.42
3. Government policy decisions initiated.	#	2	3

3.3 Performance by program outcome level indicators

Programme Outcome Level Indicator	Unit	Target Upto 30 Sept. 1998	Total To date
1. Targeted land area covered by agreements between GSL and user groups (Extent now under protection and production practices expecting user rights)*	Ha.	3,500	494
2. Farm households using improved environmental techniques	#	15,000	13,686

* In accordance with the National Steering Committee decision for demonstrating action for the required policy change.

Project Purpose Level Indicator	Unit	Target Upto 30 Sept. 1998	Total To date
1. Number of natural resources groups operating	#	550	84
2. No. of policy/procedures, organizational changes exacted and adopted	#	3	3

Project Output Targets/Performance	Target Upto 30 Sept. 1998	Total To date
1. User groups organized/assisted to take joint responsibility for management of land and water resources	550	77
2. Number of new commercial activities supported by linking to markets	125	37
3. Land leasing/usufruct agreements issued for establishments and functioning of production companies and commercial activities	5	1
4. Training opportunities provided to representatives of NGOs and other private sector organizations in participatory natural resources management	20,000	16,550
5. Number of officials trained in local level planning, user groups formation, support and collaboration	420	410
6. Number of user organizations conferred with legal status and powers	50	107
7. Number of NGOs and private sector agencies providing technical, managerial and commercial information to user groups	15	51
8. Research studies completed on natural resources issues	30	18

4. SPATIAL DISTRIBUTION OF PROJECT OUTPUT AND EFFECTS

Map 1 and *Map 2* show the distribution of sub-locations, targets and achievements related to anticipated effects and impact of the adoption of production and conservation techniques (Strategic level indicator 1) with the number of farm families involved (Programme outcome level indicator 2) under major interventions in each sub location in Huruluwewa and Nilwala watersheds.

DISTRIBUTION OF SELECTED SUB-LOCATIONS FOR IMPLEMENTATION FROM 1993-1997

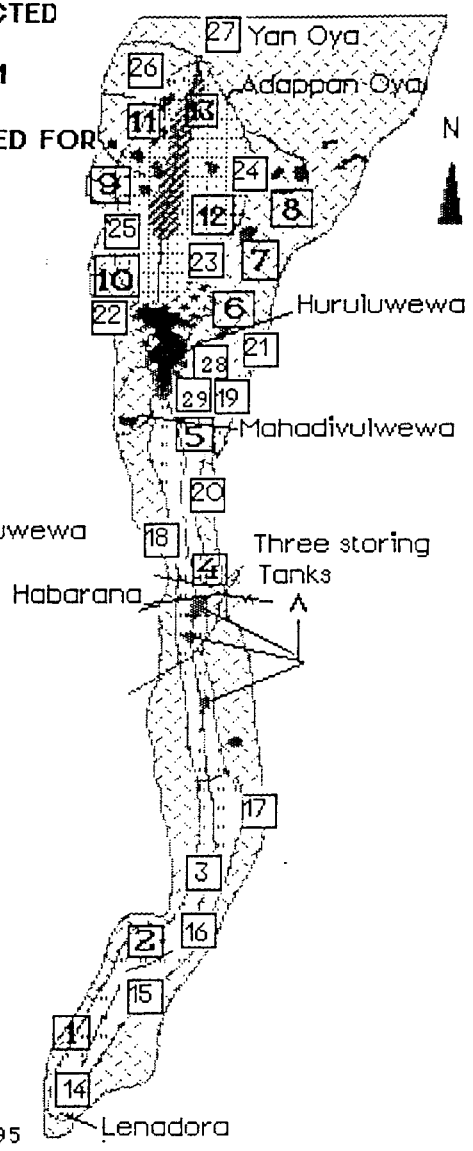
SUB-LOCATIONS SELECTED FOR FIRST PHASE

(1) Walgamwewa
(2) Anaunawelpelessa
(3) Welangolla
(4) Puwakpitiya
(5) Manameegaswewa
(6) Padikaramaduwa
(7) Garandiyaulpotha
(8) Kokawewa
(9) Ulpathgama
(10) Maradankalla
(11) Tract 6
(12) Other tracts of Huruluwewa command area
(13) Drainage area

SECOND PHASE

(14) Atubendiyawa
(15) Kalundewa
(16) Ereula
(17) Polattewa
(18) Veheragala
(19) Madawela
(20) Kudarambawewa
(21) Sampathgama
(22) Karuwalagaswewa
(23) Nitulgollewa
(24) Paluaollaaama
(25) Wiharagala
(26) Ollukalagala
(27) Tikkanpothana
(28) Maharambawewa
(29) Thelhavadiyawewa

SCOR IIMI- 14 October 1995



Map 1

HURULUWEWA WATERSHED

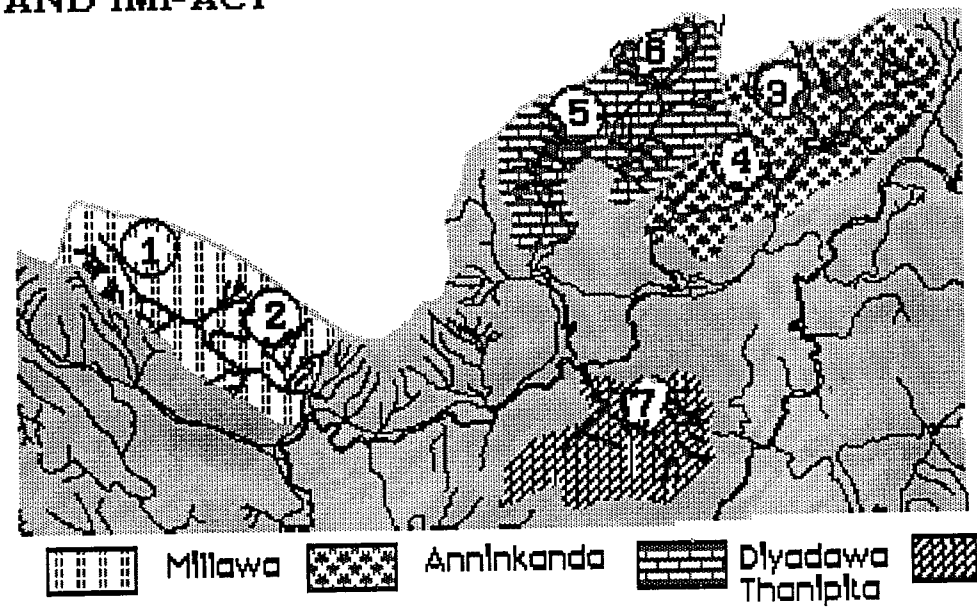
- Huruluwewa command area
- Drainage area
- Huruluwewa tank eco system
- Yan Oya and feeder canal subwatersheds
- Other lands within watershed

TARGETS AND ACHIEVEMENT UPTO END OF 1st QUARTER 1997

Location	Target Area (ha.)	Achievement Upto end of 4th Qtr. 1996	Achievement During 1st Qtr. 1997	Achievement End of 1st Qtr. 1997	Target Farm Families	Achievement Upto end of 4th Qtr. 1996	Achievement During 1st Qtr. 1997	Achievement End of 1st Qtr. 1997
1	545	378.6	0.0	**378.6**	248	230	0	**230**
2	647	523.6	0.0	**523.6**	76	287	0	**287**
3	727	475.8	0.0	**475.8**	168	262	0	**262**
4	394	286.4	3.0	**289.4**	65	406	23	**429**
5	218	155.2	0.0	**155.2**	64	368	9	**377**
6	644	198.6	0.0	**198.6**	63	140	0	**140**
7	688	78.8	0.0	**78.8**	100	313	0	**313**
8	169	228.8	0.2	**229**	131	244	0	**244**
9	293	297	0.0	**297**	150	284	0	**284**
10	197	765.9	0.0	**765.9**	78	289	0	**289**
11	282	521.6	0.5	**522.1**	168	698	0	**698**
12	4400	4213.6	0.0	**4213.6**	9315	3105	0	**3105**
13	300	72	0.0	**72**		0	0	**0**
14	154	30	0.0	**30**	107	36	0	**36**
15	254	103.5	0.0	**103.5**	188	40	0	**40**
16	434	97.9	0.0	**97.9**	225	102	0	**102**
17	341	386.7	0.0	**386.7**	106	120	0	**120**
18	153	106	0.0	**106**	158	62	12	**74**
19	418	412.8	0.0	**412.8**	152	9	0	**9**
20	361	82.1	0.0	**82.1**	130	0	0	**0**
21	190	51	0.0	**51**	76	0	0	**0**
22	200	187.4	12.0	**199.4**	74	50	24	**74**
23	180	227.7	1.0	**228.7**	165	77	0	**77**
24	131	162.6	0.4	**163**	242	22	0	**22**
25	135	89.5	0.5	**90**	22	0	0	**0**
26	352	81.7	0.0	**81.7**	115	140	0	**140**
27	216	112.7	0.0	**112.7**	286	35	0	**35**
Feeder Canal	933	203.8	0.2	**204**	1023	0	0	**0**
Yan Oya	116	56	10.0	**66**	163	0	8	**8**
Upper part of command	613	28.3	10.0	**38.3**	741	45	32	**77**
Total	**14685**	**10615.6**	**37.8**	**10653.4**	**10626**	**7364**	**108**	**7472**

PROJECT EFFECTS AND IMPACT

AREA AND FAMILIES ADOPTING PRODUCTION TECHNIQUES WITH LAND AND WATER CONSERVATION



TARGETS AND ACHIEVEMENTS UPTO END OF 1st QUARTER 1997

Location	LOP Target Area (ha.)	Achievement Upto end of 3rd qtr.	Achievement for 4th qtr.	Total Area (ha.)	LOP Target Farm Families	Achievement Upto end of 3rd qtr.	Achievement for 4th qtr. Families	Total Families
1. Milla Ela	494.5	480.3	26.5	**506.8**	660	520	0	**520**
2. Aninkanda	1423.0	1119.5	0.0	**1119.5**	1750	1435	37	**1472**
3. Diyadawa Thenipita	1554.5	1521.8	0.0	**1521.8**	1873	3581	220	**3801**
4. Horagala	248.0	241.5	4.0	**245.5**	351	421	0	**421**
Total	**3720.0**	**3363.1**	**30.5**	**3393.6**	**4634**	**5957**	**257**	**6214**

LOP = Life of Project Phase

IIMI-SCOR

5. HIGHLIGHTS OF PERFORMANCE

5.1 Huruluwewa Watershed

5.1.1 Integrated Water Management

The 1st quarter of 1997 marks the period of the latter part of Maha and early Yala seasons. In order to implement the Integrated Water Management practices in large scale from 1997 with the experience gained in the past, 50 minor tanks (including 9 tanks in the feeder canal area), and Huruluwewa Major irrigation scheme and feeder canal were selected. Due to unfavorable rainfall prevailed during the Maha season, successful paddy cultivation was not feasible during the season in the selected tanks (please see the rainfall figures).

The actual and probable rainfall (75% probability) during the Maha season was as follows.

Four week months	8th	9th	10th	11th	12th	13th	1st	2nd	3rd
75% Probability	03	05	23	176	146	91	26	12	19
Actual Rainfall	0	215	87	116	269	158	5.4	11	18

Though it seams that actual rainfall was higher than the probable rainfall in some months, the dry spells prevailed for long periods during the season affected the crop growth. The unusual rainfall in early part of Maha season (i.e. in 9th and 10th Four Week Months) hampered the initial land preparation which affected the early Maha cultivation. In addition the rainfall over the watershed showed a high regional variation.

Unfavorable weather conditions prevailed during the Maha season restricted the paddy cultivation only to 20 minor tanks and to the feeder canal area. The Huruluwewa command area was not cultivated at all.

In addition to the 20 tanks where paddy cultivation commenced, there were few tanks which had some stored water at the end of December. Other Field Crops were cultivated in January. We were able to conduct this programme in 08 small tanks covering about 60 ha.(Tract 06, Olugolla, Tikkanpothana, Walgamwewa, Maha Meegaswewa, Madawala, Telhawadiyawa, Agunawalpelessa).

In order to save the crops from water scarcity under the irrigation schemes towards the end of Maha season, strict water management practices were adopted. There were good results from controlled irrigation practices under the minor tanks. But under the feeder canal, fair amount of crop damage took place due to unavailability of water in the feeder canal for long period during the months of January and February.

Ratoon cropping was carried out in 04 minor tanks covering about 12 ha. (Olugollewa, Kunugonewa, Dutuwewa and Padikaramaduwa). Demonstrations on Gingerly in paddy fields were conducted.

Main emphasis in Yala season was on crop diversification in paddy fields. A programme had been already started in few tanks with the available water. The awareness programs and Kanna meetings were conducted. The programme will be implemented after the heavy rains in April. Cultivation of permanent crops in paddy fields in 12 ha. with 08 farmers along the feeder canal during the quarter was accomplished.

5.1.2 Conservation Farming

Most of the activities started in Maha 1996/97 could not continue as a result of dry spell prevailed during this quarter. Sesame was grown in conserved areas in uplands using the previous crop residues and weed trash as either mulch or organic bunds. This practice has been introduced to farmers in order to discourage the burning of residues in farmlands and thereby enhance recycling of organic matter to improve soil fertility and moisture.

In addition, farmer field demonstrations have been setup in all conserved areas to show the importance of mulching. Five hundred square meter plots have been selected and planted with either Cowpea or Mung bean with rice straw mulching. The performances can not be evaluated as the yala rains have not yet commenced.

5.1.3 Participatory Forestry Project (PFP)

The mapping of forest situations in all Grama Sewa areas in Dambulla, Palugaswewa & Galenbindunuwewa Divisional Secretariat Divisions have been completed. This include 57 Tulanas in Dambulla, 16 in Palugaswewa and 41 in Gelenbindunuwewa. Based on the data collected, 04 sites have been selected, 02 from Palugaswewa and 02 from Galenbindunuwewa, to develop as models. The criteria for selection included:

1. Forest density in the area
2. Availability of land for forest intervention under PFP
3. Proximity to farmers settlements
4. Income levels of the resident members of the farmer communities

The same will be repeated for Dambulla DS division for site selection.

5.1.4 Fisheries Program

Dambulla Fisheries Center has issued 12,000 fishlings so far during this quarter to be released to village tanks in SCOR project area.

5.1.5 User Groups and Organizations

The number of groups in the project area has increased to 52 with a total number of 576 members. Though many of these groups have been instrumental in implementing production and protection interventions for improved watershed management in the past, it is evident that the effectiveness of most of these groups have diminished due to various reasons discussed in details in a study report by the watershed office. A classification of the 52 groups on their maturity level shows that twenty five groups are below D level, sixteen have reached status D, five groups status C and 6 status B when they are evaluated using M&E criteria used by SCOR project for group evaluation. However, a deeper understanding gained on these groups through M&E research in several locations reveals that groups operate in an informal way and become inactive once their objectives of forming the group fulfilled or when members do not see the use of continuation of group activities any more. It is observed that having links with organizations seems to gain attention.

The number of organizations remain 54 as reported at the end of the first quarter of 1997. The total membership of these organizations exceed 4500 farm families. Seventeen out of these organizations are in Feeder Canal area, 8 in Palugaswewa area and the rest in Galenbidunuwewa and Kahatagasdigiliya areas. The members of many groups which have ceased to function, have obtained membership in these organizations.

It was revealed that 8 organizations out of 54 do not meet criteria 1-4 to qualify themselves to become even status D organizations. 28 organizations are at status D, 15 at status C and 3 at status B according to the evaluation undertaken. Interviews with farmer leaders revealed that the water scarcity for crop production is one of the main reasons for the poor performance of many of the organizations. However, because of the activities such as participatory forestry programme which bring benefit to the members, it could be observed that farmers rally round the organizations even during this period of severe water scarcity.

5.1.6 Marketing

Janatha Huruluwewa Govi Samagama(JHGS) entered into agreement with a private Company (Advance Marketing) to purchase Maize at Rs.7.50/kg as a floor price. This resulted in the raising of the price by the private traders upto Rs.9.50/kg benefitting the farmers. The company (JHGS) started purchasing Black Gram at Rs.25/kg. As at end of March the price has increased to Rs.33/kg. Purchasing continues. Having purchased one tonne of Chillies, company stopped purchasing due to the drastic falling of the price after the government reduced tariff for import of chillies.

The Company entered into agreement with an exporter to supply fruits and vegetables helping farmers to receive a better price. From this program the company was able to supply - Papaya, Bangkok Guava, lime, green chilies, brinjols etc. Also, the Company supplied lime and chillies to the Lanka Canneries Company helping farmers to market their lime during the peak harvesting time.

The Company started purchasing paddy cultivated in 96/97 Maha Season through the farmer's organizations. The program is still going on and 15 tonnes had been purchased as at end of March.

Janatha Dambullu Govi Samagama (JDGS), established in March, started purchasing paddy as its first business. The company receiving support from the government agencies involved including the Divisional Secretariat, Department of Agrarian Services, Agricultural Development Authority and several others decided to purchase 500 tonnes through five Farmer Organizations with financial assistance mobilized from the Agricultural Fund to the value of Rs.0.8 million with the initiative of the Divisional Secretary (Dambulla). Already the Company has a ready market to supply 75 tons of rice per month for Samurdhi recipients through cooperative shops. Company plans to market good quality Samba rice to supermarkets.

5.1.7 Market opportunities for the farmers' companies

SCOR has introduced several market opportunities for both farmers' companies including a contract to supply Papadam to a private food processing company, supply of 100,000 kg. of Lime and 25,000 kg of mangoes with prospectives of selling wood apple as well to another private company. JGDS entered into a forward agreement to establish 25 acres of passion fruit with C.P.C. Company. Lanka Organic (Pvt) Ltd. has agreed to implement Gotukola Cultivation Program with JDGS. The buyer will supply planting materials. Farmers have to pay 50% of planting cost. This program will be implemented by JDGS with the agreement of Lanka Organic Ltd. JDGS will pay a minimum price of Rs. 13.00 /kg to farmers and by retaining Rs.2.00 /kg, JDGS will supply material to Lanka Organic Limited. Farmer have already prepared the land and now planting materials are being supplied by Lanka Organic Ltd.

Under another agreement with a major exporter, action will be taken to setup a farm and implement an out-growers program. The exporter will supply seed materials and technology and other inputs to the farmer's company. Entire production will be bought by the exporter.

5.1.8 Special Events

Women and Youth Activities

Fourteen sub watersheds have been selected for the program and commenced relevant activities in October 1996. Three training programs organized at Naula Training Center and 10 training classes held at sub watersheds include model kitchen program, awareness training for the preparation of compost fertilizers and pigeonpea & fruits processing. Eighty people have made model kitchens and 90 energy saving burners have been established. Hundred and fifty trees have been pruned in 5 homesteads.

5.2 Nilwala Watershed

5.2.1 Integrated Planing and Coordination

Participatory annual planning workshops of the pilot watersheds were held during February and March, 1997. Activities were identified with active participation of resource users to enhance production, protection in tea, homestead, paddy, road reservation and stream reservation in the watersheds.

Four task forces and sixteen sub-task forces (External Task Forces) formed with relevant line agencies with the facilitation of SCOR in the watershed level, were in operation in the watershed. SCOR with the Department of Agriculture held 4 demonstrations in the use of Multy chopper developed by Ginasena (pvt.) ltd. for compost making in the pilot watersheds. One multy chopper will be given to a farmer organization as an initial step and depending on the results, few more multy choppers will be given to farmer organizations in Wijayagama and Bowitiyadola.

5.2.2 Task Force activities

Tea sector Task Force had the quarterly meeting of the tea small holding sector, chaired by Mr. Rohana Ilangarathna, Chairman, TSHDA, at the SCOR Nilwala office on 1st of Feb., 1997. activities. **Agriculture Task Force** drew up a participatory action plan for the development of production in the 4 pilot watersheds and in the new watersheds. **Forestry Task force** estimated cost to erect concrete posts along the demarcated boundary. **Company Task Force** identified following options as major activities that could be undertaken through producer/service companies.

1. Formation of a farmer company to solve labour scarcity in tea sector
2. Farmer company to supply fertilizer for tea and other crops.
3. Propagation of tea planting materials through tissue culture
4. Goat husbandry development
5. Cinnamon and other spice products collection and marketing.

5.2.3 Line Agency Contributions

As at end of the 1st. quarter, 1997, the Coconut Development Authority(CDA) provided 15,173 plants and the Department of Export Agricultural (EA)Crops provided 11,379 plants to resources users under these programs. Owing to severe drought prevailed in the area, CDA, EA have not provided plants during this quarter. However, the department of forest has provided 300 durian plants to plant along the demarcated stream reservations.

5.2.4 Role of SCOR facilitation and Linkages

SCOR has liaised with the Canadian high commission to obtain funds to construct a mini-hydro power project in Thalbandidola stream. The high commission has agreed to grant

Rs. 360,000 SCOR facilitated the activities to demarcate stream reservation in the Bowtiyadola stream together with Ds, Kotapola, Colonization Officer, Beat Forest Officer and GN Ilukpitiya.

5.3 Institution Building

One new RUG of floriculture and one new RUO of Micro-hydro power have been formed by March 1997. Particularly the new Micro-hydro Power Users' Organization has been built in the Aninkanda sub watershed in line with the Micro-hydro power Users' Organization built in the Horagala sub watershed. A new NGO in the Milla ela SWS was linked to the production and protection activities of SCOR.

5.3.1 Ranking the RUGs and RUOs on the Status of Maturity

One TSHDS has reached up to the Status B from its early Status D and one SO has reached up to Status C from its early status D after it has been reorganized recently. The newly built Micro-hydro Power Users' Organization is in Status C. Five RUOs remain in full maturity level as before.

5.3.2 Peoples Company Activities

Janatha Nilwala agro processing Co. Ltd. (JNAPC) purchased kitul treacle valued at Rs. 381,623 and processed 12857 bottles(325ml) (Rs.430,709) and supplied 6205 bottles(325ml) for Rs. 207,834 to CPC lanka ltd.

Over 1500 papaw plants have been established in pilot watershed areas during the reporting period. Drought prevailed during the latter part of the quarter interrupted the previously planned field establishment of 3000 plants. Improved plants (668) have been planted by 60 RUGs during reporting period. Planting activity was affected due to the drought prevailed during the quarter. Number of flowers sold was 450. Five new RUGs (Paragala, Keerapitya, Ihala pasgoda, Dediyagala and Illukpitya) were formed. Ninety seven resources users were trained on Anthurium cultivation.

Six organizations/societies have engaged in fertilizer purchasing/distribution activities during the quarter. The quantity handled was 56.45 metric tons with a value of approximately Rs. 500,000/=.

5.3.3 Establishment of Nurseries

Ninety one tea nurseries with a plant capacity of 392,000 have been established by the end of March 1997. 101 resource users and 11 groups/societies are currently engaged in this activity. Five forest and fruit plant nurseries were registered in the Department of Forest and they continued to supply plants for the enrichment planting, agro-forestry, homesteads, and stream and roadside reservation planting in the four sub-watersheds.

Twenty eight Km. of stream reservations have been enriched by planting 23,390 forest and fruit plants as at the end of March 1997.

Timber corporation has offered a sub contract to Shramasakthi non-wood forest product organization to undertake thinning activities in the pinus plantation in Aninkanda.

5.4 Improvements in Tea Sector

An extent of 2104 ha. of tea small holdings and estate tea lands have been brought under production and protection practices in the four sub-watersheds with continued catalytic functions for wider adoption. The promoted technologies in these lands include soil conservation through biological (e.g. vetiver and SALT hedgerows, ground cover) and mechanical methods (e.g. contour drains, stone bunds); planting of mana grass in vacant patches prior to in-filling of degraded lands; in-filling with tea under suitable soil conditions; planting of shade trees for both high and low shade; improvements in pruning methods; introduction of proper fertilizing practices; dolomite and Zinc sulphate application; and promotion of high plucking standards. Tea small holders and estate owners/managers have accepted vegetative hedgerows as an effective conservation practice. As at end of March 1997, about 108,406 ft. of vetiver hedgerows, 33,516 ft of SALT hedgerows and 108,120 shade trees have been established in tea estates and small holdings.

For the promotion of inland fisheries, 300 fingerlings were given to two interested farmers in Horagala and Wijayagama villages. 4800 fingerlings of four species (2- Indian Carps, Common Carp and Chinese Carp) were introduced to the Maramba Wewa in the Digili-Ela. It is apparent that the introduced fingerlings are now ready to harvest.

6. ACTION RESEARCH

6.1 Analysis of Argo-climatic data of the Nilwala Basin

A Preliminary Report has already been submitted. Data analysis to refine the demarcated agro-ecological regions; to identify optimum time for establishment of various crops in these agro-climatic regions; and to identify critical water deficit and excess periods, is in progress. The final report would be completed in mid May, 1997. In order to make the recommendations of this study more realistic by incorporating important features of farmer practices, a research on actual time of crop establishment by farmers was studied and a research report was produced.

6.2 Analysis of Land Use, Rainfall and Riverflow Relations of the Upper-Nilwala River Basin

Interpretation of aerial photographs of the Bopagoda catchment area for the year 1953 and 1973 is already completed and that of 1986 is in progress.

6.3 Data Collection for Monitoring Indicators

Data collection in respect of management levels of tea lands in two selected mini-project areas has been completed. Data collection with regard to cost of production and cost reduction in tea small holdings in two SWS Wijayagama and Bowitiyadola. Data collection in respect of management level of stream reservation in Bowitiyadola has been completed.

6.4 Research study on economics of resin tapping

Data collection in the above study have been completed. Study on biological diversity of forest reserves in upper Nilwala watershed with emphasis on sustainable use of non-wood forest resources A methodology for inventories rattan and wenival has been field tested and field data collection for the above study is in progress. One transect of 4 km in length has been completed.

6.5 Structure and composition of home gardens(potentials for improvement)

Field data collection of 120 sample homesteads is in progress.

Annex 7 presents current status of SCOR research studies. *Annex 8* presents list of SCOR reports/papers.

USAID – SRI LANKA
GRANT NO: 383 – 0109 – A – 00 – 3413 – 00

BUDGET VERSUS ACTUAL EXPENDITURE FOR 1st QUARTER 1997

(US $)

Description	Budgeted Expenditure				Actual Expenditure				Balance
	Jan.	Feb.	March	**Total**	Jan.	Feb.	March	**Total**	
Salaries Benifits & All.									
Int'l	9,000	9,600	9,600	**28,200**	10,200	10,200	10,200	**30,600**	(2,400)
Local	43,000	43,000	43,000	**129,000**	40,868	47,486	40,307	**128,661**	339
Consultant									
Int'l	0	0	0	**0**	0	0	0	**0**	0
Local	3,000	3,500	3,500	**10,000**	1,444	1,516	2,264	**5,224**	4,776
Travel									
Int'l	0	0	0	**0**	78	(78)	0	**0**	0
Local	3,000	3,000	3,000	**9,000**	2,764	2,108	563	**5,435**	3,565
Workshops & Training									
Int'l	0	35,000	0	**35,000**	82	36,017	0	**36,099**	(1,099)
Local	6,000	3,750	3,750	**13,500**	1,297	3,028	10	**4,335**	9,165
Other Direct Costs									
Vehicle Oper. & Main.	5,000	4,500	4,500	**14,000**	2,042	4,149	1,026	**7,217**	6,783
Office/Research Supp. & Ser.	4,500	4,000	4,000	**12,500**	7,823	4,443	314	**12,580**	(80)
Information & Dissemination	0	0	0	**0**	15,828	(15,810)	0	**18**	(18)
Indirect costs/ Overheads (32%)	22,785	32,969	22,119	**80,384**	25,552	28,848	16,952	**71,352**	9,032
Research contract	2,000	2,000	2,000	**6,000**	0	849	1,844	**2,693**	3,307
Equipments	0	3,000	5,000	**8,000**	0	2,823	1,621	**4,444**	3,556
Total	**98,285**	**144,319**	**100,469**	**345,584**	**107,978**	**125,579**	**75,101**	**308,658**	**36,926**
Sub–grants (Rs.)		2,000,000	2,000,000	**4,000,000**	0	1,277,924	1,105,715	**2,383,639**	1,616,361

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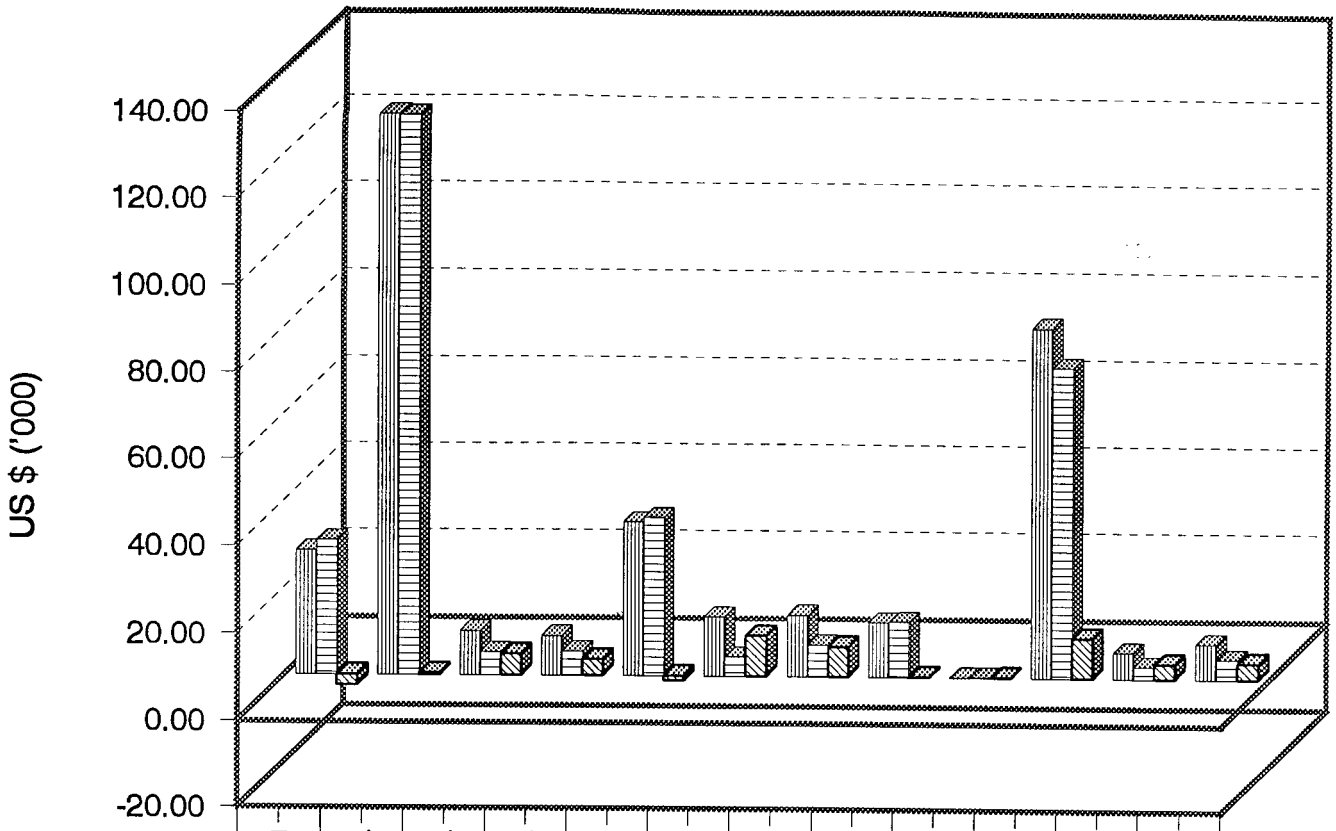
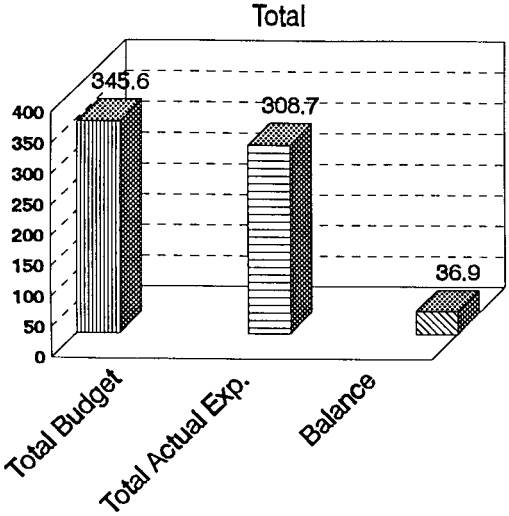
Annex 2

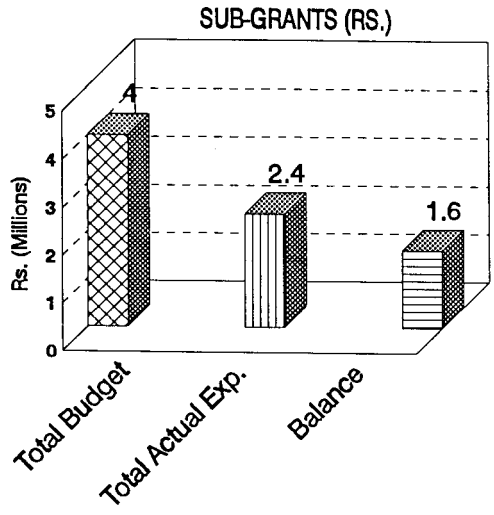
EXPENDITURE OUT OF BUDGET FOR THE 1st QUARTER, 1997



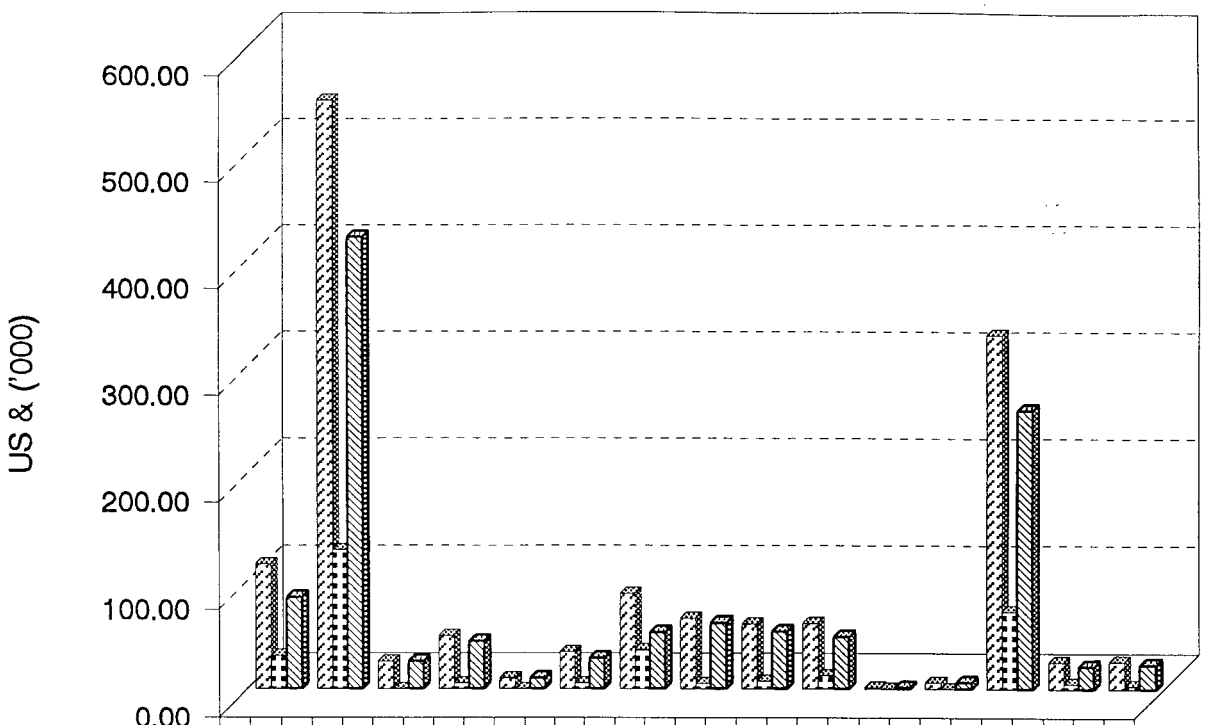
	Catalyzing Input-I	Catalyzing Input-L	Consultant - L	Travel - L	W'shops & Train. - I	W'shops & Train. - L	Vehicle Oper. & Main.	Office/Res.Sup. & Ser.	Information & Dissem.	Indir. costs/overheads	Research contracts	Equipments
Total Budget	28.20	129.00	10.00	9.00	35.00	13.50	14.00	12.50	0.00	80.38	6.00	8.00
Cumu. Expenditure	30.60	128.66	5.22	5.44	36.10	4.34	7.22	12.58	0.02	71.35	2.69	4.44
Balance	-2.40	0.34	4.78	3.57	-1.10	9.17	6.78	-0.08	-0.02	9.03	3.31	3.56
%	108.51	99.74	52.24	60.39	103.14	32.11	51.55	100.64	0.00	88.76	44.88	55.55

Total Budget Cumu. Expenditure Balance



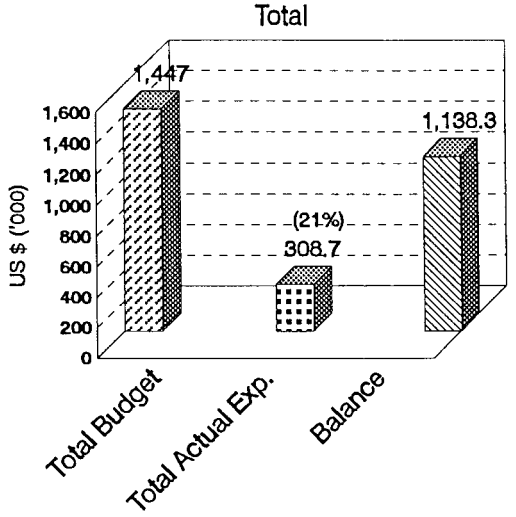


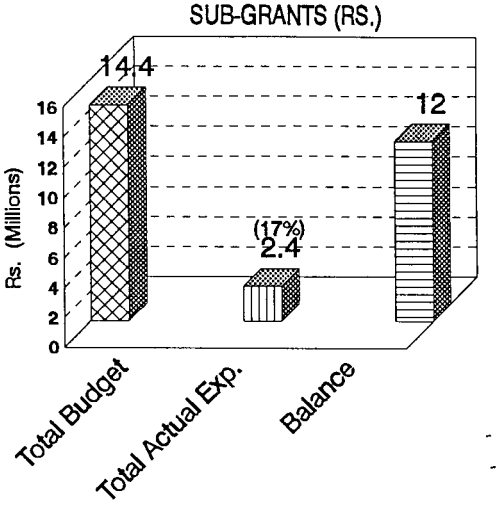
EXPENDITURE AS AT END OF MARCH OUT OF THE BUDGET OF THE YEAR 1997



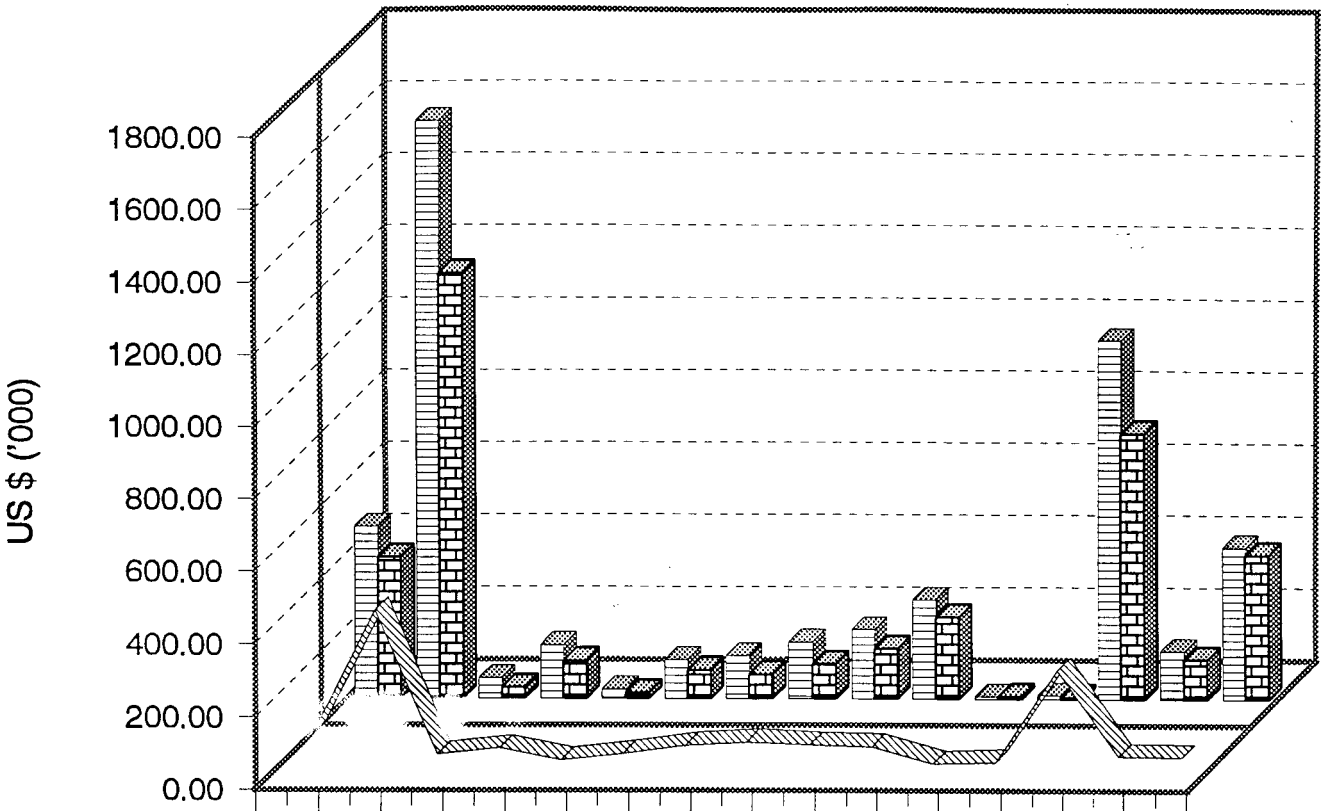
	Catalyzing Input-I	Catalyzing Input-L	Consultant - I	Consultant - L	Travel - I	Travel - L	W'shops & Train. - I	W'shops & Train. - L	Vehicle Oper. & Main.	Office/Res.Sup. & Ser.	Information & Dissem.	Audit	Indir. costs/overheads	Research contracts	Equipments
Total Budget	115.26	550.40	25.70	49.18	10.16	34.10	88.18	65.25	60.18	60.61	0.94	6.00	330.44	25.00	25.56
Cumu. Expenditure	30.60	128.86	0.00	5.22	0.00	5.44	36.10	4.34	7.22	12.58	0.02	0.00	71.35	4.44	2.82
Balance	84.66	421.54	25.70	43.95	10.16	28.67	52.08	60.92	52.97	48.03	0.92	6.00	259.09	20.55	22.74
%	26.55	23.41	0.00	10.62	0.00	15.94	40.94	6.64	11.99	20.75	1.91	0.00	21.59	17.78	11.04

Total Budget Cumu. Expenditure Balance



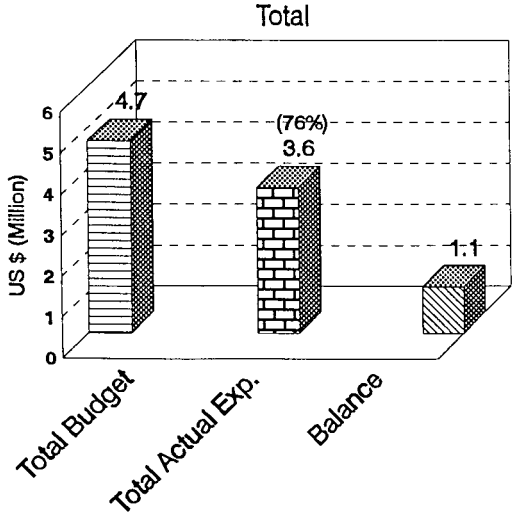


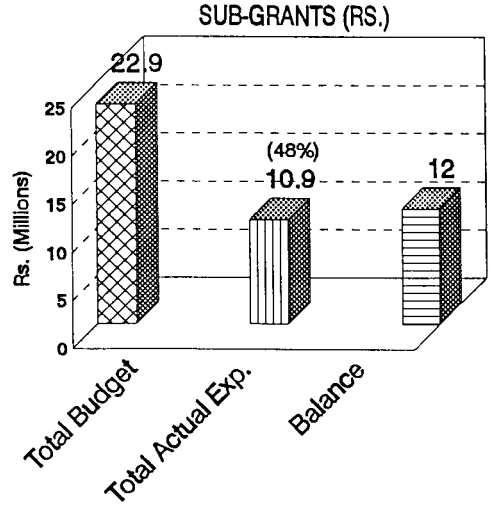
CUMULATIVE EXPENDITURE OUT OF LIFE OF PROJECT BUDGET FROM JUNE 1993 TO MARCH 1997



	Catalyzing Input-I	Catalyzing Input-L	Consultant - I	Consultant - L	Travel - I	Travel - L	W'shops & Train. - I	W'shops & Train. - L	Vehicle Oper. & Main.	Office/Res.Sup. & Ser.	Information & Dissem.	Audit	Indir. costs/overheads	Research contracts	Equipments
Balance	84.66	421.74	25.70	43.95	9.86	28.67	52.08	60.92	52.97	48.03	0.92	6.00	259.09	22.30	21.12
Total Budget	472.00	1596.00	56.00	147.35	25.20	107.00	118.00	156.50	190.50	272.00	7.48	10.14	991.54	132.00	418.00
Cumu. Expenditure	387.34	1174.26	30.31	103.40	15.34	78.34	65.92	95.58	137.54	223.97	6.55	4.14	732.45	109.70	396.88
%	82.06	73.58	54.12	70.17	60.88	73.21	55.86	61.07	72.20	82.34	87.67	40.80	73.87	83.10	94.95

Balance Total Budget Cumu. Expenditure





Annex 5

SUMMARY REPORT ON HOST COUNTRY CONTRIBUTION (HCC)
25.10.93 – 31.03.97

Description	Nilwala		Huruluwewa		Total No.	Total HCC Rs.
	No.	HCC Rs.	No.	HCC Rs.		
Contribution of NGOs, groups, farm households, and individuals by way of time/labour, and materials supplied (persons)	10,054	2,083,813	21,180	4,896,446	31,234	6,980,259
Value of conserved capital assets	–	679,871	–	5,614,699		6,294,570
Value of sub Grants (No)	57	4,151,300	76	6,949,398	133	11,100,698
Govt. officers contribution (persons)	709	4,504,312	714	1,980,063	1,423	6,484,375
Conserved Area		8,675,450		43,337,701		52,013,151
Total		20,094,745		62,778,307		82,873,052

Annex 8

SCOR RESEARCH STUDIES – CURRENT STATUS (SUMMARY)
– Huruluwewa and Nilwala watersheds –
END OF 4th QUARTER 1996

Study No	Name of study	Present status
(1)	Rainfall trends, surface water balance and vegetation change in the Maha Meegaswewa sub – watershed	Completed
(2)	Baseline and M&E studies for intergrated water management in Huruluwewa watershed.	Completed
(3)	Agro–well & Ground water management in Huruluwewa watershed	Completed
(4)	Land use maps (1:50000) for Nilawala & Huruluwewa Watersheds to demarcate boundaries of watersheds & sub–watersheds & to help identify to pilot intervention sites.	Completed
(5)	Complete the review of land use and prepare land use maps for Huruluwewa Watershed	Completed
(6)	Complete the review of land use and prepare land use maps for Nilwala Watershed	Completed
(7)	Effects of Conservation Measures under SCOR interventions in the Huruluwewa Watershed.	Completed (as a component of the major project)
(8)	A study on adoption of Technology in the tea sector in Upper Nilwala watershed.	Completed
(9)	An analysis of demand, supply and price–relations aimed at production scheduling	Completed
(10)	Biodiversity of Medicinal and other tree species in the Huruluwewa Watershed with emphasis on their economic utility.	Completed
(11)	Evaluation of SCOR interventions on resources management and profitability trends in Huruluwewa and Nilwala watersheds Part 1 – Bench mark establishment Part 2 – Impact Evaluation	 Completed To be commenced

Study No	Name of study	Present status
(12)	Study on crops/ livestock yield, profitability and other socio–economic aspects in Nilwala Watershed	Completed
(13)	Feasibility study on Production & processing of Medicinal plants– a component of land & water conservation efforts in the dry zone	Completed
(14)	Impact of Land Tenure Part 1– Literature Review Part 11– Micro level analysis	 Completed Completed
(15)	Development & Sustainability of user organizations in watershed management in Nilwala and Huruluwewa Watersheds.	Completed
(16)	Evaluation of Technology adoption in balancing Production & Protection in Nilwala and Huruluwewa watersheds.	Completed
(17)	Participatory Planning for Sustainable Natural Resources Mangement in Watersheds.	Completed
(18)	Micro Hydro Electric Power Generation and Watershed Management	Completed
(19)	Participatory Development and Design of Projects – The SCOR Experience	On going
(20)	Enhancing Sustainable Productivity of Land and Water Resources in Small Tank Systems.	On going
(21)	Community Resource Mobilization through Mini Projects for Watershed Management.	On going
(22)	Assessing Watershed Resources Management Institutions – Experiences of Shared Control of Natural Resources Project.	On going
(23)	Analysis of Spatial and Temporal Variability of Agro–climatic Data of the Nilwala Basin.	On going
(24)	Analysis of Land Use, Rainfall and River Flow Relations of the Upper Nilwala River Basin.	On going
(25)	Protecting Water Courses through Vegetated Reservations.	On going
(26)	Effects of Management Interventions on Resource Use Pattern at Household Level.	On going
(27)	An Assessment of the Changes of Resource Use on Crop Production through SCOR Interventions with particular Reference to Upstream Downstream Linkages.	On going
(28)	Potential for Localised Capital Formation Strategies in Watershed Management : The Case of Tea Farmer Bank in Upper Nilwala Watershed.	On going
(29)	Strategies and Process of Soil and Water Conservation Technology Transfer and Their Impact on Farmer Adoption – Lessons from Huruluwewa Watershed.	On going

Study No	Name of study	Present status
(30)	Determination of Impact of Watershed Management Interventions on Species Diversity	On going
(31)	Effect of Watershed Management Interventions on Technical and Allocative Efficiencies.	On going
(32)	Impact of Higher Level Institutions on Watershed Resources User Groups and Organizations – Experiences of Shared Control of Natural Resources Project, Sri Lanka.	On going
(33)	Assessment of the Rainwater Harvesting System with Eye – brow bunds and Buried Pots.	On going
(34)	Institutionalization Process of Environmental Protection and Production Strategies through Local NGOs – A Case Study on Dotalugala Local NGO, Nilwala Watershed, Sri Lanka.	On going
(35)	The Land and Water Based Area Development	On going

Annex 9

SHARED CONTROL OF NATURAL RESOURCES PROJECT (SCOR)

List of Reports/Papers

End of 4th Quarter 1996

	Title	Author
1.	SCOR Work Plan (1993-1995)	SCOR Project
2.	Land and Water Resources Management in Watersheds - Participatory Action Research Aimed at Integrating Production and Protection	***C.M. Wijayaratna*, Head, Sri Lanka Field Operations, IIMI, SCOR Project Leader** Paper presented to the 10th Internal Program Review of IIMI, 7-11 Nov. '94 Colombo.
3.	Shared Control of Natural Resources Spatial Database for Planning and Monitoring Resource Use Change.	***Gamini P. Batuwitage*, M&E Specialist, SCOR** Paper presented to the 10th Internal Program Review of IIMI, 7-11 Nov. '94 Colombo.
4.	Integrated Water Management in a Watershed Context	***Nihal Fernando*, Research Associate/Water Resources Engineer, SCOR** Paper presented to the 10th Internal Program Review of IIMI, 7-11 Nov. '94 Colombo.
5.	Shared Control of Natural Resources An Integrated Watershed Management Approach to Optimize Production and Protection	***C.M. Wijayaratna*, Head, Sri Lanka Field Operations, IIMI, SCOR Project Leader** Presented to the Annual General Meeting and Seminar of Sri Lankan Agricultural Economics Association Peradeniya, Sri Lanka.
6.	Integration Environmental and Conservation Concerns with Production Goals A Participatory Approach to Land and Water Resources Management in a Watershed Context	***C.M. Wijayaratna*, Head, Sri Lanka Field Operations, IIMI, SCOR Project Leader** Paper presented to the 8th International Soil Conservation Conference on "Soil and Water Conservation: Challenges and Opportunities", December 4-8, 1994, New Delhi, India.
7.	Planting Trees along Roads, Stream and Canal Reservation and in Watershed Areas in Sri Lanka - Present Status and Issues for Consideration	***C.M. Wijayaratna*, Head, Sri Lanka Field Operations, IIMI, SCOR Project Leader** ***Anura S. Widanapathirana*** Monitoring and Evaluation Consultant, Participatory Forestry Project, Forest Department, Sri Lanka.

	Title	Author
8.	Information Technology for Policy Analysis and Change in Sustainable Integrated Watershed Resources Management	***Gamini P. Batuwitage*, M&E Specialist, SCOR** Paper presented at the Training Course on the Use of Information Technology for Sustainable Development organized by the Asian and Pacific Development Center, Kuala Lumpur, Malaysia, on 16.08.94.
9.	Review of the Monitoring and Evaluation, Organization and Theme Actualization of the Shared Control of Natural Resources (SCOR) Project	***Gerald J. Karaska*,** Clark University, Worcester, Massachusetts, USA.
10.	SCOR PROGRESS - 1st Quarter 1994	SCOR Project
11.	SCOR PROGRESS - 2nd Quarter 1994	
12.	SCOR PROGRESS - 3rd Quarter 1994	
13.	SCOR PROGRESS - 4th Quarter 1994	
14	SCOR Monitor - January - March 1994	
15.	SCOR Monitor - April - December 1994	
16.	SCOR Monitor - January - August 1995	
17.	SCOR PROGRESS - 1st Quarter 1995	
18.	SCOR PROGRESS - 2nd Quarter 1995	
19.	SCOR PROGRESS - 3rd Quarter 1995	
20.	SCOR PROGRESS - 4th Quarter 1995	
21.	SCOR PROGRESS - 1st Quarter 1996	
22.	SCOR PROGRESS - 2nd Quarter 1996	
23.	SCOR PROGRESS - 3rd Quarter 1996	
24.	SCOR PROGRESS - 4th Quarter 1996	
25.	Review of Progress of Shared Control of Natural Resources Project	***Marcus M. Karunanayake*** Senior Professor of Geography, Dept. of Geography, University of Sri Jayewardenepura, Sri Lanka.
26.	Adoption of Technology in the Tea Sector in Upper Nilwala Watershed	***Vijith Jayamanne*** Bsc Student, University of Ruhuna.

	Title	Author
27.	Huruluwewa Watershed: Present Status and Proposed Interventions under the Shared Control of Natural Resources (SCOR) project (Interim Report)	Land Use Policy Planning Division, Ministry of Lands.
28.	"Indigenous Rainwater Harvesting Systems in Sri Lanka: Current Status and An Eco System Approach to Revitalization".	***C.M. Wijayaratna*, Head, Sri Lanka Field Operations, IIMI, SCOR Project Leader** Paper presented to the 7th International Rainwater Catchment System Conference, June 19-25, 1995, Beijing, China.
29.	A Participatory Holistic Approach to Land and Water Management in Watersheds	***C.M. Wijayaratna*, Head, Sri Lanka Field Operations, IIMI, SCOR Project Leader** Paper presented to a special seminar on "Effective Water Use through Improved Irrigation Management Information System", Irrigation Engineering Center, NIA Compound, EDSA, Quezon City, Metro Manila, Philippines, 12-15 March 1995
30.	Data, Capacity Building, and Networking Needs for the use of Geographical Information Systems in Agricultural Research	***Gamini P. Batuwitage*, M&E Specialist, SCOR** Paper presented at ARENDAL II workshop on UNEP and CGIAR cooperation on 09.05.95 to 11.05.95 in Arendal, Norway.
31.	Seasonal Summary Report on Integrated Water Management in Huruluwewa Watershed (Maha 1994/95 season)	***N.U. Hemakumara***, Irrigation Engineer, Huruluwewa, ***Nihal Fernando***, Research Associate/Water Resources Engineer, SCOR, ***B.R. Ariyaratne***, Research Officer, SCOR
32.	Action Research Study on Special SCOR Interventions in the Huruluwewa Feeder Canal Area	***D.M. Ariyaratne,*** Former Director, Irrigation Management Division.
33.	Nilwala Watershed: Present Status and Proposed Interventions under the Shared Control of Natural Resources (SCOR) project (Interim Report)	Land Use Policy Planning Division, Ministry of Lands.
34.	Biodiversity of Medicinal and Other Tree Species in the Huruluwewa Watershed with Emphasis on their Economic Utility. (Reconnaissance Survey)	***B. Colin N. Peiris*** Senior Lecturer Horticulture, Faculty of Agric. University of Peradeniya.
35.	Biodiversity of Medicinal and Other Tree Species in the Huruluwewa Watershed with Emphasis on their Economic Utility. (Identification of Genetic Diversity)	***B. Colin N. Peiris*** Senior Lecturer Horticulture, Faculty of Agric. University of Peradeniya.
36.	Land Consolidation in Village Tanks (A study in Anuradhapura District)	***N.M.U. Nawaratna*** Chief Irrigation Engineer, Dept. of Agrarian Services

	Title	Author
37.	Integrated Water Management in Huruluwewa Watershed - Maha 1994/95 season (Detailed report)	***N.U. Hemakumara***, Irrigation Engineer, Huruluwewa, ***Nihal Fernando***, Research Associate/Water Resources Engineer, SCOR, ***B.R. Ariyaratne***, Research Officer, SCOR
38.	GIS Application on Sustainable Development: Review of Current Programs, National Trends Experience from Sri Lanka and Shared Control of Natural Resources Project	***Gamini P. Batuwitage***, M&E Specialist, SCOR Paper presented at International Conference on GIS Applications - GIS AM/FM Asia 95, Bangkok.
39.	Managing Watershed Environment	***C.M. Wijayaratna***, Program Leader, Social & Environmental Analysis and SCOR Project Leader. Paper presented to the "Watershed Management Forum", University of the Philippines, Los Banos, 4-6 October, 1995.
40.	Evaluation of SCOR Interventions on Resources Management and Profitability - Upper Nilwala Watershed (an interim report)	Department of Agriculture Economics, Faculty of Agriculture, University of Ruhuna, October 1995.
41.	Biodiversity of Medicinal and Other Tree Species in the Huruluwewa Watershed with Emphasis on their Economic Utility. (Final Report)	***B. Colin N. Peiris*** Senior Lecturer Horticulture, Faculty of Agricultural University of Peradeniya. November 1995.
42.	Participatory Micro Hydro-Electric Power Generation	***N. Edirisinghe***, Research Officer (SCOR) ***D. Wijenayake***, Watershed Management Coordinator (SCOR), ***Oscar Amarasinghe***, Senior Lecturer, Dept of Economic & Extension, Faculty of Agriculture, University of Ruhuna, ***C.M. Wijayaratna***, National Program Leader & SCOR Project Leader, IIMI. Paper presented to the Symposium on Rehabilitation of the Nilwala Basin, jointly organised by The Institution of Engineers, Sri Lanka and Engineering Research Unit, Faculty of Engineering Technology, The Open University of Sri Lanka, January 26 & 27, 1996.
43.	Development & sustainability of user organizations in watershed management in Huruluwewa Watershed	***P.G. Somaratna***, Consultant March, 1996
44.	Evaluation of Technology adoption in balancing Production & Protection in Huruluwewa Watershed	***P.G. Somaratna***, Consultant March, 1996
45.	Development & sustainability of user organizations in watershed management in Nilwala Watershed	***L.R. Perera***, Consultant March, 1996

	Title	Author
46.	An analysis of demand, supply and price relations aimed at production scheduling	***M.A.B. Anawaratna,*** Student, Ruhuna University
47.	Evaluation of profitability and productivity of onions, tomato and rice under different irrigation and technology regimes	***M.A.B. Anawaratna*** Student, Ruhuna University
48.	Evaluation of Technology adoption in balancing Production & Protection in Nilwala Watershed	***L.R. Perera***, Consultant July, 1996
49.	Harvesting and Soil & Water Conservation Practices in the Dry Zone Watersheds of Sri Lanka.	***C.M. Wijayaratna***, Paper presented to the Consultation on Small Water Harvesting Schemes, organized by the Society for Promotion of Waterlands Development, New Delhi, India, 12 March 1996
50.	Nature of Small Tank Cascade Systems and a Framework for Rehabilitation of Tanks within Them, International Irrigation Management Institute, IIMI, Country Paper, Sri Lanka No. 13.	***C.M. Wijayaratna*** , (Co-author) 1996
51.	Energy & Environment: Micro Hydroelectric Power Generation as an Integrated Component of Participatory Watershed Management.	***C.M. Wijayaratna***, Paper presented at the First Philippine International Conference and Exhibition on Agricultural Engineering and Related Technologies under the Theme "Energy and Environment: Sustainability and Development Challenges". 22-26 April, 1996 Central Auzon State University, Philippines.
52.	Rural Appraisal and Sustainable Development	***C.M. Wijayaratna***, Paper presented a the Wrokshop on Participatory Rural Appraisal, organized by the Forest Department of Sri Lanka and sponsored by Asia Pacific Agroforestry Network, APAN, Sri Lanka Forestry Institute, Nuwara Eliya. 27-31 May 1996.
53.	Tenurial Security and Natural Resources Management in a Watershed Context Part I - Evaluation of Natural Resources Tenurial Forms Part II - Impact of Tenurial Security on Productivity	***C.M. Wijayaratna***, SCOR Project Leader, ***Gamini Batuwitage***, Deputy Project Leader, ***Paul Rajasekara***, Human Resources Coordinator, SCOR ***C.M. Wijayaratna***, SCOR Project Leader ***Paul Rajasekara***, Human Resources Coordinator. ***Kumudini Jayawardana***, Research Officer
54.	Groundwater use and Management for Agriculture in Hardrock Terrains	***Nihal Fernando***, Research Associate/Water Resources Engineer, SCOR.

	Title	Author
55.	Participatory Planning for Sustainable Natural Resources Management in Watershed.	***C.M. Wijayaratna***, SCOR Project Leader ***J.M. Samarakoon Banda***, Research Associate ***Gamini Batuwitage***, Deputy Project Leader, SCOR
56.	Complete the review of land use and prepare land use maps for Huruluwewa Watershed	Land Use Policy Planning Division
57.	Complete the review of land use and prepare land use maps for Nilwala Watershed	Land Use Policy Planning Division
58.	GIS for Collaborative Planning and Monitoring of Watershed Resources for sustainable productivity: A case from Sri Lanka	***Gamini Batuwitage***, Deputy Project Leader, SCOR. Paper presented at Supplementary Proceedings of the Seventeenth Asian Conference on Remote Sensing, Nov. 4-8, 1996 Colombo, Sri Lanka.
59.	Upstream-Downstream Linkages of Watersheds with Reference to Irrigation: SCOR experience using GIS	***Gamini Batuwitage***, Deputy Project Leader, SCOR Paper presented at Workshop on Environmental Intervention in Irrigation Development & Management 5-6 December, 1996, Colombo.
60.	Rainfall trends, surface water balance and vegetation change in the Maha Meegaswewa sub-watershed.	***Prof. Basnayake***
61.	An Evaluation System for Sustainable Watershed Management	***C.M. Wijayaratna***, SCOR Project Leader Paper presented at the International Seminar on Tools for Analysis and Evaluation of Sustainable Land Use in Rural Development, organized by the Food and Agriculture Development Centre (ZEL) of the German Foundation for International Development (DSE), Zschortau, Federal Republic of Germany, 2-14 December 1996.
62.	Impact of Land Holding Sizes on Productivity and Profitability of Tea Smallholdings of Horagala and Diyadawa Thanipita Sub-watersheds in Upper Nilwala Watershed	***R.M. Bandula Sirimal***, Senior Research Officer, SCOR. 1996
63.	Shared Management of Watershed Resources: A Collaborative Effort by the Government, NGOs, Small Farmers, and Scientists	***C.M. Wijayaratna***, SCOR Project Leader Paper presented at the seminar on NGOs. scientists and the poor: competitors, combatants or collaborators? organized by the Crawford Fund for International Agricultural Research, 8-10 April 1997, Canberra, Australia.