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Note

Since original document prepared in English and translated to Sinhala/Tamil, in any discrepancy in words, English version shall be considered as correct.

குறிப்பு

மூல ஆவணம் ஆங்கில மொழியில் தயாரிக்கப்பட்டு சிங்களம் / தமிழ் ஆகிய மொழிகளுக்கு மொழி பெயர்க்கப்பட்டதால் மொழி பெயர்ப்பில் ஏதாவதொரு முரண்பாடு காணப்பட்டால் ஆங்கிலப் பிரதி சரியானதென கருதப்படும்

Message of Secretary to the Ministry of Irrigation and Water Resources Management

Ministry of Irrigation and Water Resources Management together with its member institutions had a very busy year in 2012 and at the end of the year we could be happy that we have achieved most of targets fulfilling aspirations of the nation. During the year, the Ministry was able to commence the construction of head works of Moragahakanda and Kaluganga reservoirs, which have been delayed for many years due to constraints of funding, can be considered as land mark achievement.

We could also accelerate the implementation of ongoing water resources development projects during this year. We could complete the reservoir and main canal construction of Rambukkan Oya reservoir project in Ampara District at the end of year 2012 spillway gates to be completed and reservoir can be completed in mid-2013. We were able to expedite the constructions of Deduru Oya reservoir project and the head works of the project will be completed by mid-2013. Construction of left bank main canal is completed and right bank main canal is expected to be completed in year 2014. We have also achieved a significant progress in one of our largest development Uma Oya Multipurpose Development project,

Downstream development works of Moragahakanda-Kaluganga projects, which started in 2008, has shown a considerable progress up to now. That will facilitate relocation of affected people in 2013 enabling to start construction of main dams under the project Out of 32 projects, undertaken full rehabilitation under Dam Safety and Water Resources Planning Project (DSWRPP), some projects were completed at the end of the year. Many projects which have been started and in different stages of progress. The donor, World Bank has extended financial assistance till 2014 enabling to complete all the balance work of the project. The PEACE project started in 2008, which was envisaged to rehabilitate 80 major/medium tanks in both Kurunegala and Anuradhapura districts, has been successfully completed. Under this project, channel systems of Major/Medium tanks in the two districts have been rehabilitated and there by increased the income of the farmers by farming and related activities.

The Ministry implemented many projects under ‘Uthuru Wasanthaya and Nagenahira Navodaya development programmes, which was implemented to revive the lives of conflict affected people in the North and East. We have embarked many projects under the theme of “Water for Peace”, in Vavuniya and Mannar districts to re-establish the displaced farmers

firmly on their own lands. The ministry also assisted to provide drinking water for the people through Water Resources Board, by providing new tube wells as well as by repairs to existing wells. Chief Residence Engineer office in Murunkan is established to expedite and coordinate these projects in Mannar District, and rehabilitation works under Giant tank and Akathimuruppu schemes have been substantially completed. The restoration of Viyadhikulam Tank has already commenced, and 2000 Acres of lands, can be brought under cultivation in both seasons giving permanent income and drinking water to resettled families.

Although we could achieve many success in Water Resources Development during the year, the prolonged dry weather prevailed during the year has caused severe hardships to farmers in dry zone areas. However coordinating closely with the major water using organizations like Irrigation Department, Sri Lanka Mahaweli Authority, Ceylon Electricity Board and National Water Supply & Drainage Board, we could manage available water minimizing crop damages and drinking water supply problems, in most affected areas.

Aforesaid prolonged dry spell dried most of the reservoirs by end of Yala season. Considering the present trends in climatic change H.E. the President not only directed that steps to be taken to increase the water retaining capacities of Irrigation Reservoirs by de silting and removal of water weeds, but also provided necessary funds and other resources as well. Accordingly the Ministry with Irrigation Department and Mahaweli Authority of Sri Lanka launched an accelerated programme on tank de silting targeting about 478 tanks including Kala Wewa, Parackrama Samudraya and Girithale Tank.

Finally, I take this opportunity to thank, whole the staff of Ministry as well as its Implementing Agencies, for their cooperation in achieving good performance during year 2012 and expect all of your active contribution and dedication of all to accomplish heavy development target ahead of us for the year 2013.

Eng. K. W. Ivan de Silva

Secretary, Ministry of Irrigation and Water Resources Management

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Ministry of Irrigation and Water Resources Management

1. Vision

Prosperous Sri Lanka through Water and Irrigation Heritage

2. Mission

*Providing wellbeing of community and environment by fulfilling all water needs
through Water Resources Management*

3. The Main Functions of the Ministry

- 1 Formulation of policies and implementation of Projects and Programmes
- 2 Fulfilling obligations under “Mahinda Chinthana – Vision for the Future”
- 3 Promotion, construction, operation, maintenance and management of Irrigation systems, Rain water harvesting, and Ground water resources development
- 4 Salt water exclusion programmes
- 5 Drainage and Flood protection
- 6 Prevention of the pollution of rivers, streams, reservoirs and other water bodies
- 7 Engineering consultancy services and construction
- 8 Implementation of legislative enactments relevant to the subjects and Institutions under the Ministry.

4. Agricultural against the forecast in relation to expenditure under Ministry head 152 and id head 282

Form A Appropriation Account

Form B Revenue Account

Form C Advance Account

Form D Fund Account

CATEGORY : APROPRIATION ACCOUNT				Form - A								
Description	Financial Performance (Rs.In '000)					Physical Performance						
	Current Year 2012		Previous Year Actual 2011	Variation Over		Output (Service/Goods)		Current Year's Output		Previous Years output	Variation Over	
	Budgeted	Actual		Budget	Previous Year Actual	Type/ Class	Measure	Targeted	Actual		Targeted	Previous Years Actual
Programme Title and No.												
Operational Activities 01												
Project Title and No:												
Minister office 01												
Expenditure												
Recurrent Expenditure												
Personnel Emoluments	18300	16394	15,863									
Other Recurrent	29,980	28046	24,600									
Project Title and No:												
Administration & Establishment Services 02												
Expenditure												
Recurrent Expenditure												
Personnel Emoluments	34,075	33836	28,873									
Other Recurrent	12,085	11596	9,476									
Programme Title and No.												
Development Activities 02												
Project Title and No:												
Inter provincial irrigation Development Programmes 03												
Expenditure												
Recurrent Expenditure												
Personnel Emoluments	49,925	48789	46,779									
Other Recurrent	8,300	7311	6,410									

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Project Title and No:													
Irrigation Institutions & Development Programmes 04													
Expenditure													
Recurrent Expenditure													
Personnel Emoluments	0	0	0										
Other Recurrent	1,880,000	1,812,780	1,844,300										
Total	2,032,665	1,958,752	1,976,301										
Capital Expenditure													
Operational Activities 01													
Minister office 01	6,500	6200	14,552										
Administration & Establishment Services 02	7,870	7097	7,325										
Development Activities 02													
Inter provincial irrigation Development Programmes 03	24,438,100	21,530,487	5,573,008										
Development programme of irrigation institutions 04	1,234,500	837,875	645,736										
Mahaweli Irrigation Development Programmes 05	660,000	465000	3,105,224										
Total Expenditure	28,379,635	24,805,411	11,322,146										

CATEGORY : REVENUE ACCOUNTS							Form -B							
Head		152												
Description	Financial Performance (Rs.In '000)						Physical Performance							
	Aareas of Revenue As At 01.01.2012	Current Year		Previous Year Actual	Variation Over		Aareas of Revenue As At 31.12.2012	Output (Service /Goods)		Current Year's Output		Previous Years output	Variation Over	
		Budgeted	Actual		Budget	Previous Year Actual		Type/ Class	Measure	Targeted	Actual		Targeted	Previous Years Actual
Revenue Codes														
20.02.01.01		700	730	681	30	(19)								
20.02.02.99		1100	1152	1189	52	89								
20.03.99.00		5000	5468	4602	468	(398)								
Total Revenue		6800	7350	6472	550	-328								

CATEGORY : ADVANCE ACCOUNTS		152		Form -C								
Description	Financial Performance (Rs.In '000)					Physical Performance						
	Current Year		Previous Year Actual	Variation Over		Output (Service/Goods)		Current Year's Output		Previous Years output	Variation Over	
	Prescribed	Actual		Prescribed	Previous Year Actual	Type/Class	Measure	Targeted	Actual		Targeted	Previous Years Actual
Type:												
Account Title & No: Advances to Public Officers 152011 Maximum Expenditure Limit Minimum Receipt Limit Maximum Debit Limit Maximum Liability Financial Results												

CATEGORY : APPROPRIATION ACCOUNT 282					FORM : A							
DESCRIPTION	Financial Performance (Rs, in'000')					Physical Performance						
	Current Year		Previous Year Actual	Variations Over		Output Service/Goods		Current Years Output		Previous Year Output	Variations over	
	Budgeted	Actual		Budgeted	Previous Year Actual	Type/ Class	Measure	Targeted	Actual		Targeted	Previous Year Actual
Programme 01- Operational Activities												
Project 01 - Administration & Establishment Services												
Expenditure												
Recurrent Expenditure												
Personal Emoluments	298,000	287,203	243,770	10,797	43,433		%	100	96.38	94.54	3.62	1.84
Other Recurrent	53,595	50,313	45,781	3,282	4,532		%	100	93.88	93.42	6.12	0.46
Total	351,595	337,516	289,551	14,079	47,965							
Capital Expenditure												
2001	27,000	21,176	26,216	5,824	-5,040	(a)	%	100	78.43	97.10	21.57	-18.67
2002	600	569	390	31	179	(b)	%	100	94.83	97.50	5.17	-2.67
2003	3,650	3,360	2,475	290	885	(c)	%	100	92.05	70.71	7.95	21.34
2102	7,100	4,242	4,748	2,858	-506	(d)	%	100	59.75	86.33	40.25	-26.58
2104		0	0			(e)						
2401	2,000	1,904	869	96	1,035	(f)	%	100	95.20	72.42	4.80	22.78
Total	40,350	31,251	34,698	9,099	-3,447							

(a) Rehabilitation & Improvements of Building & structures

(b) Rehabilitation & Improvements of Plant Machinery & Equipment

(c) Rehabilitation & Improvements of Vehicles

(d) Acquisition of Furniture & office equipment

(e) Acquisition of Building & structures

(f) Training & capacity Building

CATEGORY : APPROPRIATION ACCOUNT						FORM : A						
DESCRIPTION	Financial Performance (Rs, in'000')					Physical Performance						
	Current Year		Previous Year Actual	Variations Over		Output Service/Goods		Current Year Output	Previous Year Output		Variations over	
	Budgeted	Actual		Budgeted	Previous Year Actual	Type/ Class	Measure	Targeted	Actual		Targeted	Previous Year's Actual
Programme 02- Development Activities Project 02 - Administration & Maintenance of Irrigation Schemes												
Expenditure												
Recurrent Expenditure												
Personal Emoluments	941,000	926,589	861,085	14,411	65,504			100	98.47	98.85	1.53	-0.38
Other Recurrent	81,792	75,674	71,987	6,118	3,687			100	92.52	94.52	7.48	-2.00
Total	1,022,792	1,002,263	933,072	20,529	69,191							
Capital Expenditure												
2001	1,275,000	1,053,321	1,672,220	221,679	618,899	(a)	%	100	82.61	98.21	17.39	-15.60
2002	52,000	32,339	45,651	19,661	-13,312	(b)	%	100	62.19	91.30	37.81	-29.11
2003	32,000	28,023	27,977	3,977	46	(c)	%	100	87.57	93.26	12.43	-5.69
2102	15,600	551	14,790	15,049	-14,239	(e)	%	100	3.53	98.60	96.47	-95.07
2103	470,000	181,341	196,991	288,659	-15,650	(f)	%	100	38.58	70.35	61.42	-31.77
2104	20,000	12,726	11,282	7,274	1,444	(g)	%	100	63.63	75.21	36.37	-11.58
2502	100,000	78,308	130,585	21,692	-52,277	(h)	%	100	78.31	93.28	21.69	-14.97
Total Expenditure	1,964,600	1,386,609	2,099,496	577,991	712,887							

(a) Rehabilitation & Improvements of Building & Structures

(b) Rep. to plant machinery & equipment

(c) Repairs to vehicles

(d) Administration & Maintenance of Irrigation Schemes

(e) Acquisition of Furniture & office equipment

(f) Acquisition of plant machinery & equipment

(g) Acquisition of Building & structure

(h) Other capital expenditure

CATEGORY : APPROPRIATION ACCOUNT					FORM : A							
DESCRIPTION	Financial Performance (Rs, in'000')					Physical Performance						
	Current Year		Previous Year Actual	Variations Over		Output Service/Goods		Current Years Output		Previous Year Output	Variations over	
	Budgeted	Actual		Budgeted	Previous Year Actual	Type/ Class	Measure	Targeted	Actual		Targeted	Previous Year's Actual
Programme 02- Deveopment Activities												
Project 04 - Medium Irrigation schemes												
Expenditure												
Recurrent Expenditure												
personal Emoluments	-	-	-	-	-							
Other Recurrent	-	-	-	-	-							
Total	-	-	-	-	-							
Capital Expenditure												
2105	126,527	81,757	194,832	44,770	-113,075	(a)	%	100	64.62	53.33	35.38	11.29
Total Expenditure	126,527	81,757	194,832	44,770	-113,075							

CATEGORY : APPROPRIATION ACCOUNT						FORM : A						
DESCRIPTION	Financial Performance (Rs, in'000')					Physical Performance						
	Current Year		Previous Year Actual	Variations Over		Output Service/Goods		Current Years Output		Previous Year Output	Variations over	
	Budgeted	Actual		Budgeted	Previous Year Actual	Type/ Class	Measure	Targeted	Actual		Targeted	Previous Year's Actual
Programme 02- Development Activities Project 03 - Major Irrigation schemes												
Expenditure												
Recurrent Expenditure												
Personel Emoluments												
Other Recurrent												
Total												
Capital Expenditure												
2105	4,378,163	3,808,840	2,905,570	569,323	903,270	(a)	%	100	87.00	71.11	13.00	15.89
Total Expenditure	4,378,163	3,808,840	2,905,570	569,323	903,270							

(a) Major Irrigation Scheme

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CATEGORY : REVENUE ACCOUNTS														
Head :		282						FORM : B						
Description	Financial performance Rs.,000							Physical Performance						
	Arrears of Revenue As at 01.01.2012	Current Year		Previous Years Actual	Variation Over		Arrears of Revenue As at 31.12.2012.	Out Put (Service/ Goods)		Current Year Output		Previous Years Actual	Variation Over	
		Budgeted	Actual		Budget	Previous Years Actual		Type/Class	Measure	Targeted	Actual		Targeted	Previous Years Actual
<u>Revenue Codes</u>														
20.02.01.01 Rent on Government Buildings	-	10,000	11,528	9,958	1,528	1,570	-							
20.02.02.99 Interest - Other	-	17,000	14,682	14,772	(2,318)	(90)	-							
20.03.99.00 Other Receipts	-	40,000	33,906	63,800	(6,094)	(29,894)	-							
20.06.02.00 Sales of Capital Assets	-	-	38	-	38	38	-							
Total Revenue		67,000	60,154	88,530	(6,846)	(28,376)								

CATEGORY : ADVANCE ACCOUNTS 282

DESCRIPTION : Public Officer's Advance Account	Financial Performance (Rs, in'000')					Physical Performance						
	Current Year		Previous Year Actual	Variations Over		Output Service/Goods		Current Years Output		Previous Year Output Actual	Variations over	
	Prescribe	Actual		Prescribe	Previous Year Actual	Type/ Class	Measure	Targeted	Actual		Targeted	Previous Year Actual
Type												
Account Title & No. 282011												
Maximum expenditure Limit	145,000	101,345	131,073	43,655	-29,728	%	100	69.89	93.00	30.11	-23	
Minimum Receipt Limit	102,000	141,710	134,557	-39,710	7,153	%	100	138.93	130.64	-38.93	8.29	
Maximum Debit Limit	480,000	355,207	395,572	124,793	-40,365	%	100	74.00	82.41	26.00	-8.41	
Maximum Liability	-	-	-	-	-		-	-	-	-	-	
Financial results	-	-	-	-	-		-	-	-	-	-	

5. Projects and Programmes Directly Under the Ministry and Progress

- a. Programmes executed by Irrigation Management Division (IMD)
- b.. Uma Oya Multipurpose Development Project

5a. Programmes executed by Irrigation Management Division

Introduction

Established in 1984, Irrigation Management Division (IMD) implements the approach for Integrated and Participatory Irrigation Management (IPIM) in 54 Major Irrigation Settlements of over 400 ha at present. The primary aim of this approach is to establish a self-reliant farming community in irrigated agriculture. It expects to implement participatory approach through active participation of beneficiaries and farmer representatives, while integrating state and non-governmental officials and private sector in order to achieve sustainable economic development of irrigated farming community.

This division is primarily responsible to establish and strengthen farmer-based institutions in major irrigation schemes in order to improve participatory operation and maintenance of irrigation sub system leading to increase agricultural production and productivity, and also to enhance the knowledge and skills of farming community to achieve the above with their active participation.

Progress of Programs implemented in 2012**1. Strengthening and Empowering Farmer Organizations.**

1.1 Assistance given for the farmer organizations (FO) to establish transparency and good governance as follows.

Activity	Unit	Target	Achievement
Introduction of amended constitution	No of FOs	353	181
Introduction of systems & procedure for FO management & facilitate to incorporate them in their management	No of FOs	485	139
Preparation of FO final accounts	No of FOs	732	597
Auditing of FO accounts	No of FOs	643	337
Conducting FO elections	No of FOs	276	240
Conducting FO Annual General Meetings	No of FOs	1299	1408
Development of FO fund	Rs Mn	25	22
Registration of System Level FOs under Agrarian Services Act 2000 No. 46	No of FOs	16	04
Conducting Project Management Committees	No of meetings	351	327
Conducting Pre-Seasonal meetings	No of meetings	84	84
Conducting Seasonal meetings	No of meetings	84	84

- 1.2 Conducted training programs to improve the capacity of farmers under the following aspects.

Topic of training	No. of participants	
	Target	Achievement
Financial Management	1087	1734
Legal empowerment	312	505
Leadership improvement	360	534
Field visits (Experience Sharing)	270	720
Revolving fund management	50	80
Introduction of amended constitution & systems procedures for FOs	60	480
Irrigation sub-system Systematic maintenance	1500	1786
Total	3639	5839

- 1.3 Conducted awareness programs to improve the capacity of farmers under the following aspects.

Awareness programs	Target	Achievement
Awareness programs on dairy management, Big onion seed production, water management, role of field canal representatives, Organic Fertilizer promotion, Sub-system systematic maintenance	1500	2090
Total	1500	2090

2. Participatory Maintenance and Water Management Programme

Farmer organizations were guided and facilitated to participate in the following aspects under the participatory maintenance and water management programme.

Activity	Unit	Target	Achievement
Implementing participatory planning for irrigation sub-systems	No. of FOs	250	157
Demarcating/conserving reservations	No. of distributory canals	150	151
	No. field canals	300	222
Maintenance of canals by FOs	Distributory canals(Km)	2200	2444
	Field canals (Km)	4854	4843
Maintenance of farm roads	Km	200	911
Repair irrigation canal structures by FO funds	Rs. (000)	8000	7365
Development of Operation and Maintenance Fund	Rs.(000)	4000	19175
Conducting water related rituals	No.	500	221



Irrigation sub-system regular maintenance using brush cutters Rajanganaya



Maintenance of farm road Kawduluwewa



Irrigation sub-system regular maintenance - Ridiyagama



Irrigation sub-system regular maintenance - Rajanganaya

Following Irrigation System Maintenance Activities are organized by Livelihood Support Programme under the Dam Safety & Water Resources Management Project (DSWRPP)

	Irrigation schemes	Target (Man days)	Progress (Man days)
1	Ridiyagama	115,720	52,707
2	Tabbowa	64,200	13,970
3	Nacchaduwa	127,500	53,199
4	Usga/Siyabalangamuwa	54,220	15,514

3. Agricultural Production and Productivity Enhancement

3.1. IMD contributed to economic development of major irrigation areas coming under its purview by directing and facilitating the farming community to participate in increasing agricultural production and productivity as follows.

Item	2011/12 Maha	2012 Yala	2012
1. Paddy cultivation (Ha)	157,529	121,457	278,986
2. Other Field Crops (OFC) (Ha)	3,299	11,068	14,367
3. Total Extent (Ha)	160,828	132,525	293,353
4. Cropping Intensity			176%
5. Paddy Production (Tons Million)	0.55	0.42	0.97
6. Value of Paddy Production (Rs Million)	15,473	11,634	27,107
7. Value of Other Field Crops Production (Rs Million)	622	1,334	1,956
8. Value of Paddy & OFC (Rs Million)	16,095	12,968	29,063

3.2 Cultivation of quality Soya Bean at Huruluwewa and Dewahuwa under the World Food Programs (WFP)for Triposha Production.

Soya cultivation land extent is 1,717 Ha and Soya Production is 3,434 Ton.Soya Production value is Rs 292 Mn

3.3 Organized to produce 32,000 bu of high quality seed paddy through FO participation in order to supplement the requirement of seed paddy while reducing the scarcity.



Paddy cultivation at Minipe



Maize cultivation at Badulu oya



Soya cultivation at Huruluwewa



Green Gram cultivation at Ridivagama

2. Project on Increasing the Capacity of Integrated Management (ICIM) in Irrigated Agriculture in the Dry Zone

Following activities implemented in Nawajeewana, Ruhunu farmer organization in Rajangana Scheme and Tissa, Ranamayura farmer organization in Nacchaduwa Scheme.

Carried out Amendment of FO constitution, Establishment of FO sub committees and Systematic maintenance of FO sub systems

Pro Poor Economic Advancement & Community Enhancement (PEACE)

Project

The main objectives of the “PEACE” Project is to uplift the living condition of rural farmer community through development of irrigation infrastructure facilities and sustainable development of regional agriculture and thereby to increase the farmers’ income with enhancement of living standard of rural farmers. “PEACE” Project activities consist of 08 major, 12 Medium and 80 Minor Irrigation Schemes and implemented in parts of four districts, namely Anuradhapura, Kurunegala, Matale & Puttalam. The specialty in “PEACE” Project is that the each activity such as identification, planning, implementation and operation etc. are solely executed by the beneficiary farmers. It is expected to invest Rs. 5,040 Million for Kurunegala, Anuradhapura & Matale Components where major portion of Rs. 3,867 Million by foreign aid provided by Government of Japan and the balance Rs. 1,173 Million from the Government of Sri Lanka. Total number of 25,000 farmer families will be benefited by the project and the project Implementation period is from October 2006 July 2012.

01. Main Components,

1. Strengthening and Social Mobilization of Farmer Organizations (FO)
2. Rehabilitation and Improvements of Irrigation infrastructure facilities
3. Strengthening Agriculture Support Services
4. Improvements to Agriculture Productivity and Income Generation Activities
5. Improvements to Operation and Maintenance and Water Management
6. Improvements to Rural Credit

Assessment of the Progress

- The sustainability of this project is mainly due to encompassing all its stakeholders inclusive of the local political representatives in all major districts where this project is being implemented. All the stake holders were given the knowhow, the required training while empowering them to handle the functions involved in this exercise on their own.

- As part of strengthening and mobilizing the farmer organizations the following programmes were conducted to train the farmer, actually involved in the implementation process. Training program for Resource Groups of the line agencies was conducted in order to enable them to handle operations and maintenance. Further, capacity building program, Human Resource Development programs, skill development training, construction management training and the financial management and good governance were the part and parcel of this program which lead to successful implementation of the program in all four selected districts.

- Since this project is carried out by the community with the participation of the community the culmination of the workshop conducted for the community resulted in development of 185 Community Action Plan reports. The skill development program for social mobilizers and the leadership training supplemented the program in its implementation stages.

- Action was also taken to create awareness among the local politicians about the present situation of the Wari Pubuduwa Project.

Details of the Programs Implemented under this Project up to December 2012

As the government has given highest priority to uplift the living standard of the rural population by increasing the local produces. This project envisages the rehabilitation and improvement of irrigation infrastructure facilities that includes rehabilitation of Tank bund, sluice, spillway, feeder canal and main canals.

No.	Description	Expenditure
01.	Rehabilitation of Rehabilitation of 270 km of main system consisting of head works, feeder canal, main canal and branch canal of Nachchaduwa, Nuwarawewa, Rajangana, Tissawewa, Magallawewa, Attargalla, Ambakolawewa, Palukadawela Major Irrigation Schemes and 10 Medium Irrigation Schemes	Rs 1,140 million
02.	Completed rehabilitation of 650km of sub system consisting of distributory canals and field canals in the above major irrigation schemes and 10 medium irrigation schemes	Rs 1,360 million
03.	Completed Rehabilitation of 80 Nos. minor irrigation schemes in 09 cascades	Rs 172 million



Nachchaduwa Feeder Canal



Tissawewa Feeder Canal



Radial Gates - Moragoda



Closing

Agricultural Development and Income Generation Activities

- Productivity improvement is an area of activity that has drawn the attention of the government in order to make the country self-sufficient in agricultural produces. Farmers were trained in producing high quality seed paddy and 3,090 acres of paddy land were brought under this project.
- Cultivation of other agricultural crop was also encouraged among the farmers to enhance their income and under the OFC cultivation 3,500 acres were brought under cultivation of big onion, maize, ground nut, black gram etc.
- Home gardening and fruits growing was an additional activity that came under this project where over 2900 acres were utilized for the purpose.
- Floriculture, plant nurseries, cashew cultivation and helping for dairy farming are some of the other area of activities where the farmer community had shown keen interest. The dairy farming was assisted with the infrastructure facilities such as supplying 956 dairy cows, cow sheds, milk collecting centers and supplying collecting cans etc. and with the improvement of above infrastructure facilities programmes were successfully conducted to improve living conditions of dairy farmers.
- Inland Fisheries development programme was promoted in 46 Irrigation schemes with forming 24 fisheries groups, supplying 89 Nos. Fishing Boats, 102Nos. Fishing Nets and constructing 6Nos. Fish Stalls. Stocking 1,372,560 Fingerlings was introduced in 46Nos. Irrigation tanks and achieved a harvest of 815,000kg during project period.

5b. Uma Oya Multipurpose Development Project (UOMDP)

Uma Oya is located at the Haliela Divisional Secretariat division of the Badulla District, which is a tributary of Mahaweli Ganga. It originates in the Central highland approximately at an elevation of 2500 msl and flows eastwards initially and changes its course northwards beyond Welimada plateau and joins Mahaweli Ganga discharging into Rantambe Reservoir at an elevation of 152 msl. The Uma Oya drains a catchment of 720 square Kilometers.

The Project is to divert Uma Oya and Mahatotilla Oya in Mahaweli Ganga Basin to Kirindi Oya basin for trans basin diversion of approximately 145 million MCM of water annually to irrigate 5000 ha of new lands and to provide drinking and industrial water requirement of the South East Dry Zone and to harness hydropower potential to generate 312 GWH annually with an installed capacity of 120 MW. This will be achieved by diverting both main Uma Oya below Welimada Town at Puhulpola and Mahatotilla Oya near Dyaaba Estate in Atampitiya. The project consists of both the Headwork and Down Stream development works.

The main project components are,

1. Construction of a dam/reservoir at Puhulpola.
2. Construction of a dam/reservoir at Dyaaba.
3. Construction of a tunnel connecting the above two reservoirs.
4. Construction of Headrace Tunnel from the reservoir at Dyaaba up to the vertical shaft.
5. Construction of an underground power station.
6. Tailrace Tunnel from the power station up to Alicota Ara.
7. Construction of New Tanks/Reservoirs, Canals and associated structures in Kirindi Oya Basin.
8. Augmentation of capacities of existing Tank/ Reservoirs, Canals System and associated structures in the Kirindi Oya Basin to cater for the demand.

The implementation of the project commenced in March 2008 through the proceed of a loan provided by the Government of Islamic Republic of Iran (GIRI) through the Export Development Bank of Iran (EDBI) and the funds provided by the Government of Sri Lanka. The main contractor for the construction of head works is FARB Company of Iran.

The Estimated Total Project Cost including Downstream Development is Rs 15,474,250,000

Export Development Bank of Iran	- USD 450,000,000	}	Head works & other
GOSL	- USD 79,059,198 and		
	- Rs. 6121,750	}	Downstream Development works
GOSL	- Rs. 9,352,500,000		

Progress of Headwork

- The Contract commenced on 15 March 2010
- Supplementary EIA for the Downstream works is completed and submitted to the CEA.
- Detailed design for respective structures is in progress.
- Land Acquisition
 1. Land acquisition for following work sites is completed during the period.
 - a. Land for Site mobilization at Dyraaba Dam
 - b. Land for Site mobilization at Tailrace Portal
 - c. Resettlement camp at Dyraabaa Estate for the People Living in Welimada Divisional Secretary's Division
 2. Land acquisition for following work sites is in progress
 - a. Puhulpola Reservoir Bed Area and Relocation of Welimada - Badulla Road

- **The progress of activities at site**

1. Field surveys and Site Investigations

Completed about 98 percent

2. Contractor's Residential camp

- Construction of the residential camp and office complex at Dyraaba is in progress.

3. Access Road to Surge Shaft (Road length 1820 m)

- Earth works and construction of structures completed.

4. Access Road to Tailrace Portal (Road length 3680 m)

- Construction work is in progress and 70 percent is completed.

5. Main Access Tunnel

- Tunnel excavation 516 m up to 1680 m is completed (27 percent).

6. TBM Tunnel

- Mobilization works for the Tunnel Boring Machine (TBM) activities are in progress.
- Both TBM machines are delivered to the site.
- Excavation of TBM adit and Valve Chamber adit is in progress (94m).

7. Dyraaba dam and Tailrace

- Sub-Contractors for the Dyraaba Dam and Tailrace Tunnel are mobilized at site and initial survey work commenced.

Progress during the period 4.5% and Overall progress of the headwork at the end of December 2012 is 24.0%.

Uma Oya Down Stream Development Works

01. Alikota Ara Reservoir

Geological Investigation has been 100% completed.

Eng. Material Investigation has been 100% completed.

Land Acquisition has been 60% completed.

Surveys & Preparation of estimates have been 40% completed.

Mobilisation and preparation of camps have been 10% completed.

02. Main canal from Alikota Ara reservoir to Kuda Oya reservoir

Surveying of main canal to Kuda Oya from Alikota Ara has been 100% completed.

03. Handapangala Reservoir

Land Acquisition has been 25% completed.

Eng. Material Investigation has been 100% completed.

Surveys & Preparation of Estimates 50% completed.

Improvements to access roads to dam site / borrow areas has been 10% completed.

Mobilization and Preparation of camp have been 5% completed.

Geological Investigation has been 50% completed.

04. Construction program for LB main canal from Handapangala

Surveying of LB main canal from Handapangala tank has been 90% completed.

05. Kuda Oya Reservoir

Geological Investigation has been 50% completed.

Eng. Material Investigation is to be done.

Land Acquisition is to be done.

Surveys & Preparation of estimates have been 40% completed.

Access roads to dam site/ Borrow have been 10% completed.



Main Access Tunnel



Inspection of Main Access Tunnel Excavations by H.E. the President



Dayraba Access Road



Headrace Portal Punagala

6. Implementing Agencies and Progress of Projects/ Programmes – 2012

- a) Irrigation Department
- b) Mahaweli Authority of Sri Lanka
- c) Water Resources Board
- d) Central Engineering Consultancy Bureau

6. a Irrigation Department

Introduction

The Irrigation Department with over a century of experience as a pioneer organization responsible for most of the development works in the irrigation sector, looks optimistically towards the development envisage in the water sector at the dawn of the new millennium.

Vision

"Not let a single drop of rain water flow to the sea without first being used for the welfare of mankind"

King Maha Parakramabahu the Great

1153-1186AD

The Vision of the Irrigation Department emerged from the vision of the great hydraulic civilization which existed from 500 B.C. to 1200 A.D. Despite the fact that this vision might look very optimistic in today's context, the mission of the Irrigation Department emerged with this broad objective in view. Therefore the Irrigation Department emerged as the principal government organization responsible for the regulation and control of Inland waters.

Mission

The Mission of the Irrigation Department is to ensure optimum utilization of Water Resource for enhancing the living condition of the farming community of the country and all other uses of Water Resources in sustainable, productive, equitable and environment friendly manner with due attention to conservation of Water shed areas. Hence the Irrigation Department is responsible for planning, design, construction, operation, management, rehabilitation and efficiency improvement of all major and medium Irrigation schemes and works related to flood control, drainage and salinity extrusion.

Objectives

- a) Development of land and water resources for Irrigated Agriculture, hydro power, flood control, Domestic Usage, Industrial usage and Aquaculture development, giving due consideration to the environmental factors.
- b) Provision of Irrigation Drainage and salinity exclusion facilities for cultivable lands in Irrigation and Drainage Projects.
- c) Provision of flood protection and drainage facilities to lands affected by floods.
- d) Alleviation of poverty of the rural farming community by increasing their farm income and raising their standard of living.
- e) Management of Water economically for sustainable Agriculture and other uses.
- f) Productivity enhancement of Land and water in Major/Medium Irrigation Schemes.
- g) Integrated water resources Management and Participatory Management in Major /Medium Irrigation systems.

Functions of the Irrigation Department

The functions of the Irrigation Department arising from the objectives are as follows;

- a. Preparation of Master plan for development of the different river basins for the optimum utilization of land and water resources giving due consideration to the environmental factors.
- b. Project formulation and detail designs of Irrigation, Hydro-power, Flood control and Reclamation Projects.
- c. Construction of Irrigation and Settlement Projects for the conservation, diversion and distribution of water under gravity and lift Irrigation to new and existing land for

- cultivation by farmers for an enhanced food crop production and to upgrade their living conditions.
- d. Construction of Drainage, flood protection and salt water exclusion projects for the protection of cultivable land to enable the cultivation of such lands with rainfall for food crop production with minimized risk.
 - e. Providing Drainage and flood protection facilities to minimize or mitigate the damages caused by floods.
 - f. Operation, Maintenance, Improvements, Rehabilitation and Water Management for Medium and Major Irrigation Schemes., Drainage and flood protection scheme and salt water exclusion schemes for optimum productivity enlisting the participation of beneficiaries. Catering of water for Inter Sector wise use, domestic, industrial use and environmental requirements. Construction and maintenance of Conservation Reservoirs.
 - g. Maintaining and upgrading the water infrastructure including dams for sustainable water supply to agriculture and domestic purposes.
 - h. Research in Hydraulics, Hydrology, Soil Mechanics, Engineering Geology, Geographic information System (GIS), Engineering Materials and Land Use as applied to water Resources Development Projects.
 - i. Human Resources Development for optimum utilization of Human Resources.
 - j. Operation and Maintenance of Financial Management system, Accounting, Reporting, Auditing systems of Irrigation Department in accordance with the financial Regulation of the Government of Sri Lanka.
 - k. Providing Consultancy Services to government department, Statutory Boards/Corporation, public and private institutions and individuals; in the fields of Water Resources Development; Foundation Engineering; Quality Control of Earth work and Concrete; Hydraulic Model Testing and Land Use Planning.

Organizational Structure

The Head of the Irrigation Department is the Director General of Irrigation and Eight (8) other Directors manage the Sub-Departments. These Sub-Departments are,

1. Regional Development and Construction (RD&C)
2. Specialized Service & Training (SS& Tr.)
3. Irrigation & water Management (I&WM)
4. Assets Management (AM)
5. Plan Implementation (PI, D&FP)
6. Planning & Designs (P&D)
7. Finance (F)
8. Human Resources (HR)

Further, there are separate Project Directors for Deduru Oya Project, Yan Oya Project, and Morana Project.

Fourteen Regional Office with Regional Directors in charge and forty eight Divisional Irrigation Engineers cover the entire Island in maintaining all major and medium irrigation schemes and rehabilitation activities. Irrigation Training Institute at Galgamuwa is considered as one of the Regional Office for the purpose of document deal, and conduct in service training for the department personnel as well as providing training for other agencies. Director, Irrigation Training Institute is the in charge of the Institute.

Four Mechanical Engineering work shops are functioning at Ratmalana, Rambewa, Halpatota and Ampara headed by Mechanical Engineers and these workshops are being supervised by the senior Deputy Director, Machinery & Workshops from the head office.

2. Performance of Irrigation & Water Management in the Irrigation Schemes.

2.1. Cultivated Extent

District – wise extent cultivated during Maha 2011 / 2012 and Yala 2012 are given in the Table below.

Table 1. Major Irrigation Schemes

District	Extend		Maha 2011/12		Yala 2012	
	Acs	Ha	Acs	Ha	Acs	Ha
Ampara	142,880	57,846	142,880	57,846	142,880	57,846
Anuradhapura	66,704	27,006	66,702	27,005	49,114	19,884
Badulla	19,533	7,908	19,536	7,909	14,460	5,854
Batticaloa	49,889	20,198	43,666	17,679	46,480	18,818
Colombo	1,700	688	1,699	648	1,655	670
Gampaha	6,813	2,758	6,238	2,525	5,374	2,176
Rathnapura	4,387	1,776	4,387	1,776	4,229	1,712
Galle	5,345	2,164	2,208	894	1,002	406
Matara	15,587	6,311	10,808	4,376	9,207	3,728
Hambantota	58,151	23,543	58,153	23,544	53,458	21,643
Kandy	19,879	8,048	19,878	8,048	12,585	5,095
NuwaraEliya	1,616	654	1,615	654	1,615	654
Mathale	4,143	1,677	4,142	1,677	3,278	1,327
Kurunegala	29,430	11,915	24,327	9,849	16,620	6,729
Moneragala	8,703	3,523	8,704	3,524	7,711	3,122
Pollonnaruwa	84,069	34,036	84,069	34,036	67,270	27,235
Puttlam	12,501	5,061	8,316	3,367	5,794	2,346
Trincomalee	49,458	20,023	49,459	20,024	46,583	18,859
Vaunia	4,135	1,674	4,135	1,674	762	309
Mannar	34,669	14,036	31,893	12,912	7,996	3,237
Total	619,591	250,846	592,815	240,007	498,073	201,649
Cultivated %			96%		80%	

Table 2: Medium Irrigation Schemes.

District	Extent		Maha 2012/13		Yala 2013	
	Acs	Ha	Acs.	Ha.	Acs.	Ha.
Ampara	3280	1,328	2,940	1,190	1,328	1,328
Anuradhapura	26963	10,916	12,079	4,890	6,452	6,452
Badulla	3212	1,300	3,212	1,300	1,261	1,261
Batticaloa	3664	1,483	3,633	1,471	1,083	1,083
Colombo	438	177	275	111	111	111
Gampaha	5163	2,090	3,236	1,310	1,079	1,079
Rathnapura	350	142	200	81	44	44
Galle	1651	668	1,630	660	601	601
Matara	440	178	260	105	-	-
Hambantota	4170	1,688	4,081	1,652	1,557	1,557
Kandy	3136	1,270	2,421	980	1,168	1,168
Nuwara Eliya	2720	1,101	2,541	1,029	671	671
Matale	1681	681	997	404	504	504
Kurunegala	2524	1,022	2,524	1,022	641	641
Monaragala	7395	2,994	6,791	2,749	1,471	1,471
Polonnaruwa	8459	3,425	6,751	2,733	2,077	2,077
Puttalam	1436	581	1,436	582	218	218
Trincomalee	3876	1,569	1,518	615	1,010	1,010
Vavuniya	600	243	600	243	186	186
Mannar	2609	1,056	2,010	814	109	109
Total	83,767	33,914	59,135	23,941	21,571	21,571
Cultivated %			71%		64%	

2.2. Performance

While a comparison of cultivated extent in major schemes during Maha & Yala Seasons are given Figure 2.1. All Island Annual Cropping Intensity of majorschemes is given in Fig. 2.2. Recorded highest cropping Intensity 1.87 was reported in year 2011 and year 2012 which is the second highest value 1.77 from year 1993 / 94. Cultivation of 3 – 3 1/2 month varieties for both season and shortening of land preparation period to 3 – 4 to weeks were adopted as strategies to improve water use efficiency.

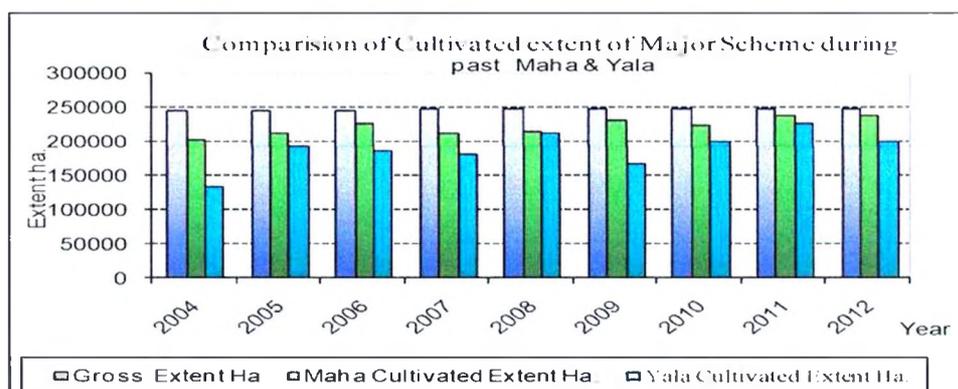
Fig 2.1: Comparison of Cultivated Extent Maha & Yala

Fig 2.2 All Island Cropping Intensity Major Schemes

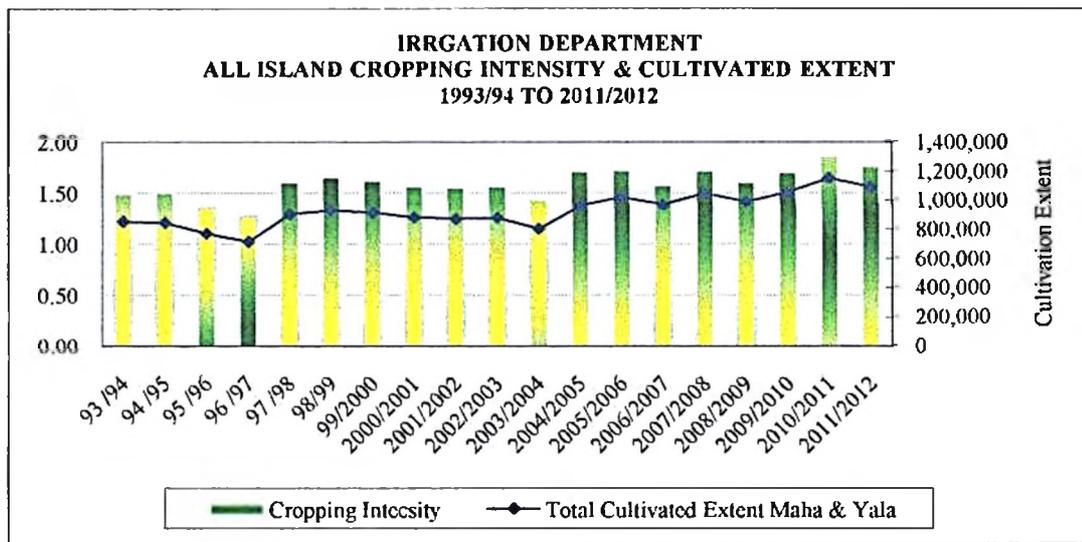
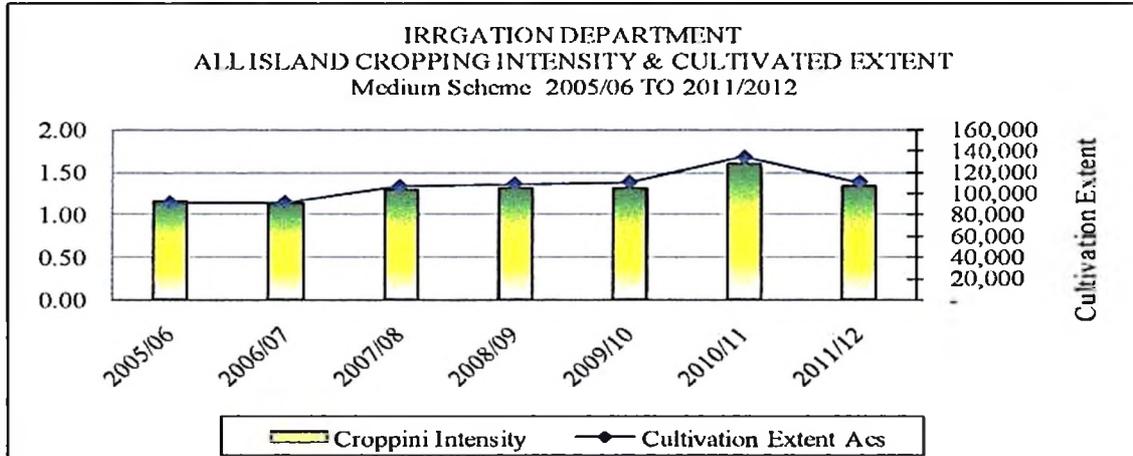


Fig 2.3 All Island Cropping Intensity Medium Schemes



3.0. GOSL Funded Projects Implemented by Irrigation Department

Summary of Expenditure 2012

Name of Project	Allocation for Year 2012 /Rs. million	Cumulative expenditure up to end of December 2012/ Rs. million
Recurrent Expenditure	1374.38	1339.78
Project 1 Administration & institutional	351.59	337.51
Project 2 Operation & Maintenance of Irrigation Schemes	1022.79	1002.26
Capital Expenditure	6509.64	5308.46
Project 1 Administration & institutional	40.35	31.25
Project 2 Operation & Maintenance of Irrigation Schemes	1964.6	1386.61
Project 3 Major Irrigation Schemes	4378.16	3808.84
Project 4 Medium Irrigation Schemes	126.53	81.76
Total	7884.03	6648.24

Major irrigation Development Projects carried out by Budget Allocation 2012

- Deduru Oya Reservoir
- Manik Ganga Reservoir (Weheragala)
- Rambukkan Oya Reservoir
- Lower Uva Project
- Yan Oya Project
- Lunugamwehera Scheme (KOISP LB tract 3) Water Management Project
- Ellapothana Anicut
- Gal oya Navodaya
- Essential Rehabilitation in selected Major Irrigation Schemes
- Morana Reservoir
- Ellewewa Reservoir
- Digili Oya reservoir
- Kalugal Oya Reservoir

Medium Irrigation Development Projects

- Wemedilla Reservoir (SIRUP)
- Medagama Gonagama Wewa (SIRUP)
- Gurugal Oya project
- Nape Udawathura Reservoir
- Wilakandiya Tank
- Gonagalathenna Tank
- Extension of Kaudulla stage 11 Left Bank Canal up to Damsopura wewa

Deduru Oya Reservoir

Deduru Oya project is nearing completion by construction of a Reservoir across Deduru Oya, 300 m upstream of existing Redi Bendi Ella. Dam type is homogeneous earth fill dam. The capacity of the reservoir is 75 Mm³ and the length of the dam is 1900m.

The reservoir consists of radial gated spillway and concrete tower sluice. Length of LB main canal and RB Trans-basin canal are 45 km and 32km respectively. Total length of other canals is 200km.

The Estimated cost of the project is Rs. 6,200 million. Irrigation water will be provided to 27,000 acres of land extend and the 11,500 numbers of farmer families will be benefited.

97% of main bund, 98% of LB sluice and RB sluice, 93% RB sluice, 75% of spillway, 85 % of LB canal, 60 % of RB canal and 98% of extension of Magalla Ela were completed. Rs. 5,500 million has been already utilized and average 80 % of the work has been completed at the end of December 2012. The expenditure during the year 2012 was Rs. 1458 million. The project will be completed at the end of 2013.



Bund and Spillway - Deduru Oya



Bund of Deduruoya reservoir



RB Sluice



LB Sluice



RB Canal



LB Canal



• Menik Ganga (Weheragala)Reservoir Project

Weheragala Reservoir project envisages regulating about 80 % of water available in Manik Ganga at Weheragala by constructing an environmental friendly reservoir with a water way conveying about 64 MCM of regulated water to water deficit Kirindi Oya basin while releasing about 30 MCM of regulated water down along Manik Ganga. Length of the dam of the reservoir is 2031m and the type is homogeneous earth fill. The reservoir consists of radial gated spillway and concrete tower sluice. Length of the main canal is 22.35 km.

The Estimated Cost of the project is Rs. 2,900 million and as the weheragala project is almost complete, the estimate was limited to Rs2,200 million. Under the same project rehabilitation of roads network (Kalupalam – Digampellessa road, Galge road, Kitulkotte to feeder canal road etc.) was done. Repairs to Digampellessa tank bund, Bolhindagala tank bund were completed and construction of Uralu wewa and Rathmalgahawewa were completed.

Balance allocation of Weheragala project, Rs 700 million is used for the construction of Aththikkawa Anicut. 70% of Construction of Aththikkawa Anicut has been completed. 25% of the rehabilitation of Lunugamwehera main canal system was completed at the end of year 2012. Rehabilitation of Ellegal also was done under the Weheragala project. Under the Ellegala, Rehabilitation of Tissa wewa canal system, Yoda wewa canal system Pannegamuwa canal system, Weerawila wewa canal system and Debarawewa canal system are in progress and 15% of the work was completed.

Overall physical progress of the project during year 2012 is about 50% of the work. Expenditure during the year was Rs. 124 million.





Rehabilitation of Lunugamwehera LB, RB & Ellegala

- **Rambukkan Oya Reservoir Project**

Proposed Rambukkan Oya Reservoir and irrigable area of the project are located in the Mundeni Aru river basin in Ampara district. The scheme is sited at Watawalakandiya across the Rambukkan Oya. The tank bund across the Rambukkan Oya is situated midway between Pollebedda and Kurunduwinna villages in Bintenne Pattu North in Ampara District. The area is presently sparsely settled and lack of roads, schools, health services and other civic amenities. Presently less than one percent of the land area is utilized and the people practice slash and burn rain fed agriculture. About 2,000 landless families have been proposed to be settled under the proposed scheme.

Gross capacity of the reservoir is 56MCM Length of the earthen dam is 1,097 m. The reservoir consists of radial gated spillway and concrete tower sluice. Length of the main canal, LB branch canal, RB branch canal are 7.6km, 4.6km, 22.8km respectively.

The Estimated cost of the project is Rs 2,500 million. Irrigation water will be provided to 1,400 ha of land extend and the 2,200 numbers of farmer families will be benefited.

97 % of the construction of tank bund and sluice, 89 % of the construction of spillway, the construction of the main canal is almost completed and 80% of the Construction of distribution canals are completed. Polwatte wewa, Pollebeddawewa, Nilobe wewa, Kiralagaswewa minor tanks improvements have been

completed. Construction of field channels including structures in track 3, track 5 were completed and in track 1, 25% is completed. Overall physical progress of the project is 89 %. Overall expenditure of the project up to the end of December 2012 is Rs. 2,708 million. The TCE to be revised to accommodate price escalation and minor changes in construction to complete the project.

Bund of Rambukkanoya Reservoir



Sluice of Rambukkanoya Reservoir



Spillway of Rambukkanoya



Bund vented causeway Maha oya Rd



Pipe born water supply to Maha oya



Box culver of Pollebedda Mullegama Road



- **Lower Uva Minor/ Medium Irrigation Project (LUMP)**

This project is proposed to augment one medium tank namely Debara Ara Wewa in Wellawaya Divisional Secretary Division and about 22 minor tanks including Mallipotha tank, komaligama wewa, Thanamalwila wewa, Gal Wewa, Kolombawatta Wewa, Watagala Ara Wewa and Uruhore Wewa by extending the feeder canal from Ussalla anicut to Balaharuwa Tank and constructing new feeder canal from Balaharuwa Tank to Debara Ara Wewa.

Estimated cost of the project is Rs. 550 million and the allocation for year 2012 was Rs. 66.19 and Rs. 52.15million has been utilized up to the end of year 2012.

By the end of year 2012, rehabilitation of 18 nos minor schemes and one medium scheme were completed. The cumulative physical progress of Debara ara feeder canal was 80%. The cumulative expenditure by the end of year 2012 was Rs. 182.050 million. Overall physical progress was 43%.

Item Description	Expenditure During year 2012 (Rs Mn)	Cumulative Physical Progress (%)
Rehabilitation of Urubokka tank	3992	100
Rehabilitation of Thanamalwila Tank	2963	100
Rehabilitation of Komaligama Tank	4775	100
Rehabilitation of Thalakota Wewa	1887	70
Construction of Mallipotha Tank	36580	17



- **Ellapothana Anicut Scheme**

The proposed anicut is to be constructed across Yan Oya about 24 km downstream of existing Illukwewa anicut. It is proposed to augment the existing tanks on both LB and RB sides of the Yan Oya River. In the LB canal it is proposed to augment Wedigawewa, Elapatwewa, Wilewewa, Kudawewa and Thirappankadawalawewa. In the RB canal it is proposed to augment Ellapothana- Siyambalawewa and Wahagahapuwewa and to be constructed along the existing Yoda Ela which is now in completely abandoned state.

Ellapothana Project is a 300 Mn worth project which including a radial gated anicut structure across yan oya at Ellapothana and 2 canals at either sides of banks. More than 8 village tanks will be fed to facilitate irrigation water for 1,360 acres of lands.

Out of 1,360 acres ,430 acres in RB side and 632 acres in LB side were fed during 2012 / 13 Maha season under this Project.

Revised allocation for year 2012 was Rs. 145 million and Rs. 96.45 million was utilized. Physical progress of the project was 92%.



Ellapothana Anicut



Ellapothana LB Canal

3.6. Galoya Navodaya

Gal Oya Scheme is the largest single Irrigation Schemes in the island serving well over 42000 ha of agricultural land, most by paddy. Irrigation system in the Galoya scheme was rehabilitated 30 years ago, under a USAID assisted project. While it has improved the system performance, a few drawbacks still prevail.

Galoya Navodaya Programme, a Renaissance programme, is implemented as a continuation of the extended development process and forming a component of “Negenahira Navodaya”. While meeting the demands of the times, it has contributed to overall sectorial plans and National Development goals.

The project activities include the following main components.

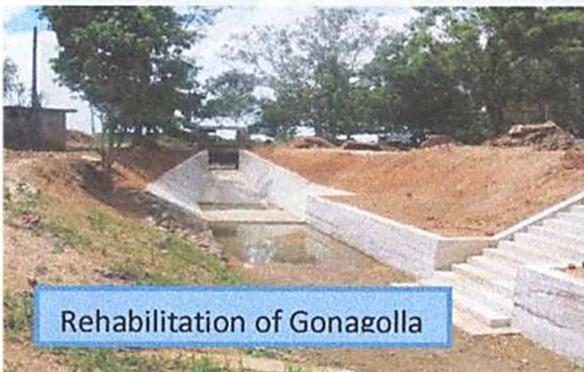
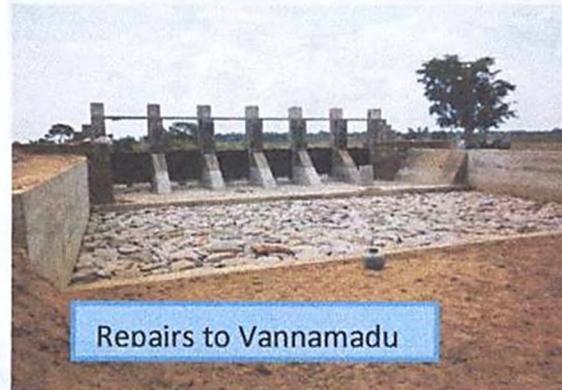
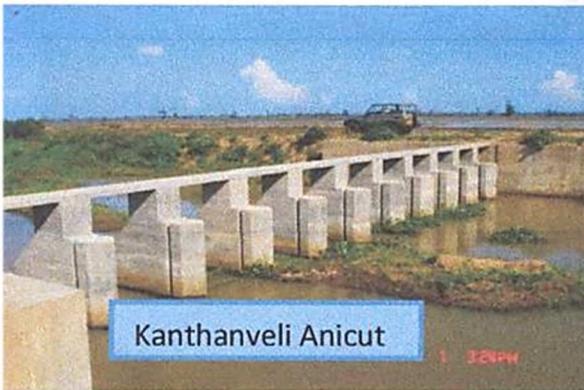
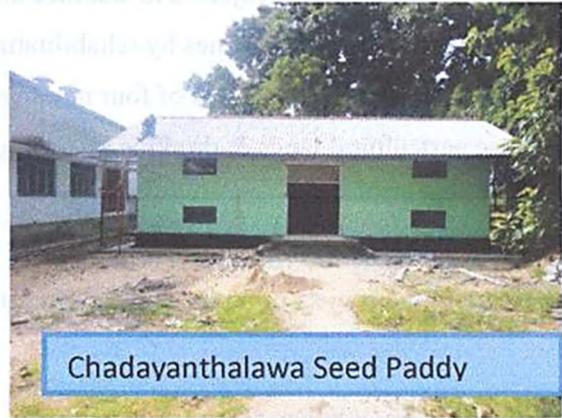
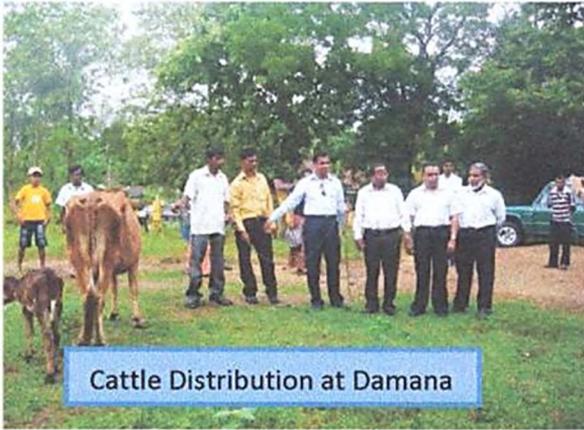
- i. A Comprehensive Water Resources Development and irrigation Plan, that will harness unutilized potential, and increase efficiencies in the usage of water.
- ii. A productivity Enhancement program in order to generate more income from irrigated Agriculture.
- iii. Improving and upgrading the physical infrastructure to serve the people: road, water supply, sanitation, education etc.
- iv. Harnessing the potential for Agro-based industries including post-harvest activity, for value addition and enterprise development.

The project will be implemented in two stages. In the first stage priority items will be taken up on a year investment plan and implementation schedule. Second stage will be extending to a further period 2-3 year with large undertakings.

The total cost estimate for Galoya Navodaya programme is Rs. 1260 million. Revised allocation for year 2012 was Rs. 145 million and out of that. Rs. 132 million has been utilized. Physical progress of the project was 31%.

No	Item	No of Items	
		Total	Completed upto 2012
1	Irrigation Component	135	77
2	Infrastructure Component	32	25
3	Agriculture Component	No of Cattle distributed -122 Distribution of home garden materials and rice flour mills	

No	Item	Cost (million)	2012 Expenditure (million)
1	Investigation ,data collection and studies	10.00	
2	Irrigation Component	420.00	216.846
3	Infrastructure Component	400.00	220.215
4	Pilot studies on modern techniques	20.00	
5	Agriculture extension	50.00	11.339
6	,Storage and marketing facilities	75.00	
7	Post-harvest techniques and Agro industries	75.00	
8	Research	50.00	
9	Management and contingencies	160.00	
Total		1260.00	448.40

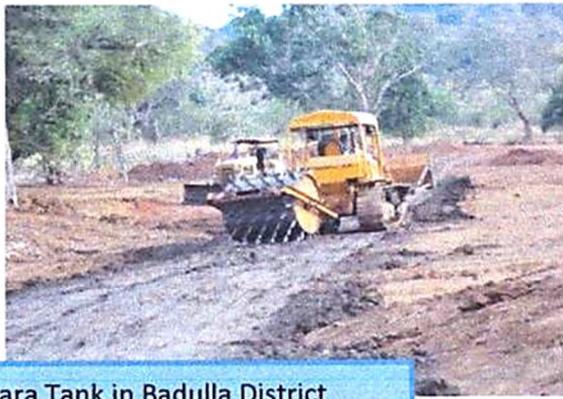


- **Essential Rehabilitation in Selected Major Irrigation Schemes.**

The main objective of this project to stabilize and increase agriculture production in some selected major schemes by rehabilitation the essential components of the downstream canal systems. Also, constructions for four numbers new tanks were commenced in Badulla district to increase agricultural lands & drinking water supply.

There are 335 items selected through 53 schemes for rehabilitate in 2012. Total estimate cost of the project is Rs. 1,000 million. Allocation for the year 2012 was 425 million. Cumulative expenditure of the project up to the end of year 2012 has been Rs.711 million.

Some of the works carried out under “Essential Rehabilitation in Selected Major Irrigation Schemes”.



Construction of Thebuara Tank in Badulla District



Rehabilitation works in Hambantota District



- **Morana Reservoir**

Morana reservoir is proposed to construct across Ulhitiya oya at a location called “Morana” and water is diverted to Rotagolla wewa in order to overcome the shortage of water at Nagadeepa scheme. Rotagolla wewa is located at the downstream of the Nagadeepa reservoir. Presently, 1000 acres of lands is being irrigated directly under the Rolagolla wewa. About 500 acres of land along the Nagadeepa main canal can be irrigated from water coming from the feeder canal to the main canal of Nagadeepa scheme. In addition, it is also proposed to irrigate 2500 acres of new land directly under the LB and RB canals of Morana Reservoir. The capacity of the reservoir is 24,700 ac. ft. Estimated cost of the Project is 1,700 million and the construction period is 4 years. 1000 farmer families will be benefited from the project.

Designing of Head works, Preparation of detail estimates for head works, Surveying and leveling IFF work – LB canal, Engineering surveys by surveying department, Preparation of main estimates, soil investigation survey, Geological investigation were completed at the end of 2012. Surveying and leveling IFF work – RB canal and grouting along bund axis are to be commenced. Draft Report is ready for EIA approval and land acquisition is in progress. 50% of the construction of access road to Morana from Kudalunuka was completed. Revised allocation for year 2012 was Rs.10 million and expenditure during the year was rs.4.62 million.

- **Ellewewa Reservoir**

Proposed Ellewewa Reservoir is located in Embilipitiya DS area and it will be constructed across Kadigama Ara which is a tributary of Hulanda oya in Walawe basin. This project was proposed to address the water scarcity problem in Panamure scheme. Irrigable area of Panamure Scheme is scattered over Kadigama Ara sub basin and irrigation water is provided to paddy lands through a cascade of major and minor anicuts across Kadigama Ara. During Drought periods, Kadigama Ara flow goes dry affecting not only for irrigation water but even drinking water supply too.

The reason for water shortage is mainly due to increase in irrigable area owing to the encroachments by new settlers. At the beginning of the Panamure Scheme, only 215 acres of paddy lands were fed and presently it has been increased up to 1250 acres.

Supplying of drinking water for 1,000 heads and generation of hydropower (2.59 GWH annually) is also proposed in this project. Estimated cost of the project is Rs. 467.38 Mn. Planning and Design works were in progress during year 2012.

- **Digili Oya Reservoir**

Digili Oya reservoir will be constructed under the Nilwala Ganga flood protection programme.

Estimated cost of the project is Rs. 1,460 million. Tank bed survey and design of dam section, sluice and spillway are in progress. Environmental clearance has not yet been received. Socio economic survey is to be conducted.

- **Kalugal Oya Reservoir**

The proposed Kalugaloya tank is located in Uhana Divisional Secretariat Division at Ampara district. The capacity of the proposed tank is about 7,888 ac.ft and the catchment area for Kalugaloya tank is about 8.85 sq.miles. Irrigable extent expected to cultivate under the project is 2,800 acs. Estimated cost of the project is Rs. 1,481.1 Mn. Project period is 3 years. Geological Investigation survey and Material investigation survey are completed. Tank bed survey and Socio-economic survey are in progress. Design of Dam section, Sluice and spillways are completed. Establishment of CRE office jungle cleaning and surveying were in progress and revised allocation for the year was Rs.7 million the expenditure was 2.45 million.

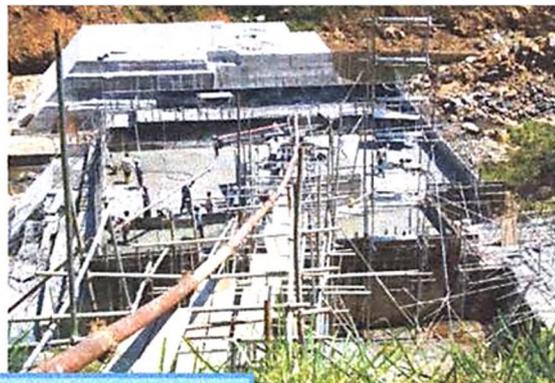
- **Wemedilla Reservoir**

It was proposed to construct a reservoir with a capacity of 4,593.65 ac.ft across Welamitiya oya, which is a tributary of Dambulu oya. This proposed project will benefit 720 acs. of New land and 1,142 acs of existing lands, including the lands along the supply canal. The estimated cost of the project is Rs. 335 million. The project head works are completed. Only the compensation payments are in progress.

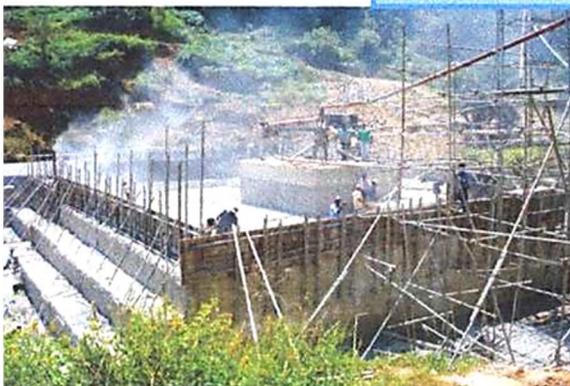
- **Gurugal Oya Irrigation Project**

Gurugal oya reservoir project is located in Kandy district and it is proposed to augment the main canal of Murapola Ela scheme. Estimated cost of the project is Rs. 400 million. Irrigation water will be supplied to 810 ha and 2,400 numbers of farmer families will be benefited. Overall physical progress of the project is 48%

Allocation for year 2012 was Rs. 87 million and the expenditure during the year was Rs.53.6 million. 57% of construction of RB road and 66% of construction of road structures were completed. 60% of the construction of LB abutment, 48% of the construction of RB were completed.



Gurugaloya Project – construction



- **Nape Udawathura Tank**

Construction of Nape Udawathura tank is done under the Nilwala Ganga Flood protection Scheme in Matara district. The tank is planned to take optimum use of inflows providing additional storage capacity for flood detention and for cultivating 200 acres in both Maha and yala seasons. The project estimated cost is 39.50 mn. 50 % of core trench filling and 10 % of construction of spillway have been completed up to the end of December 2012. Allocation for the year 2012 was Rs. 8 million and the expenditure was Rs.4.6 million.



Construction of Core Trench Nape Udawathura Tank

- **Wilakandiya Tank**

Wilakandiya tank situated in Badulla district and is an abandoned tank. About 275 acres of flat lands available just downstream of the tank will be developed as the irrigable area under the proposed restoration. The project estimate cost is Rs. 81 million. The physical progress of the project was about 17 % at the end of year 2012. Core trench excavation and filling was complete and also 80% of the



construction of key wall was complete. Allocation for the 2012 was Rs.20 million and Rs.15.2 million has been utilized.

- **Gonagalathenna Tank**

The proposed Gonagalathenna tank site is located in Kandy district. After implementation of this project



Construction of Bund

it is expected to provide irrigation facilities for 325 acres paddy land in Maha season and 37 acres in yala season. Estimated project cost is 55 million. IEE of the project has been submitted and the pending approval has been granted to commence the work. Works will be commence once the trees are removed by the timber corporation.

- **Extension of Kaudulla Stage II–Left Bank Canal upto Damsopura**

The proposed project involves extension of LB canal of Kaudulla scheme, improvements of Damsopura wewa, augmentation of Babiya wewa, construction of canal system together with related structure and development within the project area. The project is expected to provide irrigation facilities to 1,850 acres of paddy lands including 870 acres of new lands. The estimated project cost is Rs. 368.82 million.

4.0 Operation and Maintenance works and planning works of Irrigation Department

4.1 Operation and Maintenance of Irrigation Schemes

The operation and maintenance of the following schemes which service required by the farmers & the other recipients in the country at large were under taken by the department during the year 2012.

No	Range	No of tanks	No of anicuts	Extend (ha)
1	Ampara	22	20	57134
2	Anuradhapura	91	04	35823
3	Bandarawela	09	09	8494
4	Batticaloa	09	01	21502
5	Colombo	04	09	7306
6	Galle	05	09	3849
7	Hambantota	18	04	22723
8	Kandy	12	17	12514
9	Kurunegala	17	09	11979
10	Moneragala	17	11	7308
11	Murunkan	03	02	12956
12	Pollonnaruwa	08	06	39851
13	Puttlam	09	04	7204
14	Trincomalee	07	04	16815
15	Vaunia	05	01	2745
Total		236	110	268119

Works carried out during the year

Effectively maintain and operate following assets.

Gravity Irrigation Schemes	331Nos.	Extend - 268119 ha
Lift Irrigation Schemes	6 Nos.	- 282 ha
Mahanuwara wewa		
Tank bunds	350 K	
Main canals	2400 Km	
Branch canals		
Distributory o/Field canals	2560 Km	
Feeder canals	306 Km	
Agricultural roads	3500 Km	

Other buildings, Quarters & Circuit bungalows

4.2. Water Resources planning and project planning

The objective of Water Resources & Project Planning is to identify the new water resources development proposals and examine the feasibility of the potential multi-use of water resource, by providing its optimum benefits to the community. In that process WR & PP Branch get involve planning and formulating new project proposals with its scope by focusing on main objective of meeting the demands in Agricultural, Industrial and Domestic sectors by forecasting future needs. During the year 2012 the under mention proposals were taken into study.

- Proposed Morna reservoir project
- Proposed Umaoya downstream Development Project
- Proposed Kumbukkanoya Reservoir project
- Proposed Kalugaloya Reservoir Project
- Proposed Mahaweli Diversion to Kinnya
- Proposed Gonagalathenna tank
- Proposed Kolonyaya tank
- Proposed Digilioya Reservoir
- Proposed Aparekka Ara Tank
- Proposed Batuwita Ara tank
- Hydrological study of proposed Gin-Nilwala Diversion

5.0 Other Major Projects Implemented by the Irrigation Department

5.1 Pro-Poor Economic Advancement and Community Enhancement (PEACE) Project

Location

The project covers 8 major irrigation schemes and 12 medium irrigation schemes which are scattered in the Anuradhapura and Kurunegala districts. Total irrigation area is around 18,200 ha.

Implementing Agency

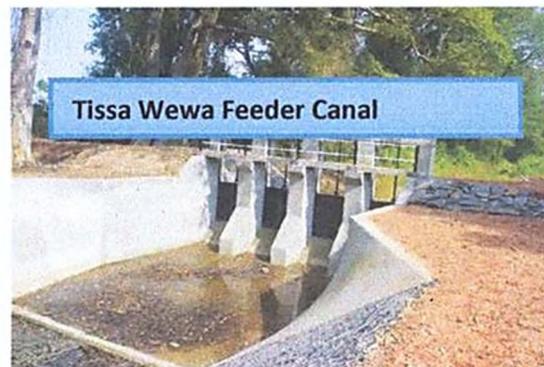
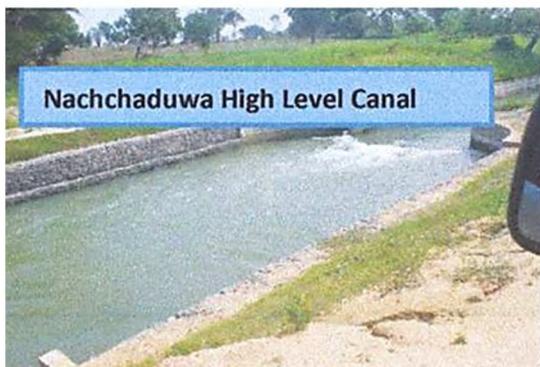
ID will be the principle implementation agency for the rehabilitation and upgrading of irrigation facilities and related facilities including farm roads, improvement of water management of all inter-provincial major and medium schemes and for participatory irrigation management in inter-provincial medium schemes. The Kurunegala and Anuradhapura Development Plan of the Project comprise the following components.

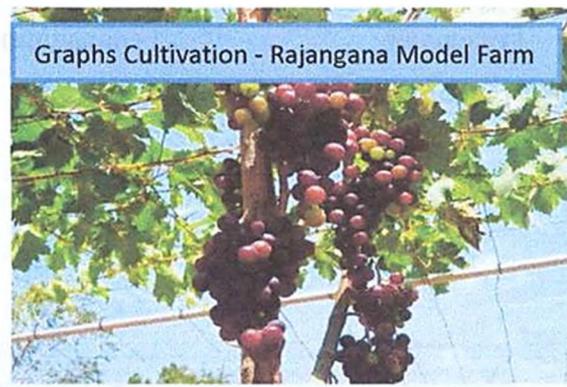
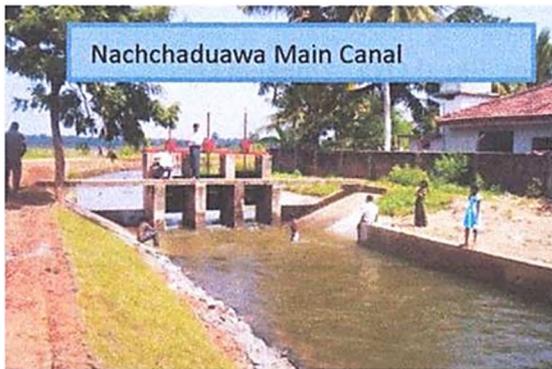
- Awareness programmes / training of Medium Schemes
- Strengthening FOs of Medium Schemes
- Stable crop production/ crop diversification
- Income generation programme of Medium Schemes
- Rehabilitation and upgrading of Main system irrigation facilities of Major / Medium schemes
- Engineer of the sub system rehabilitation programme
- Farm road improvement
- Improvements to feeder canals
- Improvement of water management and O & M of facilities
- Strengthening of agricultural support services of Medium Schemes
- Construction Management, Water Management training
- Monitoring and evaluations

Construction works – Main System

i. Anuradhapura & Kurunegala

Total allocation for main system & Sub system rehabilitation in Anuradhapura component for year 2012 was 61.5& 37.0 Rs million. Total allocation for main system & Sub system rehabilitation in Kurunegala component for the year 2012 was Rs 11.5 million.



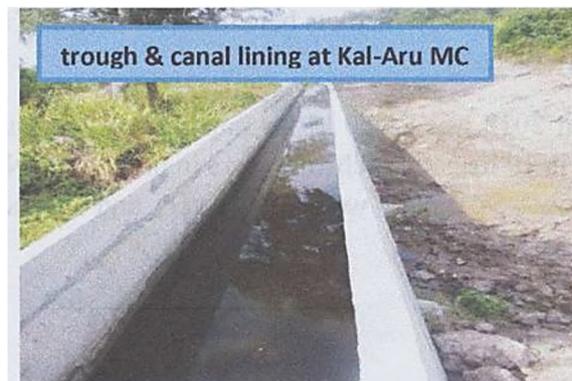
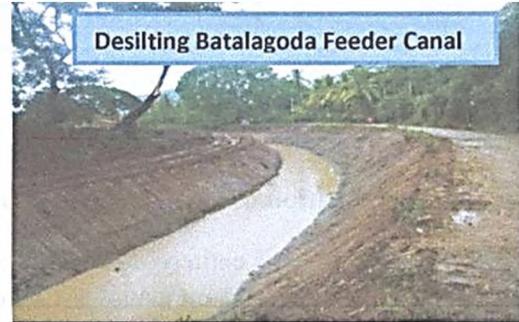
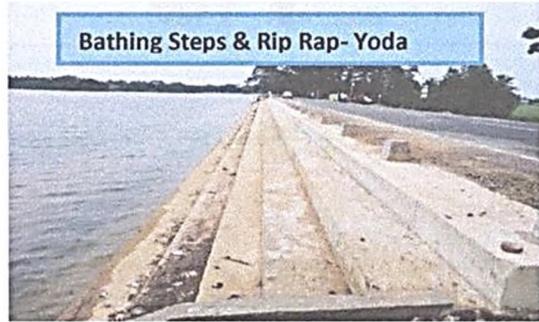


5.2 Rehabilitation of Irrigation Schemes (ISRP)

The project, which is entirely funded by the National Budget, was proposed in line with the government aims of in irrigated agriculture and the livelihoods of farming community. Sustaining and Enhancing Efficiency and Productivity Starting in the year 2000, 57 major and medium schemes in 16 districts benefiting an extent of around 50,131 ha have been included under the project.

Total Allocation for year 2012 is Rs 60 M for implement 82 items of Head Works, Main and Distributory Canals in 19 irrigation schemes were in progress in Nine (9) Regions. List of schemes is given below. 36 items were completed and financial Progress was Rs.36.41 million out of 60.0 Rs Mn

Ampara	-	Will Oya, Nawal Aru, Ekgal Oya, Ambalan Oya
Anuradhapuura	-	Ambhagaha Wewa, Halpan Ela, Ittikulama, Illukwewa,
Galle	-	Dedduwa, Ranthotuwila
Matara	-	Urapola, Denagama
Hambantota	-	Tissa wewa, Yoda wewa
Kurunegala	-	Bathalagoda
Moneragala	-	Sudupanwala, Horabokka
Puttlam	-	Pawattamaduwa
Tricomalee	-	Peramaduwa
Mannar	-	Kal Aru



5.3 Increasing capacity of Integrated Management in Irrigated agriculture in Dry Zone (ICIM Project)

The project on increasing the capacity of Integrated Management in Irrigated agriculture in Dry zone (ICIM Project) completed its 4 year implementation period in May 2011. The project was implemented at 3 model sites in selected farmer organization at Rajangana (Anuradhapura), Kimbulwanaoya (Kurunegala) and Kadurugasdamana (Anuradhapura) Irrigation schemes. The purpose of the project was to establish an integrated mechanism to improve the agricultural productivity through capacity building of farmer organization and Government officials.

One of the expected outputs of the project is to replicate the ICIM model in other areas so that the project activities are up scaled and expand into other locations in two target districts, Anuraghapura and Kurunegala. Six new sites have been identified for the dissemination process covering 4 farmer organizations in Nachchaduwa and Rajangana major schemes and farmer organizations in Periyakulama scheme and Maha Nanneriya schemes. Regional level has identified 3 schemes for the dissemination.

Following activities were implemented in dissemination sites in year 2012.

- a. Base line survey
- b. GIS mapping
- c. Capacity building and strengthening of Farmer Organizations
- d. Training and awareness programme of Water Management
- e. Training and awareness programme of operation and maintenance.

5.4 Emergency Natural Disaster Rehabilitation Project (ENDReP)

This project was formed under the financial assistant from JICA to rehabilitate the flood damages during December 2010 & 2011 January. Severaly affected five ranges (Ampara, Anuradhapura, Batticaloa, Polonnaruwa & trincomalee) were selected for the rehabilitation. The total allocated amount for the project is Rs. 1116 million and out of which Rs. 625 million was allocated in year 2012.

	Range	Expenditure in 2012
1	Ampara	81.1M
2	Anuradhapura	103.7M
3	Batticaloa	180.9M
4	Polonnaruwa	35.1M
5	Trincomalee	86.9M
6	Purchasing of Mechinary	134.6M
Total		622.3M



5.5 Emergency Desilting Programme

Since May 2012, Anuradhapura, Kurunegala, Polonnaruwa, Puttalam, Vavuniya, districts were affected by the drought which was reported after about 30 years. The cultivated paddy areas in these districts were seriously affected by the drought. In July the Government launched an emergency relief programme for the drought affected areas and communities. Identified facts for the drought was effects of the climate change and silted up the tanks and reducing capacities. Under this programme major medium and minor tanks were desilted to increase the capacities. Parakkrama Samudraya, Batalagoda, Hakwatuna, Magalla, Giritale, Padaviya, Wahalkada tanks and feeder canals and sluice approach canals were desilted. Finally it was expanded to other districts such as in Ampara, Matale, Hambantota, Moneragala, Murukkan and Badulla. Devahuwa, Gaints tank, Pavatkulam tank and Muruthewela tank also included. Spills and tank bund top levels of selected reservoirs were raised to increase the capacity. A total estimated cost of Rs. 1225 million and the desilting programme was completed at the end of October 2012.

District	No. of Schemes / Items	Volume of Desilted (Ac.ft)	Estimated Amount (Mn)	Work done Amount (Mn)
Anuradhapura	63	778.50	403.25	320.20
Kurunegala	76	596.85	1,188.70	342.90
Polonnaruwa	19	1,060.73	530.40	347.60
Puttalam	22	194.00	97.00	87.50
Vavuniya	4	88.40	43.00	30.70
Matale	1	60.00	30.00	14.00
Ampara	1	60.00	30.00	6.60
Hambantota	3	20.00	10.00	50.00
Badulla	3	7.50	3.50	3.50
Head Office	(Purchase of Instruments)			21.80
	192	2,865.98	2,335.85	1,224.80



Batalagoda Wewa



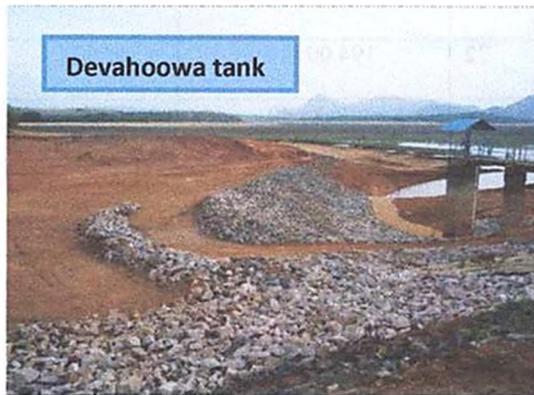
Wahalkada tank



Kaudulla scheme



Maruthamadu tank



Devahoowa tank

Other Small Projects funded by the Ministry

Division	Mapakadawewa	
Work	Improvements of Willuwewa tank in Mahiyangana Pooja Nagaraya- Stage iii	
Vote	152-02-03-08-2105-1-4	
Total Estimate Amount	22.4 Mn	
Physical Progress	96%	
Description	Improvements of Willuwewa was done for increasing the aesthetic view of Mahiyangana Pooja Nagaraya & to cultivate 8 Ac. of paddy land	

Division	Badulla	
Work	Construction of Puhulwattawewa	
Vote	152-02-03-06-2105(ii)	
Total Estimate Amount	64.5Mn	
Physical Progress	35%	
Description	This new construction works is located upstream to the Passara town in Badulla DS Division it can provide drinking water to this town area which at present suffers from drinking water shortage.	

Division	Badulla	
Work	Construction of Pahalagirindawewa	
Vote	152-02-03-06-2105(ii)	
Total Estimate Amount	132.3Mn	
Physical Progress	10%	
Description	Tank is situated in Welimada DS Division. 2012 land acquisition works in 2012	

Division	Badulla	
Work	Removing aquatic plant from tank bed in Maligathennawewa	
Vote	152-02-03-06-2105(ii)	
Total Estimate Amount	1.8Mn	
Physical Progress	100%	
Description	Tank is situated in Haliela DS Division. Deep rooted aquatic plants were removed from the tank, then increased the effective capacity and promoted inland fishing. No of benefitted families are about 100 under this tank.	

Division	Badulla	
Work	Rehabilitation of Makulellawewa	
Vote	152-02-03-06-2105(ii)	
Total Estimate Amount	2.8Mn	
Physical Progress	100%	
Description	Tank is situated in Bandarawela DS Division. Expected irrigable area is 48 acs and no of benefitted families are about 100 under this tank.	

Division	Badulla	
Work	Rehabilitation of Pussalgollawewa	
Vote	152-02-03-06-2105(ii)	
Total Estimate Amount	3.2Mn	
Physical Progress	100%	
Description	Tank is situated in Badulla DS Division. Expected irrigable area is 60 acs and no of benefitted families are about 50 under this tank.	

Division	Badulla	
Work	Removing aquatic plant from tank bed in Wekumburawewa	
Vote	152-02-03-06-2105(ii)	
Total Estimate Amount	3.2Mn	
Physical Progress	100%	
Description	Tank is situated in Uva paranagama DS Division. Expected irrigable area is 105 acs and no of benefitted families are about 250 under this tank.	

5 b. Mahaweli Authority of Sri Lanka

Introduction

Mahaweli Development Programme is actively contributing to the Irrigation, agriculture and rural development sector targets outlined in the National development policy framework of the “Mahinda Chinthana Ten Year Development Plan” (2006-2016)

Mahaweli Authority of Sri Lanka placed high priority in operation and maintenance of already built irrigation infrastructure, while enhancing agricultural production in Mahaweli areas and to complete the balance works remained under the Mahaweli Development Programme to secure most needed irrigation water for the dry zone.

Its immediate intervention is focused on economic recovery of Northern and Eastern provinces where development initiatives were obstructed due to conflict situation prevailed for last two decades. Planning and designing works are underway of irrigation and development projects of North Central Province Canal, Maduru Oya Right Bank, System L- Welioya, and Allai and Kantale, which may contribute significantly in agriculture and food security of the country, ensuring sustainable employment opportunities for large number of rural community.

The multi-purpose Mahaweli Development Programme is partly completed and its benefits are already consolidated and moving forward to the National prosperity. It performs to substantial increase of country's food production through irrigation, agriculture extension and productivity enhancement. Rural Infrastructure development is another key function throughout the programme, since sustainable resource mobilization within the rural part of the country is a must for achieving the balanced regional development. The programme has been able to build the credibility in terms of ensuring substantial growth in rural household income through opening up new revenue streams and strengthening entrepreneurship capacity of rural community. Proposed projects under the programme are now focused on utilization of hitherto untapped water resources of the Mahaweli River and its allied river basins.

Mahaweli Development programme had envisaged to develop 365,000 ha of land for agriculture in 13 Mahaweli systems defined in the Mahaweli Master Plan. It included construction of series of reservoirs with hydro power plants, irrigation networks, opening up of lands for agricultural and land development for settlements with necessary socio economic infrastructure facilities. The proposed development spread over 55 percent of the dry zone, while making a significant contribution to the national hydro power generation.

Mahaweli Authority of Sri Lanka was established in 1979 by the Parliament Act No. 23 of 1979 with a mandate to implement the Mahaweli Master Plan. Its ongoing task is to plan and develop balance area proposed in the Master Plan, operation, maintenance and rehabilitation of irrigation network, land

administration, increase agriculture production, post-settlement development activities and introduce sustainable revenue streams for the settlers to upgrade their socio economic standards. Managing irrigation water for 100,000 ha of agricultural land in the dry zone is the key responsibility of Mahaweli Authority.

Total investment made in the Mahaweli Development Programme up to end December 2012 was Rs.106.18 billion. Value of cumulative benefits through agriculture production and livestock is Rs. 694.67 billion up to end of 2012.

MASL plays an active role in Agriculture development of the country. It accounts 21 % of domestic paddy production, 100 % of soya bean and 11 % of Chille production and many more other field crops.

The cultivation extent of 2011/2012Maha season was 92,572 ha and produced 515,246 Mt. Ton of paddy. The highest average of 6.65 Mt. Ton per ha of yield was recorded in 'System G' managed by MASL. Annual paddy production in Mahaweli area during the year 2012 is estimated as 827,558Mt.Tons. Other Field Crops yield in Mahaweli zones during 2012 was recorded as 308, 438 metric tons. 8,861 metric tons of inland fisheries, 4.2 million of eggs, 19.9 million liters of milk produced in Mahaweli area at the end of December 2012.

Development Activities carried out in year 2012

Overall Financial Progress

In 2012, the total capital provision for the Mahaweli Development Programme was Rs 2,050 Mn

The financial progress up to the end of August 2012 is given below:

Type of Project	Budget Provision (Rs Mn)	Amount Released from the Treasury (Up to end of December 2012) Rs Mn	Expenditure (Up to end of December 2012) Rs Mn
New Projects	190.00	78.50	77.92
Mahaweli Projects	568.00	487.00	493.77
Administration and Maintenance	1,292.00	863.15	914.48
Total	2,050.00	1,428.65	1,486.17

Foreign Funded Projects

- **Morogahakanda-Kaluganga Project**

On-going Morogahakanda-Kaluganga Development is one of the largest irrigation development projects in the Mahaweli Master Plan. Objectives of the project is to provide additional irrigation facilities to the dry zone, generate 20MW of hydro-power and supply potable and industrial water for the Districts of Anuradhapura, Polonnaruwa, Matale and Trincomalee. The project activities include construction of two reservoirs, namely, Moragahakanda Reservoir with a capacity of 521 MCM and Kaluganaga with a capacity of 144 MCM, conveyance system to provide irrigation water for 81,500 ha and power-house. The estimated total project cost is US\$ 557 million. (Rs.64, 358 million) This project commenced in 2007 and the total expenditure made by the end of August 2012 was Rs.17, 200.59.

The total financial allocation for the year 2012 was recorded as Rs.5, 248 Mn of which Rs 3,511.1 Mn allocated for Moragahakanda project while Rs.1,736.9 Mn. for Kaluganga project. According to the revised budget in September 2012, Rs.12, 694.36 Mn for Moragahakanda project and Rs.720.26 Mn. for Kaluganga project. Expenditure has recorded as Rs.11, 908.28 Mn. of Moragahakanda and Rs.642.31Mn. of Kaluganga project up to end of December 2012.



Contract signed between Secretary MI&WRM and Sino Hydro Power Corporation China for the Construction of Moragahakanda Headworks

The total amount of Rs.2, 280 Mn has received only from domestic fund which had to be expended up to end of the year 2011. Therefore, various strategies were made for seeking the foreign funds. In accordance with, the agreement was signed in the year 2012 for funding purposes. Design and construction work of the Moragahakanda reservoir was awarded to Sino-hydropower Corporation limited – China for US\$ 252.3 Mn. on 7th June 2012.

Moragahakanda

Construction of one saddle dam among three Dams of the reservoir has been completed. And survey works, construction of buildings, access roads, and initial works for resettlement and environmental conservation of the project are in progress.

(a) Survey work

Basic survey works in the Reservoir has completed.

(b) Construction of access roads

Construction work of Kumbiyagala - Moragahakanda road (13.5 km.) was 100% completed. 100% of Progress has achieved on construction of bridges and culverts.

(c) Project buildings

All project buildings and water supply facilities have been completed.

(d) Resettlement activities

The resettlement Plan to resettle the families who lost their properties due to construction of Moragahakanda - Kaluganga Reservoirs was completed. It needs to be resettled 1581 number of families due to construction of Moragahakanda reservoir while 797 number of families due to Kaluganga reservoir construction.

Number of 1270 evacuees of Moragahakanda area is resettled in Kaluganga Left Bank area and balance is in Kaudulla Left Bank area. Number of 797 evacuees under proposed Kaluganga Reservoir have been agreed to resettle in Kaluganga Right Bank area.

Formulation of Resettlement Plans has been completed. The six resettlement locations in Wellewewa area have been identified in accordance with resettlement purposes. In this connection, priorities are being identified among required basic facilities of roads, common buildings, water facilities and providing electricity facilities etc.

Resettlement Plans in Kaudulla area have also been completed and construction works are carried out by the Department of Irrigation.

(e) Construction of Main dam

Contract for the construction of Main dam, power house and design and construction of other saddle dam has been awarded to Sino-Hydro-Power Cooperation Limited in June 2012. The Ground Breaking Ceremony of Moragahakanda - Kaluganga Head Work held on 14th August 2012.

(f) Environmental conservation:

The programmes for conservation of environment and forest, awareness for bio- diversity, and conservation of both sides of the river basin are being conducted in the watershed area.

Kaluganga Project:

The estimated cost for the Kaluganga Project was US\$ 283.97. The foreign aids have been received for US\$ 99 Mn. from the above cost. In this connection, the amounts have been contributed as about US\$ 16 Mn from OPEC Organization US\$ 46 Mn from Saudi Fund and US\$ 37 Mn from Kuwait fund.

(a) Survey work.

Basic survey works have been completed.

(b) Construction of access roads:

The progress of access roads has recorded as 80%.

(c) Resettlement activities:

Number of 797 families in the proposed reservoir area has to be resettled and all of them will be resettled in Kaluganga Right Bank area. The resettlement Plans for this purpose has completed. Activities on land acquisition and compensation have been started. As well as construction of proposed hamlet centers and Town centers and common buildings for them were also commence. And construction of 9 no of small scale tanks was completed by 100%.

(d) Construction of Main dam

The tender process has implemented to select the contractors for the construction of main dam and two saddle dams while contractors will be selected at the end of year 2012.

(e) Environmental conservation

Environmental management activities, pertaining to construction of small scale tanks, enhancement of living standards of settlers, wild life conservation, protection of old heritages and forest conservation in buffer zone in proposed Kaluganga reservoir watershed area were conducted.

6 Dam Safety and Water Resource Planning Project

The project objectives are to: (a) establish long-term sustainable arrangements for operation and maintenance of large dams; and (b) improve water resources planning. These objectives will be achieved by implementing three main project components namely (i) Improving dam safety and operational efficiency; (ii) Upgrading and modernizing the existing hydro-meteorological information systems; and (iii) Providing technical assistance for developing national water use plans which includes (1) National water use plan, (2) Update Mahaweli Water Resource Development Plan and (3) Mundeni Aru Basin development plan.

The total estimated project cost is Rs 8,187 million equivalent to US\$ 75.8 million of which Rs. 7,585.64 million (US \$ 70.23) is financed by the IDA-WB and balance amount is contributed by GOSL. Up to now project has utilized Rs 4,075.42 million out of Rs 8,187 million allocated for the project and reached to 49.6% financial progress and 53% physical progress by end of December 2012. Project implementation progress deals with three major components.

Component 1: Dam safety and Operational Efficiency

Component 1 constitutes 75% of project funds. Implementation Support Consultants (ISC-1) has completed development of conceptual designs for 32 dams, detailed designs for 32 dams, tender documents finalized for 30 dams and contracts awarded for 26 dams under 29 packages. Up to now, three dams have fully rehabilitated and balance 18 contracts for major repair works in 19 dams are at various stages of rehabilitation and indicated following table.



Construction of rip-rap, toe drain and sluice outlet underway in Ridivagama dam



Arranging of rip-rap in Thissawewa dam



Upstream development and arranging rip-rap in Nuwarawewa dam

Dam	Physical progress (%)
Parakrama Samudraya	96
Kantale	77
Inginimitiya	92
Thabowwa	65
Usgalasiyabalangamuwa	70
Ridiyagama	65
Nachchaduwa	55
Tisawewa	21
Minneriya	54
Huruluwewa	50
Giritale	70
Nuwarawewa	27
Kaudulla	72
Dambuluoya	100
Kandalama	100
Bowatenna	93
Chandrikawewa	84
Dambuluoya & Kandalama (Electro Mechanical works)	90
Kalawewa	45
Maduruoya	26
Polgolla	5
Randenigala	10
Rantambe	5
Norton	50
Laxapana	50
Canyon	50
Kalatuwawa	100

Project has procured and distributed a large number of equipment, machinery, tools and vehicles for 80 large dam sites including 32 dams identified for remedial work to ensure basic safety facilities are provided for operation and maintenance of dams. In addition, project has supported dam owners to carry out essential emergency repair works in 48 dams (other than 32 dams selected for remedial works) and related structures such as access road, lighting facilities and security facilities.

In order to ensure long-term sustainable arrangements for Operation and Maintenance of dams selected for the project, up to now 8 Emergency Action Plans developed for 8 dams, 13 Operation & Maintenance manuals prepared for 25 dams, comprehensive surveillance reports prepared for 24 dams, instrumentation data analyzed and evaluation completed for 5 dams. In addition, provision of Computer Based Maintenance Management

System for selected dams is being established.

Project has developed 32 Environmental Management Plans (EMP) for 32 dams identified for rehabilitation and got clearance for the plans from World Bank, Central Environmental Authority (CEA) and Provincial Environmental Authority of North Western Province [PEA (NWP)]. Now EMPs are being implemented along with the construction programme by contractors and monitoring by PMU.

Among the 32 dams identified for rehabilitation, 7 dams were initially earmarked as most critical and sensitive dams which have direct effects on downstream community and properties during the rehabilitation period. In order to mitigate such possible impact to downstream community, Social Safeguard Management programme has implemented to develop Livelihood Support Assistance Plans (LSA) to be implemented in 2012 Yala.

Implementation of LSA plans were commenced on 6th, 7th, 11th and 13th June 2012 in Nachchaduwa, Thabowwa, Ridiyagama and Usgalasiyabalangamuwa respectively. Farmers are actively participated in canal improvement works under the Wage Assistance Plan (WAP) implemented in four schemes. Up to

now 75% of WAP implementation is completed and about Rs 45 million has been deposited in individual bank accounts of eligible LSA recipients as LSA payment.

Component 2: Hydro Meteorological informatin System

Project has suffered from initial delays to take decision on technical bidding document and TOR for hiring of Supply, Install and Commission (SIC) contractor due to its complex nature of scope. After having establishment of Technical Working Group (TWG), Cabinet Appointed Technical Evaluation Committee (CATEC) and Cabinet Appointed Procurement Committee (CAPC) arrangements are being made to awarding the contract by mid Oct 2012.

Groundwater Monitoring Network was established in 7 pilot areas which identified on the basis of extent of ground water use, management, and quality issues covering 30 Divisional Secretariat Divisions (DSDs) Island wide to assess availability, current use, future demand and sustainability management.

Component 3: Multi Sectoral Water Resources Planning

The purpose of this component is to prepare integrated and comprehensive Water Use Plans for National level, Mahaweli system and Mundeni Aru Basin. Strategic planning Framework, Knowledge base, Modeling/Decision support system, stakeholder consultation, strategic environmental and social assessments and capacity development are key elements of the process of multi sartorial water resources planning. Up to now strategic planning framework is completed and atlases and spatial GIS database development are completed under knowledge base development process. Calibration of models and baselines model runs completed and 80% of future scenarios analyzed under Decision Support system tools. First round stakeholder consultation was completed in 25 districts. Initial assessment reports on National water use master plan, Updated Mahaweli Water Resources Development Plan and integrated and comprehensive Water Resources Plan for Mundeni - aru basin were completed. 96% of environmental and social assessment has completed.

Mahaweli Projects

- **Mahaweli Consolidated Project**

The objective of the project is to increase income levels of rural community in the Maduru Oya Left Bank through assuring irrigation water for agriculture. Project activities include (a) rehabilitation of the irrigation network that was built in 1982- 1986in Maduru Oya Left Bank to improve water management (b) improve selected water supply schemes built under the Village Self-Help Project, (c) supporting agricultural development and farmer organizations, and (d) implementation of environmental

conservation programmes. The irrigation system rehabilitation includes 52km of main canals, 65km of branch canals, 459 km of distributory canals, 1,138km of field canals, 54km of drainage canals, 80 km of O&M roads, and small tanks. The estimated total project cost is Rs.2, 800 million. The project is scheduled for 06 years.

This project commenced in 2007, and cumulatively Rs.1, 924.27 million has been utilized at the end of December 2012. The fund allocated for 2012 is Rs.500 million, of which Rs.450 million has been expended at end of December. The project has completed the upgrading works of 65km of main canals, 129km of distributory canals, 310km of field canals. The programme assisted farmers in livestock development by provision of 421 of cattle, establishing 37 pasture plots and constructing of 619 of cattle sheds. In this year 48.9 km. of distributory canals and 161.3 Km. of field canals rehabilitated and improved.

- **Riverine Bamboo Project**

This project has been designed with a view to mitigate the soil erosion in Mahaweli river basin and to generate additional income through bamboo-based products. This project commenced in 2006. The cumulative expenditure up to end of August is Rs 93.23 million. The approved fund for the current years is Rs.30 million. The expenditure up to the end of August is 14.77 million. 302, 957 plants have been maintained during this year. Total bamboo plant production was 198,620 and 277,753 plants were issued in this year.

- **Special dairy Development Project – Mahaweli System ‘C’**

This project was initiated in 2007 to increase milk production in system C and thereby raise income status of 500 Mahaweli dairy farmers. Total estimated cost is Rs 120 million. Revised budget allocation for the year 2012 is Rs10Mn. The cumulative expenditure of the project up to end of December is Rs.74.28million.

Under the programme 92 heifer calves were distributed among farmers in 2012 and assisted to construct 96 cattle sheds. The cattle management training programmes were conducted for 5 farmers. Average daily milk production is recorded as 5,471 liters and annual production has been estimated as 17 million liters.

Maintenance and Administration

Mahaweli Authority of Sri Lanka manages water for 100,000 ha. of irrigation lands, maintenance of 9,800 km. of irrigation network, 8 large reservoirs, over 400 minor reservoirs and 800 km. of road network in 8 Mahaweli systems. Further MASL is responsible for providing post settlement activities for 100,000 farmer families, land administration in 10 Mahaweli systems, implementing

agricultural/livestock programs, training for second and third generation and implementing environmental conservation programs. The budget allocation for the year 2012 is Rs.1, 292 million. Rs.914.48 million has been utilized up to end of December.

- **Progress of Mahaweli Zones**

The fund allocation for operation & maintenance of land, and land administration, and agricultural & post settlement activities of Mahaweli systems ‘B’, ‘C’, ‘D’ ‘G’, ‘H’, ‘L’, Udawalawa, Huruluwewa, Victoria and Kotmale is Rs.1,292 million. The regions carry out maintenance of irrigation system; land alienation, settlement development extending the facilities for 168,151 families settled in Mahaweli areas.

- **Maintenance of Irrigation network**

Secondary growth clearing, de-silting, repairs and improvement to the irrigation system and structures, graveling, etc. are coming under Mahaweli irrigation systems maintenance tasks. The allocation in the year 2012 is Rs 492.99 million, of which Rs 547.67 million was utilized to complete these activities up to end of December 2012.

Maintenance of existing distribution canals handed over to 799 farmer organizations out of 913 farmer organizations. As a result, it was able to save Rs.22.32Mn. as maintenance expenditure up to date.

- **Women Development Activities**

The Women plays a key role in achieving agricultural and economic targets within the Mahaweli areas. MASL has encouraged many women empowerment programs which included forming small women groups, encouraging savings and organizing their own credit programs. No. of 39 new women small groups were formed during the year 2012.

- **Human Resources and Institutional Development**

Upgrading Socio – economic condition of Mahaweli settlers through entrepreneurship, capacity building institutional strengthening, women empowerment, socio cultural development and sport activities are major areas of post settlement development activities. Accordingly, human resources and institutional development division of MASL organizes various programmes and workshops and its human resources development and institutional strengthening.

It offered 126 no of vocational training programmes and 63 settler training programmes at the end of December 2012. In addition 562 total no of programmes related to community development, social health and educational and health programmes were also conducted.

- **Land Alienation**

Under the Land Development Ordinance MASL has alienated 134,373 homesteads and 97,166 paddy lots at end of 2011. 1,882 homesteads and 1,331 paddy lots were alienated and 5,469 permits were also issued end of December 2012.

74 lots were alienated under the Crown Land Ordinance during the year totaling 21,814 lots. Annual rent collection target is Rs 435.52 million of which Rs 105.75 million was collected at the end of December.

Total land grants to be issued were 230,219 lots of which 119,580 grants were issued at the end of 2011. 2012 target is to issue 14,997 grants but able to issue only 6,105 grants at end of December.

Agriculture Development

- **Agricultural Productivity Enhancement Programme**

The programme was initiated for enhancement of local food crop cultivation and livestock production which will lead to reduce agricultural imports for the country and establish country's food security. Series of programmes such as promoting other field crops, introduction of hybrid seed paddy production, increasing use of organic fertilizers, establishment of farms & nurseries were implemented under the program. Improved cattle management activities, upgrading of dairy cattle population, poultry management, and Inland fish development activities were taken up under the livestock development programme.

- **Agricultural Crop Cultivation**

In 2011/2012 Maha season, the cultivated paddy extent in Mahaweli areas recorded as 92,572 ha and total paddy production was 515,246 Mts. The average yield of paddy was 6.21Mt/ha in Mahaweli areas in 2011/2012 Maha season. The highest average yield was recorded as 6.649 Mt/ha in system G. The other field crop cultivated extent was 21,523 ha and production was recorded as 163,294Mt. The extent of cultivation in 2012 Yala season has been declined to 66,194 ha due to drought. The total paddy production in this season has estimated as 400,203.8 Mts. from Mahaweli Systems. But, the yield able to harvest, has recorded as about 312, 312, 2 Mts. due to prevailed drought.

- **Dairy Development Programme**

Dairy farming is promoted in Mahaweli areas as an additional income sources and maintain the high nutrient level of the community. Livestock Management Division of MASL is responsible for implementation and monitoring of dairy development programme for each Mahaweli system.

No of 46 training programmes for dairy farmers were conducted for the end of December. 86 upgraded cows were distributed and 121 cattle sheds were constructed. 12,577 animals were vaccinated. In addition, 5,212 numbers of animals also artificial inseminated.

- **Inland Fisheries and Ornamental Fish Culture**

Inland Fishery Development within Mahaweli reservoirs would be key impact on upgrading economic status of settlers. The number of fingerlings released to reservoirs/ponds in Mahaweli area within the year 2012 was 2.203 million. The Total production was 7430 Mt up to end of December. Meanwhile Ornamental Fish culture programmes are also organized focusing young generation of Mahaweli areas facilitating them for sustainable employment opportunities and entrepreneurship development

- **Forest & Environment Conservation**

Soil conservation of 16,478 Sqm and 65 planting programme for forest development, 60number of environmental education programmes were conducted under this programme Rs.15 million has been allocated for 2012, and the fund disbursed up to end of December was Rs.8.167 million.

Mahaweli Farms

MASL has established 18 agricultural farms in Mahaweli areas in order to achieve high land productivity, generate more employment opportunities, maintain the self-sufficiency in seeds and plant species, demonstration of new farm practices, integration of livestock component and farm practices for increase water productivity. Preliminary planning work for another 12 farms was finalized during the year.

- **Eco-Friendly Tourism**

Programmes have been initiated for further improvement and landscaping areas of Mahaweli reservoirs and green areas, attracting tourist into beautiful sceneries in Mahaweli zone. Boat services are organized within water ways.

- **Mini Hydro Power Projects**

Letters of Intends have been issued for construction of 18 mini hydropower stations in Mahaweli areas with a capacity of 59.3 MW of hydropower. Environmental Approval has been given for 13 projects of which work of 3 projects have been already started commercial operation and other ten projects have been commenced.

- **Local Investments for Lands**

Development Lands in Mahaweli areas are provided for high productive agriculture projects with the objective of motivation of private sector investments through Mahaweli Development. The lands have been given 60 no. of investors for commercial/agriculture projects in the year 2012.

- **Project for De silting in Tanks**

The project is conducted by the Government for de silting in main reservoirs and tanks in Dry Zone as a one step for getting solution of water problem due to prevailed draught in the year 2012. According to that, de silting programme started in 53 tanks in Mahaweli zones and arrangements were made to complete it within three months.

6C. Water Resources Board

Introduction

Background

The Water Resources Board was established in 1966 under the Act No. 29 of 1964, as an advisory body to the Minister on all matters concerning the control and utilization of the Water Resources in Sri Lanka. (Ceylon)

In 1978, Groundwater Division of the Irrigation Department was transferred to the Water Resources Board and functions of the Board were expanded and commenced the implementation activities.

The Water Resources Board Act was amended and passed by the Parliament in 1999 to enable the Water Resources Board to pay more emphasis on matters pertaining to Groundwater Resources in Sri Lanka.

Vision

Adequate access to clean and safe water for all.

Mission

To advise the government and the people on assessing, conserving, harnessing, developing and frugally utilizing particularly the finite groundwater resources in the country working in close collaboration with the rural society, relevant central and local government departments/ divisions/ authorities/ institutions, national and international organizations and scientific communities here and abroad.

Objectives

- a) Research contributions supportive of the formation of national policies particularly in respect of groundwater development, exploration and sustainable exploitation with quality maintenance for multipurpose utilization meeting social, economic and environmental needs.
- b) In reinforcement of objective (1), systematic and accurate data collection and maintenance of scientific data especially pertaining to groundwater, towards the establishment of a hydro geological and geochemical data bank of national regional and local significance.
- c) Involvement of : (a) regional, that is, relevant local government authorities; (b) national and international organizations in regard to the maintenance and exchange of relevant data; and (c) other scientific investigations relating to hydrogeology with emphasis on groundwater.
- d) Awareness creation in the civil society about the importance of safe and sustainable use of groundwater.
- e) Assessment of the possible benefits and economic feasibility of projects suggested/undertaken by those referred to in item 3 above, relating to the sustainable exploitation of groundwater in particular.
- f) Setting up of an Inter Departmental Advisory Committee (IDAC) to reinforce greater mutual understanding for collaborative action where necessary, in relation to the above intended functions of the Water Resources Board (WRB)

Targets

- a) Carryout research on water resources in the country.
- b) Geoscientific interpretation of the available data for groundwater resources development.
- c) Hydrogeological investigations for the assessment of groundwater resources.
- d) Identify groundwater potential sites.
- e) Ground water monitoring.
- f) Scientific sitting of locations for groundwater sources.

- g) Feasibility studies for groundwater resources development.
- h) Analysis of water samples for Chemical and Physical Characteristics as well as for bacteria and heavy metals.
- i) Collection of Hydrogeological Data, maintain groundwater data base and preparation of hydro geological maps.

Progress of projects undertaken up to 31stDecember 2012

Summary of Capital & Recurrent Expenditure as at the end of December 2012

Particulars	2012 Estimates Rs	Total Releases Recommended up to December (Rs)	Total Releases Actual up to December (Rs)	Total Expenditure (Rs)
Recurrent Expenditure 152-02-4-1-1503	78,400,000	77,600,000	77,280,000	77,280,000
Total Recurrent Expenditure	78,400,000	77,600,000	77,280,000	77,280,000
Capital Exp. 152-02-4-1-2201				
Rehabilitation and Improvement	6,000,000	2,800,000	475,000 550,000	2,273,969 708,106
Acquisition of fixed assets	2,000,000	2,000,000		
Hydrological Coastal Study in Colombo-Negombo	27,300,000	11,600,000	6,300,000	7,713,550
Water Quality changes in Aquifer System in Anuradhapura District	12,930,000	6,350,000	5,300,000	5,743,646
Gaffna Ground water monitoring	9,100,000	2,950,000	750,000	807,265
Hydrological Study in Limestones Aquifer in Mannar District	13,650,000	4,400,000	1,500,000	2,406,150
Total Capital Grant	70,980,000	30,100,000	14,875,000	19,652,686

Development of Groundwater Monitoring network in 30 DSD's of six districts under Component 02 of the Dam Safety and water Resources Planning Project.

Under the component 02 of the Dam Safety and Water Resources Planning project, Water Resources Board was engaged with groundwater monitoring programme at selected 30 DSD's of Jaffna, Anuradhapura, Puttalam, Matale, Gampaha and Ampara districts (Fig 01). At the later stage Badulla district was included into the system.

The DSD's were selected based on the issues identified in the respective areas by the Water Resources Board (table 01).

Pilot area	Issues	DSD's	District and Area (~Km ²)
Area 1	Bacteriological and Extensive Agriculture pollution	Jaffna Town, Nallur, Chavakachcheri, Pachchilapallai	Jaffna peninsula 418
Area 2	Extensive agriculture	Kalpitiya	Puttalam 168
Area 3	Over extraction of ground water	Dambulla, Galewala, Laggala, Pallegama, Na ula, Pallepola	Matale 1200
Area 4	Kidney disease	Medawachchiya, Nuwaragam Palatha (central), padaviya, kebithigollewa, Rambawewa, Horowpathana, kahatagasdigilya, galenbindunuwewa	Anuradhapura 1990
Area 5	Industrial pollution	Gampaha, Ja-Ela, Wattala, Biyagama, Katana	Gampaha 376
Area 6	Salinity	Puttalam, Vanathavillu	Puttalam 1012
Area 7	Extensive Agriculture	Samanthurai, Kalmunci, Ninthavur, Adalachchenai	Ampara 343
Area 8	Water quality changes in highland areas	Badulla district	Whole district

a) Restructuring of WRB data base

The restructuring of the WRB data base is completed.

b) Water quality assessment, test borehole drilling, pump testing and designing of the monitoring network is in progress. The groundwater monitoring network in selected 30 DSD's of Jaffna, Anuradhapura, Puttalam, Matale and Gampaha districts are in consolidation stage. At the end of the year the network will be finalised.

c) Training Programmes

Several training programmes were conducted.

(i) Geophysical Training - 2 D imaging system

2-D imaging for subsurface groundwater exploration by ERT technique with the use of high-end AGI Geophysical equipment system

(ii) Training on levelling equipment

Application of DGPS for high precision X, Y, Z positioning of well monitoring points (Horizontal 3mm, Vertical- 6mm)

(iii) Water Quality Monitoring

In-situ determination of chemical parameters (F, NO₃, SO₄, Cl, Salinity, TDS etc.) in groundwater using field test kit.

(iv) Test well constructions at the pilot areas to monitor the water quality and determination of aquifer properties

WASH Project

As per the request of National Water Supply and Drainage Board, hydrogeological surveys were conducted at selected areas of Mannar and Trincomalee districts. 24 hour pumping tests were conducted on the deep bore holes and dug wells in the two respective areas. Water samples were collected and analysed for physical and chemical parameters and also for bacteria. The project was completed on 22nd June 2012.

Establishment of WRB Jaffna Laboratory

Water Resources Board was established an analytical laboratory on 23rd of February, 2012. The newly built laboratory was facilitated with the new equipments for chemical and microbiological analysis.



Chemical Laboratory

Treasury Grant Projects

- **Hydrogeological study on coastal sandy aquifer extending from Colombo to Negombo**

The main objective of the project is to assess groundwater availability, extraction rates and identification of pollution levels of the aquifer. At the final stage, a groundwater model will be developed for the aquifer. The project period will be two years and up to date 70 sites were investigated and 50 number of observation bore holes were constructed. Several chemical maps were prepared by using the data collected in the year 2012 (EC, Nitrate, Iron, Salinity etc).

- **Awareness programme conducted by the Training Centre, Korakahawea**

04 training programmes were conducted.

- **Water Clinics**

05 water clinics have already conducted in Anuradhapura district. Under this programme water samples of the villagers are analysed for Fluoride and aware the villagers about the Fluoride levels of their wells with necessary instructions.

- **RO instruments**

Reverse Osmosis plants were installed in the Schools of Anuradhapura district to provide safe water for the school children. 04 plants have been installed.



Reverse Osmosis plant installed at Mahanetiyyawa school, Kebithigollewa

- **Development and conservation of selected springs in Anuradhapura district**

09 springs in Anuadhapura district were developed and handed over to the people.



Dombagaha Ulpotha and Kosgaha Ulpotha after consevation

- **Water quality changes in aquifer system and identification of zones with hazardous mineral containing water in Anuradhapura district**

The main objective of the project is to monitor the quality of water in deep and shallow aquifer system of Anuradhapura district. Analysis are mainly concentrated on Fluorides, hardness of water, heavy metals and pesticides. Study of the Modaragam Aru is done and chemical maps were prepared (F, EC, Fe, Nitrate etc).

For the current year data collection, geophysical investigations, test bore hole drilling of the Malwatu oya basin is already started.

- **Development of Groundwater monitoring network in Jaffna Peninsula**

Awareness programme was held on 29/05/2012, at Jaffna Kachcheri.

Sociological survey covering the entire peninsula was done.

- **Study of Ground water Resources in Limestone aquifer in Mannar District**

The objective of the project is to identify the Limestone aquifer parameters, its extensions and demarcate the groundwater potential areas within the Mannar district.

The available hydrogeological data were collected and the geophysical investigations were completed in certain part of the district. 04 Test bore hole were drilled.



Carry out Geographical Survey and Drilling of Test Tube Well

- **Management and Information Technology Training Programme**

A three day residential training programme on “Management and Information Technology” was conducted for the WRB employees (29th, 30th June and 01st July 2012). Addition to that, training was provided for the selected employees of the board.

Other activities

- Restructuring of the present WRB cadre was completed and was approved by the Management Services Department.
- The owner ship of the lands at Puttalam, Monaragala, Anuradhapura was taken.
- Under the Drinking Water Supply Scheme of Mannar district funded by JICA.
- Hydrological investigations, Construction of tube wells, pumping test, and analysing of water samples have been completed. With the request of private and government organizations, the following activities have been done by the board at the d uring the year 2012.

No	Activity	Physical progress
1	Carryout hydrogeological surveys	208
2	Tube well drilling	48
3	Hand pump installations	27
4	Pump testing	63
5	Tube well cleaning	18
6	Water sample analysis	465

5d Central Engineering Consultancy Bureau

Introduction

Central Engineering Consultancy Bureau (CECB) was established on 10th April 1973 under the State Industrial Corporations Act No.49 of 1957. Presently attached to Ministry of Irrigation & Water Resources Management, CECB has been in existence for over 38 years operating as a Self-Finance Semi Government Organization, which is primarily involved in Consultancy, Construction and Turnkey Engineering Projects. Our main source of revenue is generated by carrying out projects for various clients both private and government in Sri Lanka as well as in countries like India, Maldives, UK, Rwanda, Tanzania and Malawi in the areas of Infrastructure developments (access roads, bridges, buildings and water supply), Hydro Power and Irrigation projects, Port and Coastal, Environment studies etc. CECB's success in these areas has been due to multi-disciplined professionalism, flexibility, precision, realistic and timely delivery.

Being the biggest body of professionals under one roof the CECB offers a considerable opinion on all fronts-for engineering work. Use of state of art technology, green design concepts and deliver fast track solutions to professional quality standards has placed CECB as the leader of engineering expertise in Sri Lanka. Ability to deliver more than promised, has been the key to establishing a satisfied client base of state and private institutions which continues to be tower of strength to CECB. The prospect for future growth for CECB is very strong with projects both in pipeline and new.

CECB's Vision

"To be a World Class Engineering Organization"

CECB's Mission

To be a World Class Sri Lankan Engineering Organization, acquiring excellence in Engineering, Architecture and Quantity Surveying, utilizing state of the art technology, with a highly motivated, trained and skilled workforce rewarded appropriately for their contribution in the optimum use of resources for the maximum benefit to mankind.

CECB Aim's to

1. Continuously improve the quality and efficiency of services provided
2. Diversify the Product Portfolio
3. Introduce innovative technologies
4. Develop a world class Human Resource base
5. Achieve international recognition
6. Develop Information Technology as a strategic resource
7. Promote sustainable development

Locations

CECB currently has 12 Base Offices including the Head Office. In addition to this, 30 Project Offices widespread in Sri Lanka supports timely delivery of projects. Further, with our international involvement, CECB has expanded to counties like UK, India, Maldives & East African countries.

CECB's Specialized Areas

CECB is capable of providing Engineering services in the following areas.

- Hydro Power and Energy
- Hospital Development
- Architectural Services
- Structural Designs
- Quantity Surveying
- Roads and Bridges
- Railway Works
- Port/ Coastal Works
- Airport Development
- Water Supply and Drainage
- Building Services
- Power Transmission and Distribution
- Water Resource Developments
- Technical Audit / Dam Safety
- Electrical & Mechanical Work
- Land Surveying
- Geo-technical Investigation & Laboratory Services
- Environmental Studies
- Project Management
- Information Technology (IT)

CECB has 3 separate divisions' i.e. Consultancy Division, construction (EPC) Division and International Division carrying out various services in the above sectors.

Consultancy Division:

This division has carried out various consultancy projects in the areas such as Infrastructure development, Hydropower and Irrigation projects, Port and Coastal, Environment studies etc. Providing full spectrum of services, from project identification to pre-feasibility and feasibility studies Consultancy Division, also carries out detailed designs and construction supervision.

EPC Division:

This division is involved with Turnkey and Construction projects. Over the last few years, this division was heavily involved with the North and East Development Projects. This includes urgent interventions such as providing rehabilitation centers, refugee resettlement and associated infrastructure on behalf of Sri Lanka Government and Ministry of Defense with the 30 year prolonged war coming to an end.

International Division:

CECB has carried out Coastal and Harbor projects in Maldives while feasibility studies for Small Hydropower projects were done in East Africa - Rwanda, Tanzania and Malawi. Further, CECB has got involved in number of projects in India and UK.

Notable Achievements in year 2012

I. Construction division (EPC)

1. Successfully completed the Deyata Kirula – 2012 programme.
2. Completed the Disabled access Ramp at Ruwamweli seya Premises, Anuradhapura within a very short period of 20 days.
3. Successfully completed the Construction of Five storied Extension to the repository building, Ddepartment of National archives, Colombo 06 months ahead of schedule at the total cost of Rs. 522 million.
4. Construction of new Machinery and Plant Yards at Kotmale, Anuradhapura, Badulla Digana.
5. Construction of New CECB office Building with the state if art technology at CECB Head Office premises, Colombo 7.
6. Completion of Southern expressway Rest Area at a cost of Rs. 200 million within a very short period of 4 months.
7. Completion of pile foundation works of the Colombo District secretariat Building at Narahentita
8. Completion of Mahinda Rajapaksha College – Stage V Project at a cost of Rs. 190 million within 12 months period.
9. Completion of the Construction of Crusher Plants and Asphalt Plants and commencement of production.
10. Successfully completed 177.0 km of Asphalt Concreting of Roads in Badulla district at the total cost of Rs. 1.5 billion.
11. Completion of Pile Foundation Works of the studio and class Room Complex at UNIVOTEC Project, University of Vocational Technology, Ratmalana.
12. Completion Land Commissioner General Building Project at the total cost of Rs. 675 million within 16 months period.
13. Extension to Medical ward Building – Fourth Floor – Phase II at teaching Hospital Jaffna.
14. Laying 76,500 mt of asphalt for Road Length of 180km in the Central Province.
15. Successfully completed the Emergency and Accident Ward Complex in Base Hospital, Monaragala at the total cost of rs. 233.0million.
16. Construction of Regional Aquaculture Extension Office, Killinochchi District.

17. Construction of Dormitory at Nedunkerny.
18. Construction of Lecture Halls for the Allied Health studies Unit of the University of Jaffna.
19. Construction of 200 nos. of temporary shelters and permanent toilets in the relocation village at Kompavil – Puthukudirippu.
20. Construction of lecture halls for the Allied Health studies Unit and PGS Building (Phase I) for University of Jaffna.
21. Purchasing of construction equipment.

II. Consultancy Division

1. The annual turnover for the Consultancy division increased by 2.17 times from Rs. 554 million in year 2010 to Rs. 1200 million in year 2012.
2. Completion of “sethsiripaya – stage II” administrative Complex.
3. Completion of Upgraded railway Line from Kalutara to Matara.

III. International Division

1. Environment Impact assessment (EIA) for small Hydropower Project, in Chesoweri Bukowo district, in Uganda. - 80% of Project works Completed.
2. Consultancy services for Ndugutu Hydropower Project, in Uganda. – 70% of Project works Completed.
3. Consultancy services for Sindila Hydropower Project, in Uganda. – 60% of Project works Completed.
4. ICL international Consortium of Landslides – IPL project M 155 annual 2009 – determination of Soil Parameters of subsurface to be used in slope stability analysis in two different Precipitations zones of Sri Lanka. – 30% of Project works completed.
5. Completed and handed over the construction chancery and residence for the deputy High commissioner of Sri Lanka in Chennai in September 2012.
6. Construction of Minor staff Quarters and extension works – High Commission of Sri Lanka in New Delhi.
7. Design and Construction of Sri Lankan High Commissioners residence and Staff quarters in London. – 50% Completed. Construction of residence will be completed in July 2013.
8. Consultancy services for Maldives tsunami reconstruction Project – Harbor rehabilitation in selected islands (Rungoofaru and N. Manadhoo) – 75% construction works completed.

IV. Information Technology Unit

Secured the contract to provide IT services for the Defense Headquarters Complex (DHQC) Project at Akuragoda.

V. Finance Unit

Developed base accounting units to ensure submission of reports in time and to develop skills of accounting staff.

VI. Administration and Human resources (HR) Unit

Functional review of the administration process to identify procedure barriers to stream line the system.

VII. ISO 9001:2008/SLS ISO9001:2008 status

CECB is awarded ISO 9001:2008 / SLS ISO 9001:2008 Quality Mangement System status by Sri Lanka standards Institution (SLSI) from September 2011. The scope of the certification in providing Engineering, Architectural,

Quantity surveying and Project Management services, both in consultancy and construction, at national and international level in the specialized areas are given below.

- i. Buildings
- ii. Hospital Development
- iii. Roads and Railways
- iv. Ports and Coastal works
- v. Airports Development
- vi. Structural Development
- vii. Bridge Designs
- viii. Geotechnical and foundation Designs
- ix. Power Generations, Transmissions and Distributions
- x. Electrical and Mechanical works
- xi. Building Services
- xii. Hydropower and energy Development

- xiii. Water Resources Development
- xiv. Dam safety
- xv. Water supply, sewerage and Drainage
- xvi. Technical Audits
- xvii. Geological and geotechnical investigations
- xviii. Laboratory services in Engineering
- xix. Environmental and social studies
- xx. Information techniques
- xxi. Land surveying

Major Development initiatives during the year 2012

I Construction (EPC) Division

1. Establishment of new CECB office in Jaffna in the plot of land acquired by CECB.
2. Lease purchase of UDA land to be used as Stores Yard and Precast Facility Yard in Colombo.
3. Enter into Joint Venture with a private Company/Bank as Public/Private partnership for development of high rise apartments.
4. Obtaining a land and Construction of Two Storied Building in order to establish a Modernized Laboratory with the state of art technology.
5. Infrastructure development works at /industrial Park at Kappalthurai, Trincomalee Deputy General Manager's Office and 7 separate quarters for staff for CECB at Trincomalee.
6. Construction of New District General Hospital at Nuwara Eliya at a cost of Rs.2,000 Million.
7. Construction of PGS Building – University of Jaffna (Phase II)
8. Construction of Prison Complex in Jaffna.
9. Asphalt produced at our plants is used for the road construction projects.
10. Amalgamation of two EPC units, namely EPC-Jawatta and EPC-Maharagama, into one unit based at Jawatta named EPC (WP2) Unit, for cost control and effective use of resources.

II. Consultancy Division

1. Feasibility study if Giciye II Small Hydropower Project in Ruwanda.
2. Establishment of a joint Venture with a reputed African Engineering Company and CECB East Africa Branch.

III. Information Technology Unit

Development of an Intranet System & IT related Management Information System (MIS).

IV. Administration and Human Resources (HR) Unit

1. Review the existing administration system and procedures and make necessary changes to suit the present requirements and work load.
2. Keeping in line with the policies of GOSL, update the procedures, rules and regulations.

V. Training and Development

Training division of the CECB conducts two in-house knowledge Sharing Presentations per month to enhance the knowledge of the staff. Expert resources persons as well as in-house resources persons are invited to deliver presentations on technical and non technical topics.

VI. General

1. Carry out Technical Audits to improve the effectiveness of the technical staff.
2. Establishment of a system for performance evaluation.

Issues faced in year – 2012

1. Non-payment of dues by the clients and long delays in setting our claims.
2. Difficulty in recovering debts.
3. Most of the development projects initiated during the year 2012 were seriously affected due to poor cash flow and shortage of funds.
4. Lack of foreign training opportunities for engineers etc.
5. Difficulty in retaining professionals due to existing low salary scales and benefits.
6. Lack of job in the specialized consultancy areas such as water resources development.

In the recent past the CECB has not been included in the water resources development sector in a manner complying with the objectives of its formation. This not only under utilizes the human resources of the Bureau trained for the Water Resources works using government funds, but also threatens the weakening it due to inability to practice.

7. Not allowed to take part in the competitive bidding process by the Asian Development Bank.

8. Long delay in granting approval for rates of construction projects by the standard Technical Committee.

9. Payment of only 80% of the value of work done under construction projects until such time the rates are approved by the STC.

This adversely affects the cash flow, especially for short term contracts, as the approval is usually granted long after the completion of the project.

10. Ban in participation by the government agencies in projects funded by the International development Agency.

As a result of this decision the CECB could not get involved in the dam Safety and Water Resources Planning Project which is in progress. This project is for addressing a multitude of issues in water resources development in the country and hence we lost an opportunity to continue with the tradition.

11. Steps taken by the government to adapt bid procedure in awarding contracts for consultancy services funded by the Government.

Steps already taken/to be taken to improve services and profitability

I. Construction (EPC) Division

1. Enter into specialized construction fields such as Piling while attending to present day traditional construction activities.
2. Diversifying into engineering related financial enterprises.
3. Maximum utilization of our capabilities and resources to expedite the construction projects.
4. Establishment of fully fledged concrete Ready Mix Plants and Crusher Plants in the districts of Badulla, Monaragala, Ratnapura, Kandy and Anuradhapura.

II. Consultancy Division

1. Double the turn over within next three years.
2. To become an internationally recognized consultancy organization.
3. To become the leading Consultant for foreign funded projects in Sri Lanka.
4. Building of image of the CECB as a Consultant for all fields/sectors.

III. International Division

1. Expansion of activities in East African countries such as Tanzania, Kenya, Uganda, Malawi, Rwanda in roads and water resources sectors.
2. Expansion of activities of CECB in the neighboring countries like India and Maldives.
3. Stepping into Nepal by obtaining new jobs.
4. Obtaining more projects through foreign missions of ministry of External Affairs.

IV. General

1. Close cooperation and relations to be established with public/private sector instructions when implementing projects.
2. Building of close relations and trust with Clients as a service provider.
3. Achieving the status of Leader in training in the field of engineering.
4. Establishment of a National Cell for the management of engineering science.
5. To become the most efficient and sought after institution under the Ministry of irrigation & Water Resources Management.
6. Diversifying into different sectors associated with national development programmes.
7. Development of engineering sectors according to current technologies and methods.
8. Introduction of modern technology available at present to all activities of the Bureau.

6. Ministry Feasibility Study Programme – 2012

The following large scale Water Resources Development Projects are in the survey, investigation, feasibility study and design stages.

- Lower Malwathu Oya Reservoir Project
- Gin Nilwala Trans basin diversion project
- Kumbukkan Oya (Nakkala) Reservoir Project
- Yan Oya Reservoir Project
- Maduru Oya Right Bank Feasibility Updates (Mahawelli System B)
- Weli Oya (Mahawelli System L)
- Flood Protection and Water Resources Development in Kalu Ganga Basin
- North Central Province Main Canal (NCP Canal)
- Moragahakanda /Kalu Ganga Down Stream Development
- Allai Kantale Mahaweli Right Bank Intergraded Development

- **Lower Malwathu Oya Reservoir Project**

It is proposed to construct a storage reservoir to regulate the flow of lower part of Malwathu Oya in order to provide reliable water deliveries to Giant Tank and Akathimuruppu scheme in Mannar District cultivating about 10,000 Ha and 2,500 Ha of paddy lands respectively. This reservoir with capacity of 300 MCM will further provide water for urban water supply scheme of Cheddikulam Township and 1000 Ha of new lands for irrigation in the immediate downstream.

As at December 2012, TOR not yet reviewed, discussions going on with Department of Forest Conservation. Feasibility studies being carried out.

- **Gin Nilwala Trans-basin Diversion Project**

In Southern Province Gin Ganga and Nilwala Ganga Basins receive an average rainfall of 3,000 mm annually and flows to the sea without making much use of this water while causing flood damages in the low lying areas in Galle and Matara Districts. Therefore, these excess water resources of two basins are planned to be diverted to provide supplementary flow to South East Dry Zone.

The draft feasibility study report is now received and being reviewed. The project concept paper has forwarded to External Resources Department for funding.

- **Nakkala (Kumbukkan Oya) Reservoir Project**

Kumbukkan Oya, originates from Badulla hills in the intermediate zone and flows south east direction and enters to the Indian Ocean at Kumana near Yala National Park covering a distance of about 116 km. The Kumbukkan Oya basin is located mainly in Moneragala district in Uva province and bounded by the Wila Oya basin in east, Mahaweli basin on north and Menik Ganga basin on west. It drains a total area of 1,233 Sq .km and mean annual rainfall of the basin varies from 10,000 mm to 2,500 mm.

The proposed project envisages constructing a 40 MCM capacity reservoir across kumbukkan Oya to provide irrigation water to 10,000 acres of new lands and 3,000 acres of existing lands in Buttala and Siyabalanduwa divisional secretariat divisions to improve the agricultural productivity of lands. In addition, it is intended to provide safe drinking water to Moneragala, Nakkala, Kumbukkana, Okkampitiya, Buttala and Madulla areas and the project will add 7.2 GWh of annual energy to the national grid. A radial gated spillway with six numbers of gates are provided to cater for 1,000 year return period flood and a tower types sluice with two gates are provided to release water for irrigation as well as for power generation.

It is proposed to release water from Kumbukkan Oya directly to the main river and picked up at the existing Kumbukkana anicut, which is located across Kumbukkan Oya about 13 km downstream of the proposed reservoir and discharges to the existing Saddhatissa tank. Two canals are started from the existing Saddhatissa tank. The Left Bank main canal is 200 Cusec capacity and 40 km length and Right Bank main canal is 100 Cusec capacity and 15 km in length. Tentative cost of the project is 12,000 million.

Pre-Feasibility Report has been prepared and detailed study is to be carried out.

- **Yan Oya Reservoir Project**

This is one of the main projects proposed to implement in the country in recent times, to develop water resources in the North Central and Eastern Provinces. It is proposed to construct a reservoir having a capacity of around 250 MCM across Yan Oya at Pangurugaswewa village close to existing Wahalkada Tank in Anuradhapura district. 12,000 farmer families in Northern, Eastern and North Central provinces who are facing with hardships, not being able to carry out their agricultural works properly due to lack of water; will be benefited through the project and people living in Anuradhapura and Trincomalee districts will meet with their drinking water requirements .

Based on the final EIA report of the Mahaweli Consultancy Bureau, CEA has sent their comments and final EIA report was being finalized by the MCB.

- **Maduru Oya Right Bank Feasibility Updates (Mahawelli System B)**

Purpose of the Project is to develop the undeveloped land in the Maduru Oya Right Bank in the Eastern Province utilizing available diverted water from the Mahaweli River to achieve economic development through agricultural development of 14,500 ha of irrigable land and to uplift living standards of 17,212 new settlers to be selected from the internally displaced families in the Eastern province and thereby alleviate poverty.

Feasibility draft final report has been submitted.

- **Weli Oya (Mahawelli System L)**

System L is one of the irrigation systems with an extent of 163,393 ha located in the districts of Mulathive, Trincomalee , Vavnia and Anuradhapura has been identified in the Mahaweli Master Plan for future development through NCP canal.

The project area is located in between Padaviya tank and Kokilai lagoon in part of North Central, Eastern and Northern Province of Sri Lanka. System L has been divided in to nine zones. There are seven zones on the Left Bank and two zones on the Right Bank of Ma Oya under the command of Padaviya Reservoir.

It is expected to raise the living standards of 6000 farmer families in System “L” through development of 2240 ha .of irrigable land providing irrigation water by renovation of 56 village tanks within the basin by end Year 2015 by this Project

Abounded 56 tanks which have not been fully utilized so far could be utilized for improving the living condition of 6000 farmers who have been living below poverty line. This will generated direct benefits and create multiplier effects in the region.

Feasibility report is completed.

• **Flood Protection and Water Resources development in Kalu Ganga Basin**

The Ministry has signed an agreement with TAHAL Engineering Ltd, in Israel, in August 2011.

The Consultants were expected to carryout,

- a) Full feasibility Study on Rathnapura Dam and
- b) Pre-feasibility Study on water Resources Development for the entire basin, including flood protection.

The full Feasibility study on Rathnapura Dam was abandoned due to oppositions from the people, in the tank bed of proposed Rathnapura Reservoir. The Consultants were requested to study several medium scale reservoirs in the basin, instead of Rathnapura Reservoir. Pre-feasibility study is going on. Interim report received has been accepted by the TRC appointed for reviewing of the reports. The final bimonthly report has been received. Environment report has been approved.

• **NCP Canal Project**

In the original Mahaweli Development Programme, the existing major schemes together with new irrigation reservoirs proposed in the North Central Province (NCP) and Northern Province (NP) are to receive Mahaweli waters through the NCP canal planned to take off immediately below the proposed Moragahakanda reservoir to provide irrigation waters to 50,000 hectares of existing and 100,000 hectares of new lands in systems I.J.K.L.M. Further in the same programme, it is proposed to improve the existing Minipe LB canal and extend it up to Angamedilla and beyond feeding all Polonnaruwa systems and ending up in Kantalae tank to capture and divert Mahweli waters spilling over Minipe anicut during peak power generation times of the Rantambe reservoir. Once this water is diverted to Pollonnaruwa systems, then part of the water in the Moragahakanda could be utilized for the irrigation systems to be

taken up under the NCP canal. The water available presently in the Moragahakanda reservoir is adequate only to provide irrigation waters up to Mahakandarawa tank.

Several changes have now taken place from the original plan in view of the ongoing developments and also due to new proposals to be implemented in the near future. These projects has further reduced the water availability at key locations in the Mahaweli system and this factors need to be taken into consideration in the formulation of the NCP canal.

The ministry of Irrigation and Water Resources Management has entrusted a Pre -feasibility study to Mahaweli Consultancy Bureau (MCB) (contract value Rs 25 million) The objective of this study is to make an assessment of water available presently in the Mahaweli system and to recommend engineering and environmental measures for the implementation of limited option of NCP canal from Huruluwewa up to Kangarayan Aru (of length 100 km) and also to recommend individual feasible projects that could be taken up independently for detail designs and implementation.

In 2011, four Consultancy contracts have been awarded to MCB for further studies of following components of NCP Canal project and progress as follows.

1. Modification to configuration of Moragahakanda Kalu Ganga project to integrate NCP canal project lay out.
 - Interim Report has been submitted

2. Feasibility Study of raising of Minipe anicut and rehabilitation of Minipe Left Bank canal
 - Interim Report has been submitted.

3. Feasibility Study for diversion of Mahaweli water to upper Mi Oya and Hakwatuna Oya basin in Kurunegala district
 - Interim Report has been submitted.

4. Feasibility Study on proposed Randenigala Kalu Ganga. transfer canal complex on route Hasalaka and Heen Ganga together with Lower Uma Oya complex with a comprehensive hydrological water balance study
 - Interim Report has been submitted.